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The Swedish Case

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Elaine Benoit Robinson

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of the requirements for

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Major professor

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THE INTERNATIONALIZATION OF BUSINESS: THE SWEDISH CASE

VOLUME I

By

Elaine Benoit Robinson

A DISSERTATION

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DOCTOR OF PHILOSOPHY

Department of History

1998

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THE INTERNATIONALIZATION OF BUSINESS:
THE SWEDISH CASE

By

Elaine Benoit Robinson

The salient features of Swedish industry are analyzed in this dissertation in the historical context. The dissertation identifies the preconditions of industrialization in Sweden. It then examines the process of industrialization in the late-nineteenth century. It also examines the organization of the Swedish labor market and the founding of the umbrella organizations representing management and labor, the Swedish Employers' Confederation and the Swedish Trade Union Confederation. The dissertation explores some aspects of Swedish exceptionalism and the economic nucleus of the Swedish model and three thematic areas of the internationalization process: (a) industrialization threats and opportunities, (b) industrial relations, and (c) the new paradigm of international business management.

Data for this dissertation came from research work conducted in Sweden at the Swedish Employers' Confederation and the Labor Movement Archive, Arbetarrörelsens Arkiv, both located in Stockholm; Tavistock Institute of Human Relations in London; and study visits to numerous multinational enterprises and international business institutes in Europe. Interviews were conducted in Sweden, Detroit, and Washington, D.C. In addition, numerous periodicals, newspapers, and books were consulted.

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Major findings include that industrialization was an ongoing process for centuries. International trade based on local raw materials and local skills had been an important source of domestic revenue for centuries, dating back to the twelfth century in the iron industry. As a small country with a restricted domestic market, there existed a source of human capital and a financial structure that was more advanced than in other industrialized countries, contributing to Sweden's status as an "impoverished sophisticate." In addition, the organization of the Swedish labor market and industrial relations were ridden with conflict and high levels of industrial strife, although management-labor relations were characterized by collaboration, and compromise decision making beginning in the 1930s, which was the basis for more than forty years of labor peace, before the Great Depression and what became known internationally under the rubric of the Swedish Model of industrial development.

In the twentieth century, Sweden emerged as a small open and global economy based on high-tech and industrial products for world markets. The expansion of international trade until the 1980s was through foreign direct investment and the creation of multinational enterprises.

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INTRODUCTION

Background

The scholarly efforts of this dissertation emanate from the initial goal of acquiring knowledge about international business and the management practices at large multinational enterprises. Later, I found that circumstances more and more related to Swedish industrial development, and soon differences between Swedish and American economic transformation became more evident, at first in contemporary terms. However, as a historian, I found myself going further back in time to establish a sharper understanding of change, reaching to the past century. Due to this predisposition, it was necessary to find out when, where, how, and why. In some respects, it was a task of fitting together pieces of a challenging puzzle. Although industrial techniques can be the same in many countries, each nation's social and economic reality has its own distinctive features.

One of the strongest motivations for this research came from study visits to major Swedish enterprises during an academic program initiated by industrial psychologist Kenneth Wexley in the early 1980s. Within a few years, I became involved in planning and implementing the innovative academic program, which evolved into a six-week International Business Management Program in Europe. I conducted the program through Michigan State University's Office of Overseas Studies, the Center for International Business, Education, and Research (CIBER), and the Department of Management and Graduate School of Business. We visited

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high-tech manufacturing production sites, at first in Sweden and then in other parts of Europe. All these multinational companies faced the challenges of ongoing technical and organizational change to remain competitive in producing goods for demanding global markets.

The overseas business management program facilitated being received in corporate board rooms and participating in meetings with management personnel. During on-site visits to numerous multinational firms, I observed a variety of production processes. I also visited European business schools, management institutes, and universities and organizations relating to industrial relations and the reorganization of work in nine European countries. The last country included in the expanding program in 1995 reflected the major political and economic changes in Eastern Europe with a week in Prague and the Czech Republic and a study visit to the Skoda automobile assembly plant, which recently had been taken over by Volkswagen. However, intentionally, Sweden remained the core of the program.

Through this academic program, many business students learned about the importance of the cross-cultural aspects of business, the importance of knowing foreign languages, the understanding of other cultures, a variety of complex business strategies in changing markets, the role of trade union organizations and industrial relations, and the emergence and the significance of the European Union. Students also gained an understanding of the complexity of introducing new technology in the work place, the production process, organizational change, quality of work life, empowerment, and automated and flexible manufacturing systems (FMS).[1]

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Moreover, I realized that some business students grew to appreciate the importance of historical development and the integration of economics, political policies, and the cultural aspects of management philosophies and a flatter, nonhierarchical organizational structure, as integral parts of industrial development and the evolution of increasingly interdependent economies. Similar to the business students, I concluded that there was still much to learn. During the majority of these memorable study visits, it became crystal clear that the leaders at the multinational enterprises viewed historical development as a vital component of the current status and competitive position of the organizations. Above all, a sharper focus for my research started to develop.

Presentations at business schools and the International Labor Organization in Geneva revealed that, indeed, Swedish case studies and use of advanced automated manufacturing systems were well-known in Europe. Sweden is regarded as a front-runner in organizational change, new management techniques, and the use of new technologies, partly because the small industrialized country is so dependent on the external market for the sale of manufactured products used in industry in countries outside of Sweden.

Sweden has a long history in the iron trade, going back for centuries, and has been host to a number of multinational enterprises operated as international firms from their inception in the last three decades of the nineteenth century. As a result, the Swedish economy, social structure, and industrial apparatus continuously have had to respond to the international and increasingly global market more expediently than the United States, for example, a country with a large domestic market and a currency that sets the standard for the rest of the industrialized world. Sweden

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appears to have been undergoing constant transformation, renewal, and product upgrading, all part of the continual and organic process of adapting to the international markets. When visiting Swedish firms that were manufacturing primarily industrial products for international markets, it gradually became clear to me that one could not understand current business development without analyzing the preconditions embedded in Sweden's relatively late industrialization.

In the comparative European context, the industrial revolution came rather late in Sweden. However, once industrialization was under way in the 1870s, the process engendered rapid economic development and elevated levels of material prosperity by the mid-twentieth century. The process also brought about Sweden's international reputation for collaborative labor-management relations and international recognition for becoming a world leader in developing and introducing new workplace technologies. The small and apparently backward country of the mid-nineteenth century has achieved a reputation for quality in industrial production. Sweden is also renowned for developments related to quality of work life and new forms of designing production processes that incorporate the socio-technical aspects of production--the technical and human aspects of the production process.

Volvo abandoned the traditional assembly-line method of automobile production with the opening of the Kalmar plant in the early 1970s. In the 1980s, the firm implemented more intense team production at the new Uddevalla plant. There all assembly work was carried out by employees in work teams, which made it possible for individual team members to perform varied tasks. Also, work teams handled large parts of the administrative details required in building cars; thus, every employee on the shop floor was brought closer to decision making. The redesign

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of work was evident in other Swedish enterprises, as well, all part of modern industrial development leading up to the twenty-first century.

A combination of my original motivations, knowledge, and clarifications led to the need to investigate the historical roots of Sweden's industrial development. Swedish industrial history witnessed an evolution from the "basic industries" based on the natural resources of iron, forests, and water power, to sophisticated knowledge-based industries concentrating mainly on the manufacturing of products based on engineering. The melange appeared to require a difficult balancing act of integrating many systems--technical, social, and institutional--which at the same time paid homage to tradition and cultural attributes, all within the context of international markets and pressures from external competition.

Through developing and working with this international academic program for almost a decade, visiting eighty-five international firms and organizations in Europe, meeting with leaders of multinational firms and international organizations in nine European nations, learning two foreign languages in order to gather data and acquire a better understanding of other cultures, and residing and studying in Europe, it became clear to me that I must resist simple explanations about standard economic growth and international market activity, and the variety of models put forth by a multitude of historians. I was compelled to develop my own model of industrial development in Sweden.

Part of the learning and research experience included attending seminars in a graduate program at the University of Stockholm. The university's graduate curriculum included a seminar in Industrial Relations at the Swedish Center for Working Life. Two of the guest lecturers at the seminar were Gösta Rehn and

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Rudolph Meidner, economists from the Swedish Trade Union Confederation (LO) and architects of the Swedish "active labor market policy" formulated in the 1950s.[2] Rehn and Meidner presented their views of contemporary events relating to Sweden's economic development.

With the assistance of the Swedish Employers' Confederation, I was able to interview personnel in the international departments at Volvo and Ericsson about their training and support programs for sending staff abroad and also for repatriation. At the time, many Swedish enterprises were multinational as well as multicultural. Volvo regarded developing intercultural skills as an "investment--one of many ways in which to make the Company more globally successful and competitive "*(Going Global,* 1988, n.p.). It was important to understand that, in business terms, "There are truths on this side of the Pyrenées, which are falsehoods on the other" (Blaise Pascal, cited in *Going Global,* 1988, n.p.). At Volvo, it was believed that "international life has become a part of our every-day life" *(Going Global,* 1988, n.p.).

Also, while at the University of Stockholm, I completed seminars in international relations and political science, among other subjects, and participated in language training, "Swedish for Researchers." At that university, I wrote and presented a paper on Swedish international business. In addition, when I presented my research ideas to the Swedish Employers' Confederation, the umbrella organization representing business in the Swedish labor market, and also at F. A. Rådet, the Swedish Institute for Management and Working Life Issues in Stockholm, I was awarded a grant that made it possible for me to stay in Sweden and embark on archival research in Sweden and England. Professor Hans De Geer was extremely helpful with gaining access to the archives in Stockholm. In addition,

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As I organized my research plan more thoroughly, a metamorphosis occurred regarding where to begin, which originally hinged on the crucial period in Swedish economic development, spanning the era from 1870s to the 1970s. One could not analyze the present without investigating the roots of the historical process of the internationalization of Swedish business. This would act as my jumping-off point for the investigation, thus contributing to a better understanding of relevant contemporary issues. Success in international markets had to be analyzed within its own time to understand the underpinnings of the processes of industrialization and internationalization.

A review of the literature revealed that the era of industrialization from the 1870s to the First World War had often been overlooked. There seemed to be a heavy concentration on the interwar and Depression eras and the Swedish Model, as parts of the industrialization and internationalization processes.

Thus, this dissertation is focused on the historical developments contributing to Sweden's achieving its current position in the international market place. Because of the complexity of this process, it was only possible to analyze an era spanning from the 1870s to the First World War, and then to highlight some pertinent contemporary developments, occurring mainly in the 1970s, a century after Sweden became involved in the transformation from an agrarian to an industrial-based economy.

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The main body of the dissertation is concerned with areas I have identified as critical to the process of industrialization and the internationalization of business in Sweden. The selected areas may be regarded as a series of essays as parts of the bigger picture. Undoubtedly, these areas deviate from what other scholars have chosen, as I wanted to complete an original study. The few focused areas representing the modern era require more research, which can be undertaken in the future. This work, therefore, can be regarded as part of an ongoing process of intellectual curiosity and scholarship.

Chapter I provides a general background for subsequent chapters. It covers the key components of the processes of industrialization and internationalization of Swedish industry, specifically the crucial period of industrialization up to the First World War. This chapter can be helpful to those who are not familiar with Sweden. The first chapter also forms the frame for the study, including a review of the literature. Although Sweden was a relatively poor and backward country in the mid-nineteenth century, human resources were highly developed, earning Sweden the apt title of the "impoverished sophisticate."

The transformation of the Swedish economy from an agrarian to an industrial base is examined in Chapter II. Sweden's industrialization was similar to Switzerland's experience, except that Sweden had a history of commercial activity in external markets due to the export of timber and metals.

Chapter III covers the significant aspects of the ancient iron industry, the Swedish *bruk,* the decentralized ironworks interspersed throughout the Swedish countryside, based on local raw materials and skilled labor. Iron production and the iron export industry had contributed to the national treasury since the thirteenth century, but by the nineteenth century the industry faced a structural crisis. The *bruk*

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Chapter IV discusses the period of mature industrialization and the formation of a modern capital market. The Swedish State Railway, special attributes of the "genius" industries, internationalization of business, the role of prior related knowledge, and the significance of the long-established commercial contacts developed through the iron industry also are examined.

Chapter V focuses on the early stages of trade unionism and the foundation for participation in the Swedish labor market. Highlighted is the founding and stormy beginning, in 1898 in Stockholm, of the Swedish Trade Union Confederation (LO) representing manual workers.

Chapter VI continues in a similar vein with a discussion of the umbrella organization representing business in the Swedish labor market, the Swedish Employers' Confederation (SAF), established in Stockholm in 1902. Although SAF eventually was one of the main actors, along with LO, in collective bargaining, the organization's leaders did not welcome that role during the early years.

The political dimension of the organization of the Swedish labor market, particularly the linkage of the Social Democratic Party and LO, is analyzed in Chapter VII. The early leaders guided the labor party along a path of reform.

Chapter VIII is the concluding essay, which highlights the prominent elements of change surrounding a "new paradigm" in management and the introduction and use of new technologies. These factors have made it possible to reorganize production along socio-technical principles based on the ground-breaking experiments conducted by the Tavistock Institute, located in London, in the mid-

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twentieth century, and the implementation of team production in Swedish industry, at Volvo in the 1970s.

The research is based mainly on primary documents at the Swedish Employers' Confederation (SAF) and the Arbetarrölresens Archive, both located in Stockholm; the Tavistock Institute of Human Relations in London; interviews in Sweden and in the United States, i.e., in Washington, D.C., and at the Walter Reuther Library in Detroit, Michigan; and material from meetings with numerous management representatives, industrial leaders at multinational firms, and academic staff providing schooling and higher education for industrial managers at institutions such as the Institute for Management and Development (IMD) in Lausanne and INSEAD outside of Paris, and faculty at the University of Berlin involved with the transitional economy in the former East Germany, among others; and on-site visits to production facilities at numerous corporate headquarters.

Particularly illuminating were the interviews with industrial, business, and labor leaders in Sweden. First, with the help of some directors of organizations in Sweden working in the field of international management, appropriate people were identified for the intended interviews. The same people then offered to make the initial contact by letter with the potential interviewees. Soon after, I followed up with a telephone call and a letter. I would recommend this method of being introduced by someone respected in the field to anyone intending to conduct research in Sweden.

One exception to the method described above was the interview with Jan Carlzon, President of Scandinavian Airlines. After reading Carlzon's book *Moments of Truth,* I wrote to him, responding to the ideas presented in his work and

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requesting an interview for further discussion. Carlzon willingly and graciously honored my request. All of the interviewees had carefully considered the questions I had sent to them before the interviews were conducted. During the taped sessions, they offered thoughtful and varying responses. The interviews in the United States with Irving Bluestone, retired Vice-President of UAW-International, and Michael Maccoby, a consultant for Swedish firms, were planned through direct contacts.

A Small Open and Global Economy

To some people, Sweden is a land of trolls and medieval castles and the home of adventuresome Vikings who, a millennium ago, struck out of the Swedish archipelagos to carve out their northern empire. Perhaps less widely known is that Sweden has a long tradition of international operations. Sweden is also home to a clutch of industrial empires that rely heavily on advanced manufacturing and state-of-the-art manufacturing philosophies.

One of the enduring impressions one forms after visiting large Swedish manufacturing enterprises, multinational firms, is that Sweden's manufacturers compete vigorously in global markets, exporting anywhere from 85 to 95 percent of the total industrial output to markets in the United States, Europe,and the Far East. The presence of many large multinational corporations has fostered a detailed knowledge of international business, management, and language skills. English is mandatory in the public school system, and many Swedes study a third language, as well.

Sweden is a small, open and global economy, one of Europe's least populated countries, with only 19.5 inhabitants per square kilometer (a population

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of 8.8 million in 1996), and the third largest in terms of geographical area. Sweden ranks highly when it comes to balancing business efficiency with environmental protection. (According to the World Competitiveness Report of 1996, the emissions of carbon dioxide and chlorofluorocarbon are lower in Sweden than in other developed countries.)

Through its geographic location and European Union membership, Sweden is part of three significant economic areas. Scandinavia, where Sweden traditionally has held a strong position, has a population of close to 25 million people. The country also has a strategic position in the rapidly expanding Baltic region, with its population of 100 million inhabitants.

Major Swedish international industrial firms earn a substantial proportion of their profits through subsidiaries abroad, where they employ largely non-Swedish labor. About one-third of the employment in Sweden depends directly on exports, and more than half of the country's total industrial production is exported. More than 50 percent of Swedish exports go to European Union countries. Profits from these exports pay for a sizable proportion of Sweden's imports, which originate largely from the same group of trading partners.

The Swedish industrial empires such as Sandvik, Asea Brown Boveri Robotics, Volvo, Saab, Ericsson, and Atlas Copco, to name a few, are going to be even more deeply involved with the economic life of the European Union. The Union's primary goal is to provide a free flow of goods, capital services, and personnel among member countries.

Due to the limited Swedish home market and a total lack of dependent territories overseas, a free trade policy has been a natural occurrence. European

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market integration and continued access to international markets are fundamental to maintaining both industrial and material standards, which presuppose an intensive exchange of goods and services with other countries. Sweden's truly global corporations will reap the benefits of a huge single market as part of an integrated Europe. Membership in the European Union has provided access to a market with a total of 370 million people (ISA, 1996, p. 2). (See Figure I.1.)

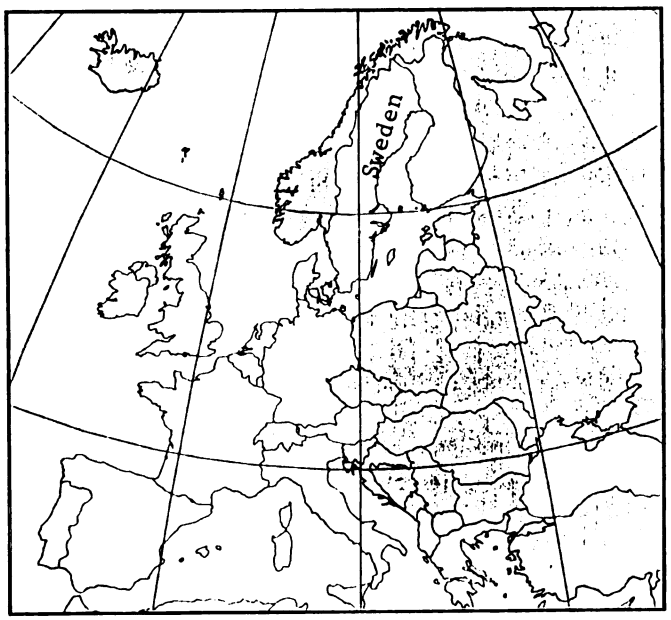

Fig. I.1: Member states of the European Union, 1996.

Source: Invest in Sweden Agency (1996), p. 5.

Sweden's major export markets--Germany, the United States, the United Kingdom, and Norway--account for 38 percent of its exports. Sweden's imports from Germany, the United Kingdom, Norway, and Denmark totaled 43 percent in 1996. Engineering accounts for about half of Swedish exports, with machinery, electronics,

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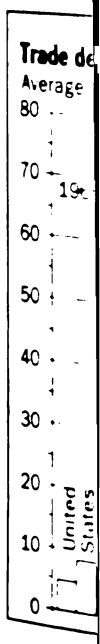

Fig. I.2: Trade depend

Source: Volvo Media

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electronics, and motor vehicles making up the main categories. Other exports include forest products, chemicals including pharmaceuticals, and minerals.

Few nations are as dependent on exports as is Sweden. The Swedish economy is about 30 percent trade dependent, one of the highest such levels in the industrialized world. The total value of exported goods in 1994 amounted to almost 500 billion Swedish crowns. Applying the 1998 rate of exchange of 7.4 Swedish crowns to the United States dollar, the total value of Swedish exported goods in 1994 was $67.5 billion (Swedish Central Statistics, 1995). (See Figure I.2.)

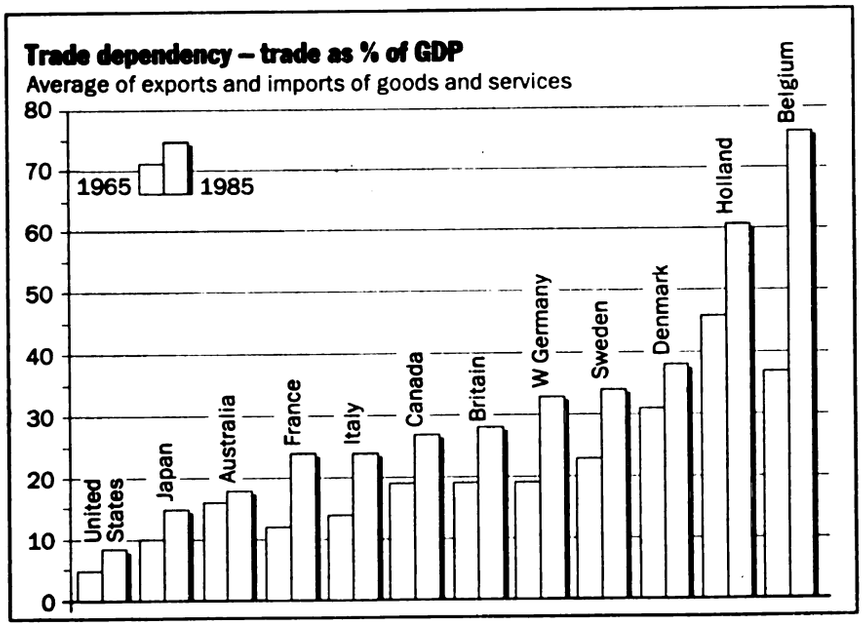

Fig. I.2: Trade dependency--Trade as percentage of gross domestic product (GDP).

Source: Volvo Media (1987), p. 15.

A number of multinational corporations have their origins in Sweden, and today the Swedish economy is highly dependent on a limited number of large

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international companies. These include well-known names such as Asea Brown Boveri, AGA, Astra, Atlas Copco, Electrolux, Ericsson, Gambro, Ikea, MODO, Saab, Sandvik, Scania, Skankska, SKF, Stora, Tetra Laval, and Volvo. (See Appendix for a list of the largest firms and their product lines.) The concentration of industrial output in a small number of large companies is one factor contributing to the relatively high level of spending on research and development in Sweden.

Due to a constructed domestic market, Sweden must export to and grow in international markets to reach economies of scale (reducing the cost of production by increasing the quantity produced, and specialization in production and marketing). It is obvious that the development of an advanced and differentiated industrial structure would not have been possible if the export goods, concentrated in engineering and electronic products, specifically machinery and motor vehicles and telecommunications, were sold exclusively in the small domestic market.

By expanding internationally, Swedish companies have been able to spread the cost of research and development over a larger production volume, thereby carving out their respective niches in an efficient way. At a level of just above 3 percent of GDP, Sweden spends more on research and development than does any other country in the Organization for Economic Cooperation and Development (OECD). Almost 90 percent of industrial research and development is related to transport and telecommunications equipment, pharmaceuticals, and machinery. Most of the intensive research and development work has taken place in the home environment (see Figure I.3).

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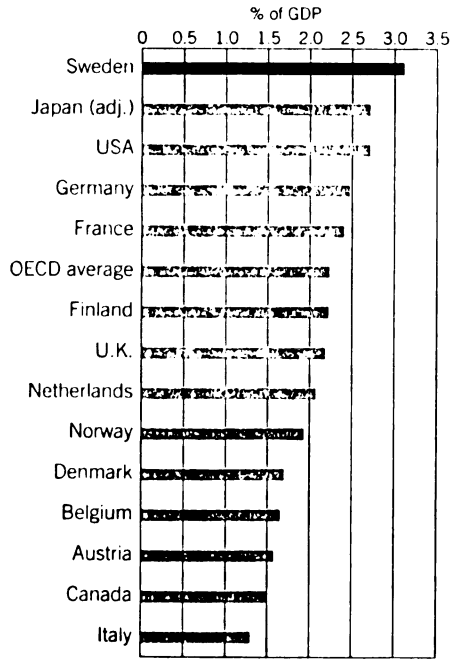

Fig. I.3: Total expenditure on research and development, 1993.

Source: OECD Main Science and Technology Indicators (1993).

Political and Economic Stability

The popular image of Sweden is one of politically stable and contented Swedes calmly going about their business in their corner of Northern Europe. However, this notion is a bit simplistic. The stereotypical view of Swedish development often dismayed Swedish academics and politicians, who were aware of the multifaceted and sometimes precarious nature of Sweden's economic history. Political and economic stability were not achieved in Sweden until capitalism and laissez-faire economic policy were tested during the Great Depression in the 1930s. The next forty years were a time of economic growth and political stability, along with

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Even though Swedes enjoy the same civil rights as do those in most other Western European countries, Sweden has a tightly organized--some would say highly regulated--society. Public policy debate tends to focus on what is good or bad for the society as a whole, rather than for the individual. Perhaps this is because Sweden is a small, ethnically homogeneous society, as compared to a large country with a pluralistic population such as the United States. Also, virtually all Swedes making up the active labor force are covered by collective wage contracts, which has the effect of limiting wage differentials and discretionary income.

These features do not mean that Sweden is a closed or introverted country. On the contrary, Swedes make a genuine effort to be informed about international trends in many fields, and many of them are well traveled (the vacation period mandated by law is five weeks). This outward-looking mentality is due, in large part, to a history of trade.

Sweden is well reputed for its industry, having captured a leading edge in many high-tech fields such as telecommunications and information technology, pharmaceuticals, and health care, and enjoying a strong position in the automotive, iron and steel, and pulp and paper industries, to name a few. Because of Sweden's historical participation in world trade, the business sector has extensive interests and contacts abroad. The financial community has seen much of its market deregulated in the past decade and now is finding its niche in the new global financial market.

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However, Sweden's industrial history reveals that world trade has been ongoing in Sweden for centuries, and the beginning of the dual processes of industrialization and internationalization is difficult to pinpoint. Even though another factor related to international expansion following 1938 was a minimum of industrial strife, which contributed to high levels of employment, full production, and timely delivery of products for markets abroad, the processes of industrial development and industrial relations have been far from smooth and painless. By the end of the turbulent Depression decade, a peaceful labor market emerged, while retaining democratic institutions and a free market economy. At the same time that authoritarian regimes triumphed on the Continent, leaders in Sweden demonstrated that problems could be solved through compromise--politically and in the labor market.

During a time when the automotive industry in the United States was plagued by violent strike activity, such as the sit-down strike at General Motors-Flint in 1938, labor and management in Sweden formulated the infamous Saltsjöbaden Agreement, traditionally known as the Basic Agreement, based on collaboration. The agreement would establish the pattern for industrial peace and form part of the foundation of Swedish prosperity. The Swedish Employers' Confederation (SAF) and the Swedish Trade Union Confederation (LO) achieved a "model" of industrial relations, in which the two centralized organizations negotiated freely without governmental intervention for almost four decades. For many years, Sweden maintained an enviable record of labor market peace. There were only minor conflicts between labor and management from 1933 to 1969, with one exception in 1945. This form of industrial development has been of intrinsic interest in the wider

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international comparative context. The Swedish experience of peaceful negotiation in industrial relations has been of particular interest to Americans, primarily because "the history of American industrial relations revealed that organized labor believes it serves its members best by remaining management's adversary" (Levitan & Johnson, 1983, p. 11).

Purpose of the Study

There is abundant literature concerning the causes and attendant circumstances of Sweden's industrialization process. These include growing international demand for goods that Sweden was capable of producing, as well as the availability of endogenous raw materials, a literate and skilled labor force that often was drawn from agriculture, and the feasibility of importing capital from abroad with the adoption of the Gold Standard in 1873. One important factor that has been insufficiently explored is the historical development of the internationalization of business in Sweden.

This dissertation illustrates certain aspects of Sweden's industrial history related to comparatively late industrialization and the internationalization of business in Sweden as the historical backdrop for the growth of multinational corporations and Sweden's advance toward prosperity in world markets. The focus is on the evolution of industrialization, reformist economic and pragmatic industrial policy, and an adaptive business-management structure, in terms of continual structural change, as important underpinnings for increased internationalization and the competitive position of Swedish industry in global markets.

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Time Frame

The analysis is confined to a period of rapid economic growth in Sweden from the 1870s to the First World War, specifically, with some historical changes of the modern era, particularly the 1970s, when public spending and tax rates were still not particularly high. This dynamic era spanned a hundred years of structural change and adaptation to international markets.

Focus

The intention in this study is to explore some characteristic features of industrialization and the internationalization process in Sweden within a historical context. The focus is on the dominant vehicle of internationalization, often referred to interchangeably in the literature as the multinational corporation or enterprise, and briefly to review its role and influence in the Swedish economy. The scope is limited to large Swedish international companies. Although many medium-sized firms went abroad, very little is known about their development; that part of Swedish economic performance requires separate research. In addition, an analysis of the great rush of social legislation during the twentieth century is beyond the scope of this study.

The analysis is divided into three thematic areas of the internationalization process:

1. Industrialization--threats and opportunities. Swedish exceptionalism and late industrialization created special conditions of Swedish economic development during the early period of internationalization of Swedish business. Production processes in the iron mills (the *bruk)* located in the countryside and the ancient industry based on raw materials created a special "mentality" about industrial

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2. Industrial relations. The organization of the labor market from the turn of the century, the economic nucleus of the Swedish model, and the business climate for economic development and growth are all significant aspects of the Swedish form of industrial relations. During the last decades of the 1800s, the increasing dissatisfaction exhibited by workers catalyzed difficult conflicts in Swedish society and at new factories, and industrial turmoil continued until just before the first world war.

3. International business management. Of particular significance in the modern era is the influence of management techniques from abroad and the development of Swedish management philosophies. Frederick W. Taylor is known as the father of scientific management. Scientific management, also known as Taylorism, is essentially regarded as a rigid system of control of the worker and constrained productive systems in the manufacturing setting. Taylor's ideas were formulated in the United States at the end of the nineteenth century, when industrialism was gathering momentum in Sweden and the United States. Taylor's theory was published in 1911 in a book entitled *Principles of Scientific Management.* This book was translated into Swedish in 1913, although the concept had first been introduced in Sweden in a union press article a year earlier. Hans De Geer (1972) presented a comprehensive account of Taylor's influence in Sweden.

"Taylorism" and the emphasis on "industrial rationalization" may be defined as any approach that has the potential to increase efficiency or output; Taylor's

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theory applied mostly to unskilled labor. Efficiency can be achieved in various ways. Reorganization of firms may include closing some manufacturing units and expanding others, horizontal integration or merging different stages of the production process, and vertical integration or merging support units that are duplicating others, thereby eliminating waste.

In the 1960s and 1970s, in Sweden, scientific management theories were displaced by a socio-technical approach, emphasizing the social and technical attributes of the production process or organization of work in an industrial setting. The socio-technical concept arose in conjunction with the first of several field projects undertaken by the Tavistock Institute in the British coal mining industry during a time of postwar reconstruction of industry.

New technology and new international competitive conditions required the reorganization of work and production. With the emergence of alternative systems, there were other ways of designing work and organizing production, rather than conforming to Tayloristic principles. A participative and decentralized management philosophy resulted in a "shift in doctrine" and a "new paradigm" in the 1970s at Swedish international enterprises.

A New Paradigm

Harvard business historian Alfred D. Chandler chronicled the formation of modern business practices and the management of the firm, specifically the rise of the modern business enterprise and its managers, centering on the years between the 1840s and the 1920s in the United States. Chandler characterized the "modern business enterprise" as having distinct operating units and management by a

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hierarchy of salaried managers. Each box of the management grid represents separate offices of the enterprise as part of a multiunit structure (Chandler, 1977).[3] According to Chandler, these features were essential to internalizing the many business units of the multiunit enterprise into a single enterprise.

In addition, "the businessman, for the first time, could conceive of a lifetime career involving a climb up the hierarchical ladder" (Chandler, 1977, p. 9). Managers were to "allocate resources for future production and distribution. In order to carry out these functions, the managers had to invent new practices and procedures which in time became standard operating methods in managing American production and distribution" (Chandler, 1977, p. 7). In a general sense, this American model of business management that Chandler described was apparent in much of the Western industrialized world well into the twentieth century. However, times and business circumstances evolve, demanding new methods.

My Contribution

Processes associated with Sweden's special features of industrial development are investigated in this study. They include the importance of the export market, multinational activity and business management philosophy, the role of new technologies, the combination of human and technical resources in the labor market in the context of special strategies for international expansion, and the climate for cooperation and collaboration in collective bargaining created by the social partners in Swedish industry representing business and the trade unions.

All economic development is, in varying degrees, related to changes in the social and political structure of the community, as well as to changes in the nature

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and origin of the driving forces in the technical economic area. Economic history is concerned primarily with production and transportation, and business history tends to focus on policy and organizational structure and their effects on profits.

When analyzing Swedish economic development, historians and other scholars often have focused primarily on the social and political dimensions related to the institutional structure, thus disregarding the industrial development of the country. Work about industrial transformation in the international context will open up favorable opportunities for research in the border areas between the different social sciences, as well as in the insufficiently explored areas that the historian has in common with the field of business administration. When considering aspects of the history of working life, historians have not investigated the significant role of work organization, having mainly studied working life from the same angle as political life--a one-sided conflict perspective that often is too narrow to explain development regarding issues of production technique and personnel, for example.

This study concentrates on strategies that have contributed to Sweden's achieving its position in the international market. Although there is extensive literature on American and British multinational companies and their expansion, or the whole idea of business "going abroad," relatively little has been written about their Swedish counterparts, at least outside Swedish academics. Knowledge about the Swedish development of large firms in that country is quite limited.

In an international framework, managers make their decisions by putting problems in their own unique cultural and environmental context. Thus, no two sets of circumstances are identical, but there are some general patterns that are cross-national and others that are unique. Business is so complex today that, as a

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By exploring the border areas between the social sciences and business, an interesting philosophical question is raised--whether it is possible to draw a clear connection between historical insight and knowledgeable business decisions. The growing interest of historians in the underdeveloped border areas, blurred by a veil of history, bodes well for the future of this largely uncultivated field--for international scholars, business and industrial relations, and society. In the historical context, the international economic and political operating environment for business research is a young and fast-growing field, as national economies become more interdependent and business and industrial relations more global.

Methodology

Important archival material examined for this study included the Swedish Employers' Confederation (SAF) archives in Stockholm, the Archives and Library of the Labor Movement (Arbetarrörelsens Arkiv och Bibliotek) in Stockholm, and Tavistock Institute of Human Relations Archive in London, where documents in English and Norwegian regarding quality-of-work-life issues were analyzed. Other vital sources included interviews with business managers, scholars, and authorities at labor organizations in Sweden, the United States, and Europe. Excerpts from some of the interviews are included in this work. Other useful sources were company records and annual reports, newspaper articles, statistical data, and study visits to numerous multinational companies and international organizations in

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There are some problematic aspects of investigating the transition from an agrarian to an industrialized society. The secondary materials contain vast contradictions, and quantitative data are often widely dispersed or nonexistent. Retrospective studies often involve a number of statistical annoyances. Other problems are as follows:

1. Curiously, before the 1910 census, no data are available, other than estimates, regarding incomes in agriculture, the most important occupation in Sweden at that time. The timber industry was the basis for economic growth and expansion in the export trade in the latter part of the nineteenth century, the foundation for an increased share in international markets during Sweden's breakthrough in industrialization around the 1870s. However, in tracing the expansion of the timber industry, the figures for that industrial sector were classified as part of the agricultural statistics for most of that era.

2. In terms of language, there are multiple difficulties for those not of Swedish origin, whereas native speakers have the ability to investigate primary documents, capturing the nuances, cultural experience, and language patterns from times past. One example is the misunderstanding of welfare (*Välfärd)* in the Anglo Saxon world. Another example is the inability to find an English equivalent for the Swedish term *"lagom,"* which vaguely means "just right" to a Swede. Swedish is a rather small language, compared to English; thus, double meanings can pose problems in translation.

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3. The bulk of the appropriate analytical literature reflects labor's position and the development of a welfare state rather than industrial development, which is focused on management practices, industrial relations and the engine for economic development and growth, the expansion in international markets, and the build-up of multinational companies and strategies.

4. Finally, the Swedish version of *The Visible Hand* has not yet been written.

Endnotes

1. Agurén et al. (1988) said that the term "flexible manufacturing systems" (FMS) can be used to describe production systems that are highly automated and also flexible. The purpose of FMS is to make it possible to use the same equipment for effective manufacturing of different, but related articles and for production to take place in the basis of the needs that exist from one day to the next. Development could be said to be coming "from two directions." Highly automated, rigid mass production systems are moving in the direction of greater flexibility, while in versatile, flexible workshops with small series production, efforts are being made to increase the degree of automation. . . . Sweden is well to the fore, especially in flexible, automated production cells, use of robots, automation of handling, by using auto-carries (known as AGV's) for instance. . . . Characteristic of developments in Sweden is the way systems are built up step-by-step and expertise and technical solutions are developed parallel. Experience to date quite clearly demonstrates that technology, organization and competence have to be developed and seen as an integrated whole. This development must begin long before the equipment is installed and continue for a long time after it has been commissioned. An overall name for highly integrated solutions is CIM, Computer Integrated Manufacturing. (pp. 40, 41)

2. Active acceleration of structural change has been an important part of the Swedish tradition of equitable wage policy (equal pay for equal work) based on the Rehn/Meidner model developed within the trade union movement in the 1950s. The "active labor market policy" developed by LO economists Gösta Rehn and Rudolph Meidner focused on the dual goals of low unemployment and low inflation. The so-called Rehn/Meidner model was based on the assumption that full employment cannot be created through the maintenance of high general demand in the economy because this will foment inflation. As the level of demand generally varied between

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different sectors of the economy, the government's policy was to be, instead, directed toward maintaining moderate overall demand. A selective labor market policy was designed to handle pockets of unemployment. The active labor market policy not only involved work projects for the unemployed but also encouraged geographical and occupational mobility within the work force and the retraining of the labor force. The aim of this work strategy against unemployment was thus to put the unemployed back to work at market wages, rather than on the dole. The postwar policy of efficiency and full employment in Sweden was based on the view that full employment was the very foundation of the developing welfare state and was essential to a comprehensive social policy. The social protection of citizens was to be achieved through a combination of labor market policies, social insurance, social services, and an efficient economy that was able to compete in international export markets with low levels of unemployment linked to inflation rates, dubbed the "third way" by economists at the Brookings Institute. The Swedish Trade Union (LO) supported a policy of wage solidarity and a redistribution of income with the aid of the labor party, the Social Democrats. However, the Swedish experience confirms that it is difficult to combine a high unemployment rate with low inflation, even though this was the economic strategy employed in the five decades following World War II. Consequently, high employment ambitions in an open market economy place policies for structural change at the top of the agenda in Swedish politics and industries. Unemployment insurance is administered by unemployment-benefit societies that are closely tied to the national trade unions. Membership is voluntary and usually goes along with membership in the appropriate trade union. The unemployment-benefit societies are financed by members' dues and fees. In 1991, 3.5 million members belonged to 43 societies. Unemployed workers are eligible for benefits, which may amount to 90 percent of the workers' income.

3. Chandler's seminal work about the changing process of production and distribution in the United States and how they were managed covers the period from the 1840s to the 1920s, when the rural agrarian economy of the United States became industrial and urban.

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CHAPTER I

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Introduction

Strategically but remotely pivoted on the edge of Europe (see Figure 1.1), Sweden is in a peripheral position that has been a matter of geography and climate, comparative poverty, and harsh conditions of life.

> The cattle had all suffered extremely during the winter from the drought of the preceding year; and in July, about a month before the harvest, a considerable portion of the people was living upon bread made of the inner bark of the fir, and of dried sorrel, absolutely without any mixture of meal to make it more palatable and nourishing. The sallow looks and melancholy countenances of the peasants betrayed the unwholesomeness of their nourishment.[1] (Malthus, cited in Montgomery, 1939, pp. 4-5)

This woeful description of misery and backwardness describes Sweden at the beginning of the nineteenth century, when the great bulk of the agricultural population belonged to the class of free peasants. This peasantry worked a greater part of arable land, amounting to about two-thirds of the whole, and consisted of peasant proprietors or peasants who held Crown land, the Swedish *bönder* (farmers). Much Crown land had been transferred to peasant ownership, and gradually the Crown's share in the arable land of the country dwindled to comparatively insignificant proportions. Geography helped the peasants as the population was sparse and the land mountainous and hilly, and unsuited for large-

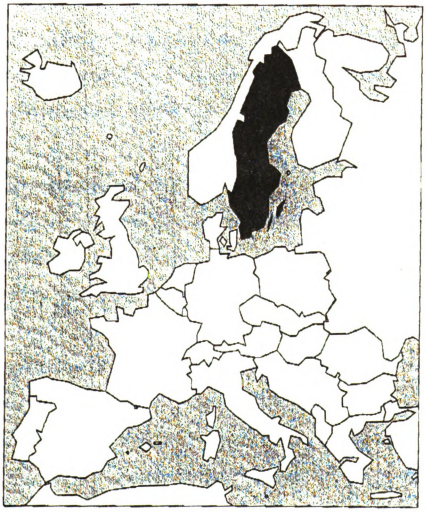

Fig. 1.1: Sweden's peripheral position in Europe.

Source: Cameron (1989).

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In the great agricultural regions of the south (Skåne--the breadbasket) and the Midland districts (Svealand), where cereal crops were the main interests of farmers, the open field system, which prevailed in the mid-eighteenth century, proved a serious obstacle to the introduction of improvements in agricultural technique (see Figure 1.2). The rigidity of the old agrarian system did not allow for changes leading to increased production, and the traditional methods of ownership militated against reform.

The enclosures in Sweden and the transformation of the agrarian structure had two different but interrelated aspects; one was the abolition of the *bytvång* or village compulsion and the strip system; the other was the distribution of the commons and wastelands to individual villagers (Heckscher, 1954, pp. 155-156). Even though the traditional agrarian framework was obsolete, a transition to more efficient methods would lead to a lengthy, drawn-out process.

The first step, which laid the foundation for change, was the reform of the field system. Enclosures in Sweden moved toward realization around 1749, with the Field Enclosure Act, *Storskiftesstadgan;* thereafter, it was a very gradual process. In the international perspective at that time, "the only known comparable development before the middle of the eighteenth century was the English enclosures, which had been going on for a long time but did not gain momentum before the eighteenth century" (Heckscher, 1954, p. 155). The English enclosures led to strong criticism and fear that the independent British farmer would disappear. In contrast, Swedish reform called for consensual compliance.[2]

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Source: Volvo Media

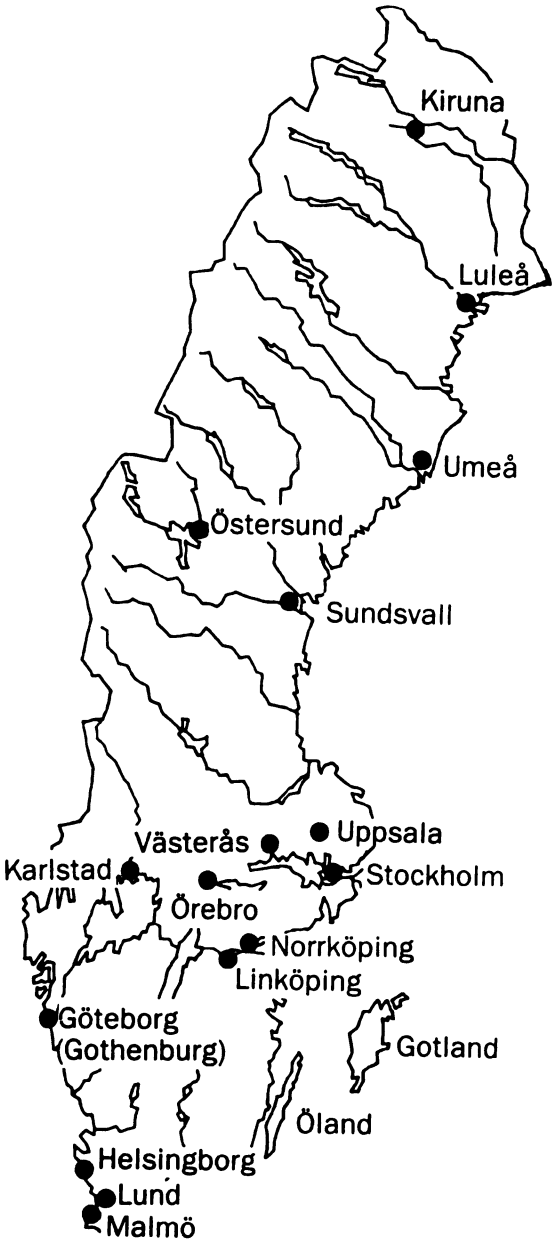

Fig. 1.2: Map of Sweden.

Source: Volvo Media (1987), p. 1.

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Swedish legislation provided that, in cases in which the fields had been subdivided into narrow strips, the government surveyors would "gently but firmly" impress upon the villagers the efficiency of this type of land use. Then the government would repartition the land to aim at giving each farm at least one field, and it was this arrangement that hinged on general consensus (Heckscher, 1954). For centuries, peasants were tied to certain patches of land in the strip system of agricultural production. In view of the ancient traditions, reform requiring general consensus was far from optimistic.

It was not until the Surveying Act of 1783 that an individual villager could claim consolidation of his holdings, but this meant that the rest of the village still retained scattered parcels. Therefore, strong obstacles to individual consolidation existed.[3]

During the long period of transformation and an increase in agricultural yields, the home production of cereals fell short of demand, even in years of plentiful harvests. The shortfall had to be made up by imports, and in the 1780s a series of bad harvests raised the average of annual imports to about 85,000 tons, which was between 10 and 15 percent of the home production of grain (Montgomery, 1939, p. 4).

In the inland districts of Norrland and the northwest parts of Delecarlia and Värmland, years of scarcity recurred with disquieting frequency. When Reverend Malthus recorded his observations during his tour of Sweden and Norway, he happened to traverse those districts of western Sweden closest to the Norwegian border, when a recent crop failure was at its worst. Indeed, when Malthus recorded his gloomy observations about Sweden, the country was in a preindustrial state--a

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poor, agrarian society, located on the northern tip of Europe, isolated from much of the rest of the world.[4]

In the last decades of the eighteenth century, Swedish society was economically and socially immobile and continued to remain stationary for much of the nineteenth century. Later, Swedish economic historian Arthur Montgomery (1939) estimated that even though occupational divisions were not that clear-cut, a good approximation was that, at the end of the eighteenth century, 80 percent of the population might have been categorized as agricultural. At that time, Sweden had 1.7 million inhabitants (Finland had been lost to Russia in 1809) (see Figure 1.3).

As late as 1870, nearly 75 percent of Sweden's population depended on agriculture for their main source of income, and less than 15 percent lived in towns (Carlson, 1979, p. 12). A rural life meant living in a subsistence economy where most goods needed were produced at home, i.e., food, textiles, furniture, tools, and implements. Because the growing season was short, there was ample time for handicrafts, such as the production of timber and smelting of iron in primitive furnaces in the *bruk,* or ironworks, which were dispersed throughout the Swedish countryside. In the meantime, the total Swedish population doubled from 2,237,303 to 5,136,441 in the nineteenth century (see Figure 1.3).

In molding Sweden's economic destiny, agriculture, which had long been firmly entrenched in ancient traditions, gradually was caught up in more scientific and efficient agricultural systems. Sweden's predominantly subsistence economy shifted gradually from village to private farm, based on commercial agriculture.

Demographic[5] alterations surrounding growth in population, as well as technical changes following the Napoleonic wars, pushed Sweden toward an

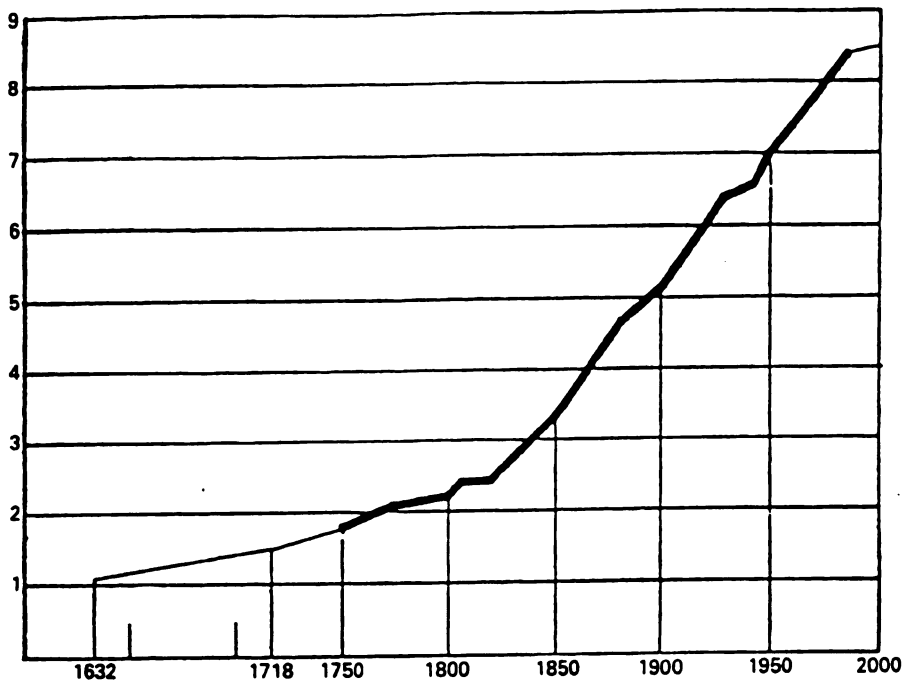

Fig. 1.3: Sweden's population, 1632 to 2000 (in millions) (before 1780 and after 1988 are estimates).

Source: *Statistisk Årsbok* (SCB), (1988), Graph 1.

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economic revolution. Associated with large sectoral changes in the economy, the relative importance of the agricultural sector declined, making room for a rapidly expanding industrial sector.

Industrialization in Sweden

The National Industries

In the early stages of transition, the shift was not significant enough to create economic and social improvements commensurate with population growth. Even though far-reaching agrarian reforms eventually were able to increase productivity, thus requiring fewer agricultural workers, there was then small need for additional employees in industry. The only industry of a fairly modern structure, the mining industry, showed no expansion. Also, the manufacturing industries were small and were retreating rather than advancing.

For most of the middle decades of the nineteenth century, one of the major branches of Swedish industry, the iron industry, could not keep pace with the rapidly growing population. The iron industry was going through a structural crisis. The export shares of Swedish iron decreased as a result of the competitive international situation, going back to the eighteenth century. This meant that, by the mid-nineteenth century, the iron industry could not take surplus agricultural workers. In fact, at that time, both of the national industries, timber and iron, were advancing slowly.

The industrial revolution and the industrialization process came to Sweden relatively late, starting much later than in Britain and on the continent. In 1840, four-fifths of the national population still depended on agriculture as well as its ancillary

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In addition, although Sweden was endowed with natural resources of iron ore, forests, and water, and for centuries had exported both forestry products and iron and steel, there was no domestic framework for industrial development before 1850, when the small country still had a largely agricultural population. In contrast to England, where farmers were attracted to the cities by possibilities for employment in industry, this situation did not occur in Sweden.[6]

The bad harvests of 1866-1868 marked the last famine in Sweden. However, due to lack of employment and a promising future, about a million Swedes emigrated to the United States between 1850 and 1890, or about 20 percent of the population (U.S. Department of State, 1987). The majority of Swedes went to North America via Great Britain as no Swedish-American Line existed before 1915 (Sjöhistoriska archives). Unknowingly, Sweden was on the road to prosperity.

Economic Growth and International Markets

Statistical data and Swedish business leaders concur that the 1850s marked the beginning of a market economy in Sweden. According to Curt Nicolin, Chairman of the Board of ASEA, a large Swedish multinational company founded in 1883, and former president of the Swedish Employers' Association (SAF), "In 1846, we decided that trade could also take place in the countryside. Up to then it was reserved for the cities, which gave the cities a monopoly, and 1846 was the birth of the market economy in this country" (Nicolin, 1991). At that time, Sweden underwent a

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fundamental economic change, and from 1850 onward a declining rate of demographic growth coincided with a rise in gross national product (GNP). Thus, the 1850s signify a high-water mark in Sweden's economic development.

Significantly, the 1860s represent a watershed between an agrarian and an industrial economy. At that time, Sweden had a well-balanced, but still rather small, industrial sector before a big spurt. The agrarian population had declined to two-thirds of the national total, and the decline continued decade after decade. In the meantime, industry steadily increased its share of the workforce.

Railway construction was under way, which contributed to the integration of the domestic market and removed many of the obstacles to the transportation of goods and raw materials. In 1870, the contribution to the Swedish national income from manufacturing, mining, and handicrafts was less than 15 percent; ten years later, that share had increased to 20 percent (Dahlgren, Lindahl, & Kock, 1937).

An era of free trade had just begun, and agriculture was becoming less predominant, at a time agricultural yield was increasing as a result of more efficient methods leading to increased productivity. In a break from the immobility of the past, catalyzed by the engine and repercussions from Britain's earlier industrialization, between 1770 and 1825, a new international economy emerged on the heels of an increasingly vibrant era.

As Sweden's isolation receded, the positive effects of industrialization stimulated national economic growth, even if this was not as rapid as in the first generation of industrialized countries. An increase in foreign demand for Swedish raw materials, as other countries were developing along increasingly capitalistic lines, resulted in an integration of the international market. Thus, Sweden's

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economic growth during the early stages of industrialization is attributed to agriculture rather than industry. In this context, the export industry played a crucial role in the Swedish economy.

The Export Market

By 1870, Sweden was well integrated into the international economy and emerged as an industrialized nation based on its natural resources, iron and forests, and products Sweden was capable of producing (see Figure 1.4).[7] At that time, half of Sweden's exports went to Britain.

Economic growth was export-led, as all of Sweden's growth had been. Even as far back as the 1870s, Swedish exports were 20 percent of the GNP, and the figure was the same in the early 1910s (Hörnell & Vahlne, 1986, p. 4). The export ratio rose to just above 22 percent in the early 1890s, and thereafter it declined somewhat (Lundström, 1991; for characteristics of the Swedish economy 1870-1914, see chapter 8, pp. 176-187).

In the meantime, scientific agriculture, conditioned by a series of deep-reaching agricultural reforms, led to a striking rise in production, which meant that for a short time Sweden could export grains. Oats were exported to London to help feed the army and some of the 300,000 horses that were required to operate the omnibuses, the public transportation system (Lawrence & Spybey, 1986). Consumer goods, technology, and capital were imported.

However, during the period from 1870 to 1910, Swedish exports became more diversified. In the beginning, forest products dominated, and sizable amounts of agricultural goods were produced. Nevertheless, the export of grains ended

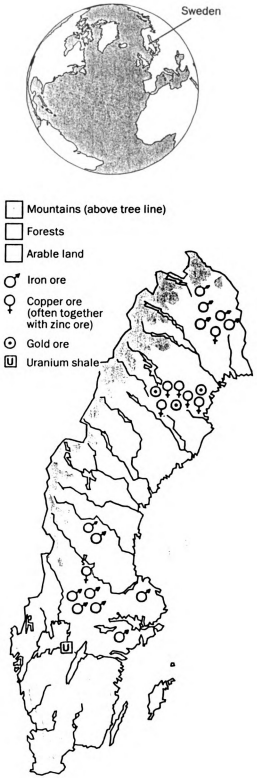

Fig. 1.4: Natural resources map of Sweden.

Source: Volvo Media (1987), p. 11.

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abruptly in the 1870s, when grains from America swept Europe. Following the 1870s, the share of more highly processed commodities, pulp and paper, food, and industrial goods, mainly engineering products, increased (Lundström, 1991).

As in most countries with small populations, Sweden was influenced by fluctuations in the international economy. There was a boom period in the 1870s, which peaked and deteriorated into an economic crisis in 1878. Another low point, in 1885, was followed by rising figures in the mid-1890s; then another slump in 1901 was followed by somewhat of a crisis again in 1907 (Lundström, 1991). By the end of the nineteenth century, the combination of rich resources in forestry and minerals, together with the internationalization of the manufacturing industry, contributed to the development of the Swedish economy.

Following decades without State debt, which is unusual for a former warrior nation like Sweden, the Parliament (Riksdagen) decided to embark on a state railroad program, which implied foreign debts. From 1856 to 1910, Sweden was in general a net importer of capital. Then, rather dramatically, Sweden became a net exporter of capital from 1911 until the 1960s.

In addition to the demand for Swedish export products, another important factor influencing the Swedish economy during the period leading up to World War I was the railways. Even though most of the rolling stock was imported, the railways brought market integration to large parts of the country, provided access to new natural resources, and meant decreasing costs of inventories, to mention only a few benefits. Moreover, the railways were of great importance to the Swedish banks. Railway bonds created a Swedish bond market, and foreign loans increased

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contacts with foreign capital markets and supplied welcome short-term deposits (Lundström, 1991, p. 177).

During and immediately after World War I, Sweden purchased most of its foreign debt under very favorable conditions, when the Swedish currency, the Swedish crown (krona), was strong compared to other nations' currency. The debts of cities and municipalities had increased with urbanization. Swedish bonds for 360 million kronor had been purchased before the truce at the end of 1918, and approximately half of that amount came from Germany. Then in succeeding years another 300 million kronor worth of bonds were purchased, two-thirds from France (Lundström, 1991, p. 185).

Capital imports contributed to the development of the infrastructure--railroads, telegraphs and telephone lines, harbors, schools, gas works, and water-power plants. This also meant more workers in transport and service and maintenance, as well as in nonagricultural pursuits, who needed to purchase the food and clothing in markets. These favorable conditions, as well as Sweden's ability to remain neutral during World War I, contributed to the nation's industrial expansion. Rapid growth propelled Sweden from one of the least developed European countries in the 1850s to the ranks of the more developed countries in Europe by the early twentieth century, increasing purchasing power in the home market at a rate never before experienced. "Between the second half of the 1860s and the first decade of the 1900s, real Gross National Product per capita rose 150 percent" (Jörberg, 1973, p. 379; see also Jönung, 1984).

Real growth per capita in Sweden appears to have been about the highest, if not the highest, recorded in Europe in that period (see Bairoch, 1976, pp. 273-

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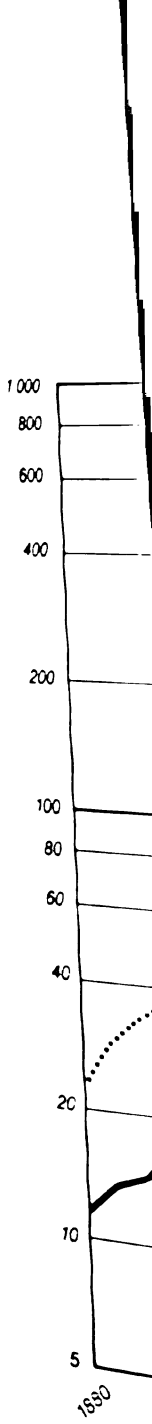
340). The substantial increase between 1870 and 1914 was approximately 2 percent per annum at constant prices (Lundström, 1991). By 1900, the contribution of the industrial sector to the GNP exceeded that of agriculture. In terms of workers employed, however, industry did not bypass agriculture until the 1930s.

> Following the "take off" period of 1870 to 1910 in Sweden, when an expansive industry started to rapidly develop, and particularly during the four decades between the dissolution of the Swedish-Norwegian Union in 1905 and the end of the Second World War in 1945 . . . is a period of rapid and extremely successful industrialization. Industrialization led to a period of substantial and stable economic growth, relatively unaffected by crises. It turned Sweden from one of the poorest to one of the most prosperous countries in Europe. (Gemzell, 1983, p. 71)

From the 1800s onward, there was continual international expansion and integration into competitive and changing world markets. By the 1890s, the industrialization process in Sweden encompassed a concentration and centralization within industry, as well as the development of new branches of the economy. Extensive forests, rich iron-ore deposits, hydroelectric power, the application of technology, and efficient organization enabled Sweden to become a leading producing and exporting nation in the twentieth century (see Figure 1.5).

Swedish industry progressed from raw materials to high technology as the Nordic country made dramatic adjustments from an agricultural economy to one based more and more on manufacturing. During the transformation process, a number of Swedish multinational companies developed side by side. The development was no doubt influenced by the build-up of new techniques leading to steel exports after the iron industry succeeded in adjusting to the new international business environment in the late nineteenth century.



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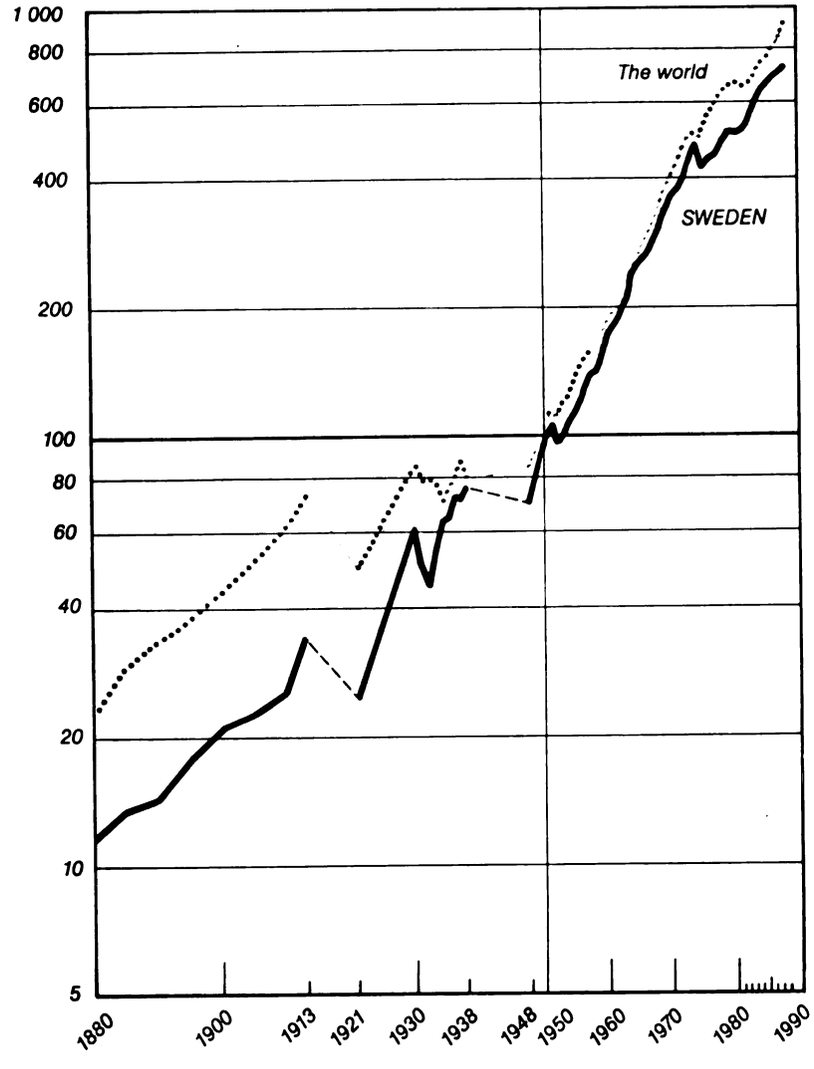

Fig. 1.5: Exports: Sweden and the world, 1880-1990. Volume index, 1950 = 100; semi-logarithmic scale.

Source: SCB official statistics.

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The nineteenth century was an era of transformation from an agrarian to an industrialized economy in Sweden. In sum, the period of Sweden's industrialization started before 1870, and the pace quickened particularly during the 1870s, and more so during the second half of the 1890s, covering the period from the 1870s to 1914. During that time, Sweden was aided by capital from abroad. In essence, economic growth in Sweden accelerated in three short periods during the nineteenth century:

1. The first era of acceleration, which started in the 1850s, was when the export of grain and forestry products reached impressive proportions.

2. The second period, during the 1870s, was a time of industrial-led growth.

3. The third period of acceleration, in the 1890s, was the result of an increase in demand in the home market.

Rapid and Steady Economic Growth

During the period between 1870 and the 1950s, Sweden experienced substantial economic growth in the comparative context, prompting well-known economist Assar Lindbeck (1975), an analyst of the ongoing and accelerated industrialization process, to label the Swedish economy's growth "the fastest and most balanced economic growth not merely in Scandinavia but in the whole capitalist West" (pp. 1-2) (see Figure 1.6).

Seen as a whole, economic development in Sweden from the 1870s until the mid-1960s was extraordinarily rapid (see R. Benzel's graph in Jörberg, 1984, p. 168). What was unique about the increase in Swedish production was the fact that,

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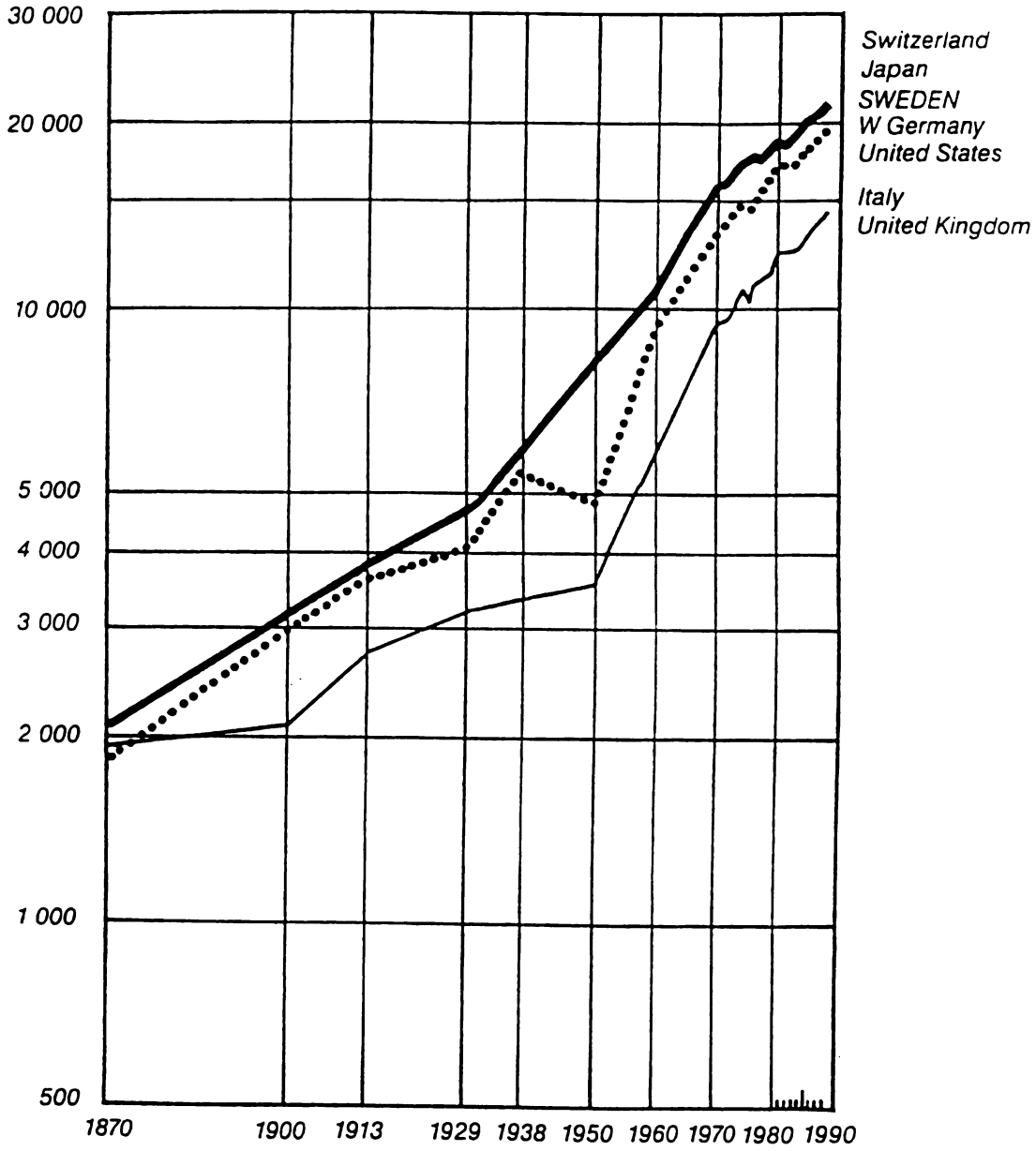

Fig. 1.6: Gross domestic product per capita of various countries since 1870. USD in 1988 prices; semi-logarithmic scale.

Source: SCB official statistics.

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although the development of production was rapid and steady, the periods of decline were shorter and shallower than in other comparable countries.

Fluctuations in economic growth for the whole 1861 to 1970 period can be seen in Table 1.1. The two series of figures, one for GNP and the other for total consumption, are volume series per capita. During that period of just over a century, the country's per capita GNP grew enormously, ten or eleven times, whereas consumption increased eight or nine times. The slower growth in consumption indicates an increase in the investment share of GNP.

Table 1.1

Annual Percentage Per Capita Growth in Gross National Product and Total Consumption (Volume)

	Gross National Product		Total Consumption	
1861-1875 1875-1890	2.2 0.8	1.4	1.7 1.1	1.4
1890-1907 1907-1930	2.5 1.8	2.0	2.2 1.7	1.9
1930-1951 1951-1970	2.6 3.0	2.8	2.3 2.6	2.4

Source: Krantz and Nilsson (1975), p. 183.

The figures in Table 1.1 show an increase in the growth rate for the 1860 to 1970 period as a whole. The substantial increase was approximately 2 percent per annum at constant prices, which was the highest in Europe and comparable to that in the United States. Three stages can be discerned:

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1. 1861 to 1890--the era of transition from agriculture to industry.
2. 1890 to 1930--mature industrialization.
3. 1930 to 1970--the Depression and postwar boom/era of labor peace.

Sweden's economic growth can be attributed to a number of interrelated factors. The Swedish economy was affected late by the Depression in the 1930s and recovered early compared to other industrialized countries. Because Sweden maintained neutrality during two world wars, it could supply war-torn countries in an economic recovery. These factors contributed to accelerated economic growth and international market expansion.

Like many other industrialized countries during the 1950s and 1960s, Sweden benefited from historically unprecedented economic growth. Industrial production increased by an annual average of 4.6 percent in the 1960s, and during the latter part of the 1960s it climbed by a record-breaking 6 percent per annum. Industrial productivity increased by 7.5 percent annually, the fastest growth until and since then (Central Bureau of Statistics, Sweden).

The period of Swedish industrial growth and expansion was also a time of high productivity and job security. According to Inge Janérus, ombudsman at the Swedish Trade Union (Landsorganisationen i Sverige, LO), workers in Sweden were

> educated that things ought to change--it might lead to new technologies and demanning of the work, but it must be accepted. There were lots of measures to help those [displaced workers] find new employment. . . . If conditions were vastly reduced and workers would be resistant to change like in the United Kingdom or the United States, there could have been a more regulated industrial relations system in Sweden. (Janérus, 1991)

The strong growth period from 1950 to 1973 in the western world contributed to increased economic independence as export shares grew, trade was again

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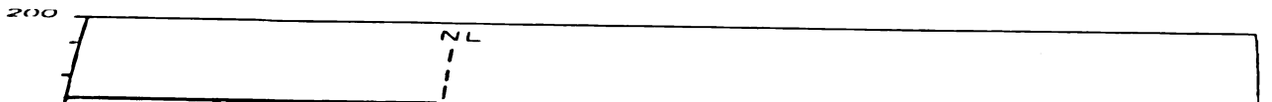
liberalized, and multinational investments soared (Mjöset, 1987). The export performance of Sweden in 1971 is compared with that of other industrialized countries in western Europe and North America in Figure 1.7.

Structure of Industrial Activity in Sweden

Terms of Growth

Regarding patterns over time, industrial activity in Sweden since the onset of industrialization in the 1870s and during the twentieth century, particularly in the modern post-World War II era, can be characterized as follows: (a) ability to adjust to ever-changing conditions, (b) penchant for social and industrial organization, (c) high levels of political and economic stability and labor peace, and (d) industrial prosperity.

During the twentieth century, Swedish industry has in general shown a remarkable power of development. Development means economic growth accompanied by a substantial structural or organizational change in the economy, such as a shift from a local subsistence economy to markets and trade, or the growth of manufacturing and service outputs relative to agriculture. Growth is a sustained increase in the total output of goods and services produced by a given society, measured in GNP. Also, domestic growth may occur due to inputs of the factor of production increase or because equivalent quantities of the growth in total quantities of inputs are being used more efficiently. But for welfare comparisons, economic growth is meaningful only if it is measured in total output per capita (Cameron, 1989).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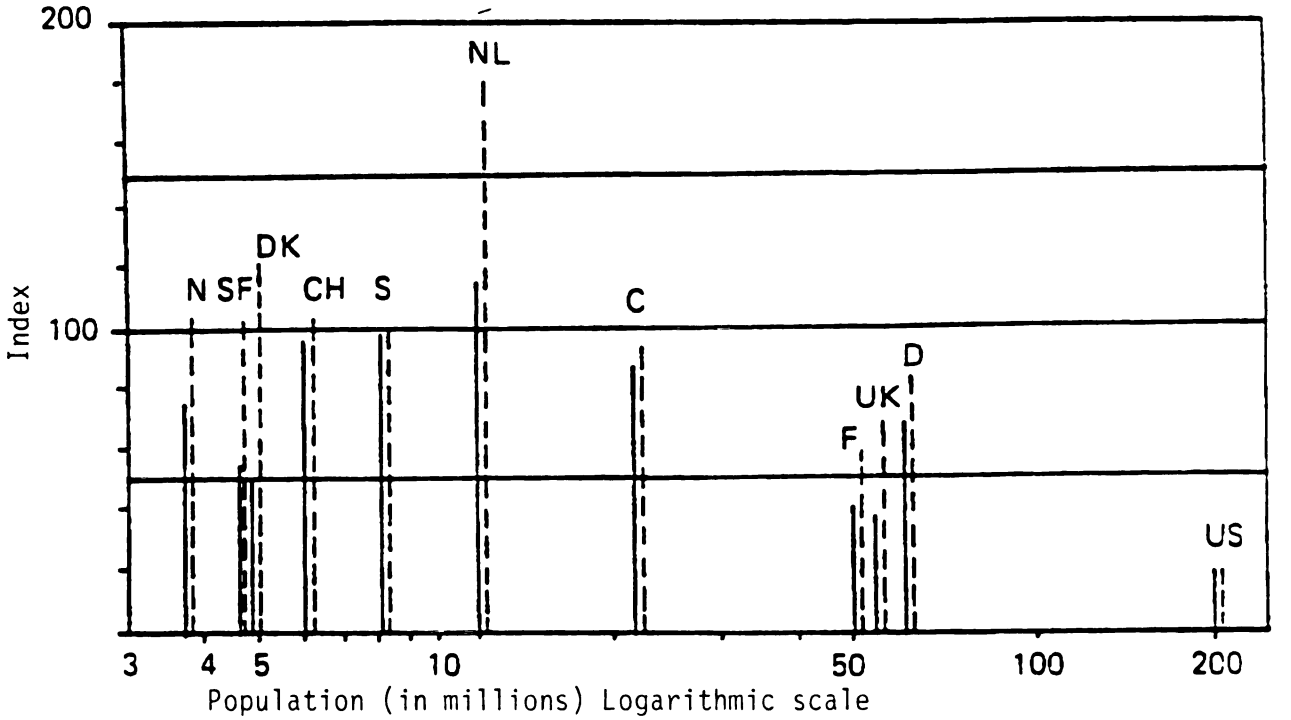

Abbreviations:

N = Norway	SF = Finland	DK = Denmark
CH = Switzerland	S = Sweden	NL = Netherlands
C = Canada	F = France	UK = United Kingdom
D = W. Germany		US = United States

Fig. 1.7: Export performance of Sweden, compared with ten other industrialized countries. Exports per capita (continuous lines) as % of gross national product (broken lines) in 1971. Comparison between Sweden (index 100) and ten selected countries.

Sources: *International Finance Statistics* (May 1976); United Nations (1973), Table 5.

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Although increase in per capita income indicates nothing about the distribution of that income, in the past, increased levels of gross national income usually produced a higher standard of living, an increase in consumption ability, and higher levels of material well being. Using those criteria for development, i.e., economic growth accompanied by a substantial structural or organizational change in the economy, then Swedish performance is indeed significant. Real growth per capita in Sweden appears to have been one of the highest, if not **the** highest, recorded in the period 1850 to 1914 (Bairoch, 1976).

Expansion and economic growth are mainly a result of continued efforts to organize productive capacity and increase productivity, i.e., the ratio of the output of production to the input, and the organization of industrial relations in such a manner as to create an environment to sustain growth. A small change in the annual growth rate that persists over a long period has huge consequences for the standard of living. "Between 1870 and 1970, GDP [gross domestic product] per hour of work in Sweden increased by more than a factor of 17--one of the largest increases recorded for this period, spanning the narrow confines of 150 years" (Maddison, 1982, p. 137). In Australia, the corresponding factor was approximately four.

In 1930, Argentina, Australia, Great Britain, Czechoslovakia, and Uruguay all were among the world's richest countries, but they are no longer members of that leading group (Lindbeck et al., 1994). Thus, due to slow economic growth, a country may slide far down the world income ladder during the course of half a century. However, it may take considerable time before the official GDP statistics are experienced as real problems in everyday life. Both for a household and for a

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country, a large stock of various capital goods accumulated during earlier years continues to yield services not accounted for in the GDP figures or in household-income statistics. Important examples include durable consumer goods like cars and furniture or city environments and public infrastructure. Therefore, a significant historical aspect of economic development includes preconditions for growth in productivity and how they are influenced.

Determinants of Economic Development

Every nation possesses a range of factors of production. Because of their tangible nature, factors of production are easily compared across nations, and most frequently are discussed as determinants of international competitiveness. These include physical resources, human resources, knowledge resources, capital resources, and infrastructure (Porter, Sölvell, & Zander, 1991). These terms are deeply embedded in the language of economics, which has been used in this work in discussing Swedish economic development.[8]

The process of capital formation has played different roles throughout the industrialized era (Glete, 1987).[9] In Sweden, capital formation was attached to (a) large trading houses from 1800 to the 1920s, (b) banks from the late 1800s to the mid-1900s, and (c) large engineering firms in the 1950s (see Figure 1.8).

A special feature of the Swedish financial system is its concentration on long-term rather than short-term credit. To a certain degree, this characteristic was historically determined due to the relative backwardness of Swedish industry at the turn of the century, which created a need for long-term credit in order to catch up in

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Measures of the Organization and Units of Capital	Liberal Era (1820-1932)	Social Democratic/ Keynesian Era (1932-1976)
Dominant factor of capital growth strategy	Home market	Home market--growing export
Type of financial system	Bank dominated	Bank dominant, with considerable State influence
Concentration of capital escalation	Relatively low levels	Wave of mergers in 1960s and 1970s
Internationalization	Relatively low levels	Beginning to escalate in 1950s, 1960s, and 1970s
Control over/orientation of business associations	Creation of SAF[a]/ functional	Controlled by home market sector/ functional

[a]SAF = Swedish Employers' Confederation (Svenska Arbetsgivare-föreningen), historically the preeminent employer organization in Sweden, founded in 1902.

Fig. 1.8: Organization of capital in Sweden.

Source: Adapted from Olsen (1992).

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the industrialization process. The Swedish banks were able to provide both venture capital for high-risk operations and stability and deposit protection.

Swedish trade, industry, and shipping were assisted to a great extent by Swedish banks. The long, stable connection between banks and industry is an mportant characteristic of the Swedish financial system and the highly concentrated anking system. In 1854, A. O. Wallenberg founded Stockholm Enskilda Bank, and ince then five generations of the Wallenberg family have directed the bank's ctivities. In 1972, the Wallenberg bank merged with Skandinaviska Banken to form kandinaviska Enskilda Banken, known as S. E. Banken in Sweden.

Today, holding companies control large shares of Swedish industrial firms, s the banks are not allowed to directly own shares in such concerns. A major part Swedish industry is closely linked to the Wallenberg family and S. E. Banken. The allenberg investment group, Investor, has based much of its business in large ms in mechanical engineering industries, such as SKF, ASEA, Electrolux, and icsson. Other firms in which the Wallenberg influence is significant include pulp d paper and the ancient company, Stora, as well as mining, steel, and chemical ncerns. The Wallenberg group has had limited involvement in textiles, ipbuilding, and food and other consumer products (Porter et al., 1991).

Sweden had a comparative advantage in raw materials, particularly iron, and competent work force, defined as human capital. The other determinants of ernational competitiveness, although an integral component of expansion and onomic growth, fell behind what Sweden received from nature. Without iron, for ample, there would have been no demand for the products and less need for high els of human capital. These variables, in concert, are all part of the classic

determinants of economic development: (a) land, (b) labor, (c) capital, and (d) entrepreneurship, or the ability to organize and harmonize all three, often expressed as management.

In the larger sense, these determinants are coordinated by the social function performed by institutions to provide elements of continuity and stability, which influence economic growth. Historical descriptions of economic development and change are often institutionally oriented from a broad and general perspective. However, the institutional framework's influences on development over time, regarded as a secondary effect on economic expansion or stagnation, are discussed more rarely.

Although an accepted definition of institutions frequently covers formal rules, ideologies, and sundry organizations, institutions are seldom defined explicitly. In recent years, Douglas C. North has received much attention for his way of explaining how, in the long term, institutions link the economic structure, the actors in a society, and political power and how they influence a society's economic development. North (1993) defined institutions as humanly devised constraints (rules, laws, and constitutions), informal constraints (norms of behavior, conventions, and self-imposed codes of conduct), and their enforcement characteristics. Institutions govern a society's economic and social actions. North (1990) integrated studies of technological change with institutional analysis. In his view, although institutional change is a general process, the economic and historical framework in which it takes place is unique.

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Internationalization and the Road to Prosperity

Sweden's economic activity was driven by a vital export market, a highly rationalized labor force, and adaptive measures aimed at continual restructuring and organizational change at a number of competitive multinational companies trading in international markets. The nation overcame varying degrees of economic backwardness and demonstrated an ability to "catch up," culminating in a Golden Era during the postwar years.[10] By the 1970s, Sweden had achieved one of the highest per capita incomes in the world.[11] It was a highly industrialized country, with competitive export industries and multinational firms whose sales and manufacturing subsidiaries spanned the globe (Carlson, 1979). This development led some international scholars to ask whether there was a particular model for industrial growth and/or "Why in Sweden?"

The Impoverished Sophisticate

Why in Sweden?

Many reasons for Sweden's industrial growth have been offered and analyzed, but one of the most compelling was offered by Kurt Lundgren (1995), who viewed the subject through a lens of the "economics of learning," a field that emerged in the 1950s. Lundgren concluded that Sweden had a stock of human capital, the skills and knowledge embodied in the labor force, which could be fully used only after the process of industrialization had reached a certain level. Although Sweden had to import capital at that time to develop the infrastructure, the country had a stock of human capital[12] in the form of well-trained engineers and skilled workmen.

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There are indications that, before industrialization, Sweden was a rather modern country, intellectually and culturally prepared for industrialization. An important institutional innovation for further development of industrialization was the establishment of the modern firms in terms of a joint stock company with limited liability, introduced in Sweden in two stages, first in 1848 and second in 1895, when it was embodied in law just in time to give legal backing to the new large enterprises founded at that time.

In the mid-nineteenth century, the Minister of Finance, J. A. Gripenstedt, implemented liberal trade policies, and Parliament agreed to join the Cobden-Chevalier Treaty between France and England, which widened international trade and commerce. Therefore, the development of large firms did not encounter many institutional obstacles, and freedom of trade was guaranteed by law in 1846 and 1864. In addition, although social tensions appeared in Sweden toward the end of the nineteenth century, the political situation must be characterized as stable from an international perspective.

Also, Swedish workers, technicians, and managers demonstrated an absorptive capacity for industrial learning and technique. Sweden's governmental, technical, and educational institutions were more advanced than the country's income level would lead one to expect (Sandberg, 1978). This sophistication was reflected in the country's public acceptance of modern financial institutions and procedures.

By 1870, Sweden had a sophisticated financial system, which most nineteenth-century countries achieved only at an advanced stage of industrialization and at a much higher level of per capita income (Lundgren, 1995). The banking

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system was well developed, but investment banking was premature in the 1870s, considering the stage of development of the Swedish economy. Banks were to play an important role later as market-makers.

As early as the seventeenth century, the Church Law of 1686 had made priests responsible for teaching every person in the parish to read and write. In the nineteenth century, the Education Act of 1842 mandated compulsory elementary education and called for all parishes, by 1847, to have one permanent itinerant school in operation. Significantly, by 1850, Sweden was the most literate country in Europe (see Table 1.2). The student/population ratio in the 1830s was the same as in Germany, and in 1889 it was the same as in France.

Table 1.2

Adult Literacy of Selected Countries (in Percent)

Country	Percent of Population (ca. 1850)
Sweden	90
United States (white only)	85-90
Scotland	80
Prussia	80
England and Wales	67-70
France	55-60
Austria (excluding Hungary)	55-60
Belgium	55-60
Italy	20-25
Spain	25
Russia	5-10

Source: Hamondsworth (1969), p. 694.

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This combination of Sweden's being a poor and backward country and having an impressive stock of human capital led Sandberg (1979) to describe Swedish development as the "case of the impoverished sophisticate."[13]

Entrepreneurs, Workers, and Technicians: Human Resources and Capital

The human factor, which so significantly determined the unique features of industrialization in Sweden, included industrial leaders closely associated with commerce and banking, elite groups of managers, and scientific and technological experts. This combination of technology and human resources was an integral part of the industrialization process in Sweden.

Management skills needed to be developed to increase the organizing ability of entrepreneurs and to apply the inventions and innovations that were linked to new enterprises at the turn of the century, incorporate technical skills into the business structure, and organize and develop human resources. These skills were particularly influential in the rise of engineering following the turn of the century and particularly after World War I, to become one of Sweden's leading export industries.

The evolution of industrial strength in Sweden depended on another human factor, the person in the ranks, particularly the working class. The deproletarianization of the workers and their rise to higher intellectual and cultural levels were striking features and made an important contribution to rapid industrial advance and fulfilling a demand for high-quality products within the constraints of a cost-effective, adaptive production system (see Montgomery, 1939, for the early developments).

Of secondary importance to the industrialization process in Sweden was capital in the transition from a preindustrial era. An influx of credit from Germany

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and the United States led to the possibility of creating a national railroad system. This was undertaken by the national government and initiated by the compromise decision in the Parliament in 1853/54, and the passage of the Railway Act. These measures eventually facilitated the rapid transport of agricultural products, iron, and timber, as well as an integration of the domestic market.[14] Crucial sources of domestic capital were made available for industrialization through the reorganization of the national bank (the Riksbank) in 1834 and, starting in 1856, the establishment of private banks.

All things considered, Sweden seems to have had its most rapid early economic development, with the largest transformation in the distribution of the labor force, between 1870 and 1915. By 1910, some 32 percent of the labor force was employed in industry and handicrafts, as illustrated in Table 1.3. As the table indicates, the percentage of the nation's population engaged in agriculture declined from 72 percent in 1870 to 44 percent in 1920, whereas the number of persons engaged in manufacturing and commerce grew from approximately 20 percent to more than 50 percent in the same fifty-year period (Jörberg & Krantz, 1975, p. 11).

From Raw Materials to High Technology

Genius Firms

During the period between 1870 and 1914, numerous companies were established that would gain a dominant role in Swedish industry. At that time, industry shifted rapidly from raw materials to more semi-finished and finished goods. Despite characteristics of backwardness and late industrialization, new tendencies emerged in Swedish industrial development.

Table 1.3

Transformation of the Swedish Economy, 1870 to 1920: Workers in Principal Occupational Categories (Numbers in Millions)

Year	Total Population[a]	Agriculture		Industry & Handicrafts		Commerce & Transport		Services & Free Professions	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1870	4,169	3,017	72.4	610	14.6	217	5.2	325	7.8
1900	5,136	2,828	55.1	1,426	27.8	535	10.4	347	6.7
1910	5,552	2,679	48.8	1,766	32.0	741	13.4	318	5.8
1920	5,905	2,596	44.0	2,066	35.0	898	15.2	344	5.9

[a]Population totals from Statistiska Centralbyrån, *Statistisk årsbok för Sverige* (Stockholm: Swedish Bureau of Statistics [SCB], 1968), p. 28; adapted from Eli Håstad, *Sveriges Historia under 1900 talet* (Stockholm: Bonniers, 1958).

Source: Adapted from Jorberg and Krantz (1975), vol. 6, p. 11.

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Beginning in the 1870s, a number of new companies originated in Sweden, built on industrial inventions during a period of expansion unparalleled before or since. The internationally oriented firms, Sweden's first multinational enterprises, manufactured mechanical products. They were based on Swedish inventions or adaptations of foreign inventions, among them pulp production, foundry and steel processes, automatic lighthouses, telephones, separators, electrical power transmission networks, ball bearings, and other precision products. The multinational companies, the so-called genius firms, had ambitions built on basic technological innovations (Lundgren, 1995).

In his review of Scandinavian industrial development, Senghaas (1985) pointed out that in the final decades of the last century, some remarkable things were invented, such as the milk centrifuge, turbines, electrical machinery, the gasometer, and safety matches. The international competitiveness of the capital goods sector[15] was built on these inventions, critical to the early stages of Swedish industrial development and exports.

Without doubt, the long history of the iron industry contributed to a new international business environment during an era of industrialization, influencing the build-up of heavy industry and engineering. Nevertheless, the establishment of these Swedish international engineering firms often has been explained as an "abrupt break" with the past. The inventions and sometimes innovations provided the foundation for leading Swedish firms of international repute (see Table 1.4).

A significant part of Swedish industrial development was the genius of the founders and technological sophistication of the innovations on which these companies were based. The founders of the new Swedish engineering firms needed

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to do three things: First, they had to develop the fundamental idea or innovation. Second, they needed to detect the business opportunities. Third, they needed to create a niche in the international market for capital goods producers. Limited resources in the newly developed firms at the end of the nineteenth century often made market specialization a must.

Table 1.4

Sweden's First Multinational Companies and the Innovations on Which They Were Founded

Company	Innovation	Year
SKF (Svenska Kullager Aktiebolaget)	Spherical ball and roller bearings	1907
Alfa-Laval (Aktiebolaget Separator)	Milk separators	1879
Ericsson (L. M. Ericsson)	Telephone equipment	1876
Swedish Match (Svenska Tändsticks AB)	Swedish wooden safety matches[a]	1892
AGA (AB Gasacumulator)	Automatic signals for lighthouses[b]	1904
ASEA (Elektriska Aktiebolag i Stockholm and later Allmänna Svenska Electriska AB)	Three-phase generators and motors	1883-1890
Atlas Copco	Machinery for roads	1893/1898

Note: AB = *aktiebolag,* a joint stock company.

[a]The first product mass produced in an automatic machine, a Swedish invention, patent perfected by G. E. Pasch in 1844.

[b]Developed by Gustaf Dalén, Nobel prize winner in physics.

It was necessary to absorb existing technological knowledge, which could be described as Swedish prior industrial knowledge, develop fundamental ideas behind the innovations, and mobilize a wide range of skills that would be decisive for long-

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term development (Lundgren, 1995, p. 211). After a firm developed the first innovation, a continuous process of developing related products and improving existing ones had to be undertaken. The ongoing process of research and development meant that the handicap of limited size and restricted financial and personnel resources had to be turned into an advantage by finding creative ways to expand the market.[16] Often, inventors and entrepreneurs associated with the new Swedish industries had international experience themselves, and in the early stages of industrialization, experience in foreign countries was a vital component for business success in international markets. Although there is a paucity of research on Sweden's first entrepreneurs and their backgrounds, a study by economist Sune Carlson, covering a century of the activities of the "Captains of Industry," deserves mention.[17] Professor Carlson concluded that the family background of industrial managers does not appear to have changed during that century, and this was not surprising. However, in contrast, one of the most exciting findings to emerge from Carlson's study was that international experience was a good deal more common among industrial managers both 50 and 100 years ago than it is today.

Although Sweden is located on the periphery of Europe, the country has for centuries been heavily dependent on foreign trade, and at one time Sweden supplied 40 percent of England's demand for iron. International contacts with Britain and other European countries were tied to the main Swedish export markets through the distribution channel, historically dominated by Britain, going back to the middle ages.

Based on years of trading experience, close commercial contacts led the Swedish search for knowledge abroad, first "directly to Britain and later to America"

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(Lundgren, 1995, p. 216). In the process, Swedes demonstrated an aptitude to learn from other people and to cooperate with them. An international exchange on many levels contributed to a transfer of technology and a realistic view of changing markets when Swedish tradesmen who had international contacts could search out projects in which they might develop a competitive edge. In addition, the overall understanding developed that a small country "must always be dependent on foreign countries for new ideas and for intellectual stimuli in general" (Carlson, 1979, p. 64).

Knowledge generated in foreign countries could be integrated with inherited knowledge, mainly through the long history and experiences of Sweden's oldest industry, iron. Existing channels of information in international markets, combined with prior related knowledge and a supportive institutional framework, made integration possible.[18] Thus, the ability to integrate knowledge from the international market and to use prior knowledge of markets and international contacts has been critical to Sweden's industrial development and economic history.

Multinational Enterprises

Following the emergence of Sweden's major international companies based on inventions and innovations at the turn of the twentieth century, the expansion of international trade in Sweden until the 1980s was developed mainly through (a) foreign direct investment and (b) multinational companies.

Swedish manufacturers must generally increase their output beyond the requirements of the limited domestic market through substantial direct investment, which is an investment abroad over which the investor has control. Through these foreign investments, governments, institutions, or individuals in one country acquire

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assets in another country. It was through the mechanism of foreign direct investment that Swedish manufacturing firms established significant operations within foreign markets.

Foreign direct investments often involve setting up subsidiary companies for the domestic production of goods that previously were imported from the parent company. A major motivation for foreign direct investments is the assessment made by private firms of the prospects for stimulating growth and expansion, which can lead to long-term profitability.

Direct investments lead to multinational companies[19] and the process of the internationalization of business in foreign countries on a global scale. The dominant vehicle of internationalization of business is the multinational company, defined in this study in a wide, general sense, as a company whose operations extend across national boundaries. Such companies are referred to variously and often interchangeably as multinational, international, and global corporations (Bartlett & Ghoshal, 1992). In most United Nations studies, the generic term for a company operating across national borders is "transnational corporation." Another well-known term is "multinational enterprise." In a more specific sense, in this study, enterprises are considered multinational entities if they have substantial direct investment in foreign countries and actively manage those operations and regard them as integral parts of the company, both strategically and organizationally.

As much as 80 percent of Swedish foreign direct investment originated in firms that were already multinational by the 1920s (Lundström, 1986; for a list of firms, see pp. 117-139). Consequently, to establish some preconditions and reasons for starting production abroad, it is important to look back to the period when

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the firms entered the international market. The first period of Swedish multinational growth, 1870 to 1910, was also the period of Sweden's industrialization.

In a broader sense, the starting point for the internationalization of a business typically is an innovation that a company creates in its home market.[20] A product is developed at the lowest cost in the home market and then sold in other markets. Faced with international competition, an expanding company cannot limit its activities to the home market for any length of time. Demands for specialization in production, diversification, and access to manufacturing facilities result, quite naturally, in an interest in expanding abroad.

From a global perspective, both the internationalization of business concerns and the rapid growth of multinational companies are two of the most important and dynamic phenomena in postwar capitalistic economies (Federation of Swedish Industries, 1973).[21] These phenomena are the result of an economic system based on the international division of labor and the extensive freedom to transfer not only goods and services, but also production components, across national borders.

Although they once originated in a specific country, multinational companies have, over time, contributed to a greater internationalization of both business and capital. Such companies have been a prerequisite for the rapid growth of the international economy by being the initial driving force behind the development of world trade, as well as the increase in efficiency and expansion of industrial production.

> To maintain a leadership position in any one developed country, a business--whether large or small--increasingly has to attain and hold leadership positions in all developed markets worldwide. It has to be able to do research, to design, to develop, to engineer and to manufacture in any part

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of the developed world, and to export from a developed country to any other. It has to go transnational. (Drucker, 1992, p. 31)[22]

Internationalization is part of the restructuring of the world economy on a global scale. In this process, some Swedish companies that became global have played a significant world role. The giant Swedish firm, ASEA, which was founded in 1883, first became an industrial leader domestically in systems for power generation, transmission, and distribution. During the twentieth century, the company expanded internationally, and in 1988 ASEA merged its core operation with the Swiss firm, Brown Boveri (BBC), and together they formed ASEA Brown-Boveri (ABB). The corporate headquarters moved to Baden, Switzerland, from Västerås, Sweden, with Swedish Percy Barnevik as chief executive officer (ASEA corporate papers, n.d.). In a matter of months following the merger, ABB announced an alliance with Westinghouse in the United States and later acquired the American firm Combustion Engineering, in 1989, making ABB the world's largest electro-technical group.

Early Stages of Internationalization of Swedish Business: Emerging Motivations

In the international perspective, the earliest motivation that drove companies to invest abroad was to procure key supplies for the home market, such as minerals, energy, and scarce raw materials. That was not the case with Sweden. For Sweden, the motivation was to secure markets in the international arena as it had a comparative advantage in some raw materials, with the exception of petroleum. According to Swedish international economist Sune Carlson (1979), "The Swedish direct investments in other countries have been related not to the needs of the home

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market but to the necessity of supplying growing export markets with services and products that could most efficiently be produced abroad" (p. 9). However, in Sweden, the decisions of large firms and multinationals to go abroad were rarely driven by a single motivating force.

When setting up production facilities in the important countries, an international company makes the transition from being an exporter to becoming a true multinational company. This strategy implies greater risk taking than merely creating an export business by trading across borders. In general, it can be assumed that firms prefer to manufacture products in the home country if they can attain some economies of scale and specialization in the host environment. Production in the home country usually makes the planning, coordination, and monitoring processes less complex and easier to manage. In international markets, trade barriers, differences in standardization and level of development, barriers of culture and language, and so on, are all factors affecting companies expanding beyond their national borders.

At the turn of the century, from 1870 to 1910, an increasing number of Swedish manufacturing firms that had become active in international markets expanded by starting production abroad. At first, expansion was facilitated through sales offices; then Swedish industrial enterprise overseas primarily took the form of manufacturing facilities. As Swedish exports to certain markets increased, the exporting firms were apt to establish subsidiaries in the country of question. They did this to defend or expand their growing position in foreign markets, making investments abroad internationally market oriented.

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Most of the Swedish companies that invested in production abroad before the 1930s were in the fairly new engineering industries, which were based on original investments or improvements of existing inventions. They included, for example, Electrolux with Wennergren's improvement of the vacuum cleaner, later the Platen-Munter refrigeration system, and ASEA, with a three-phase system for transmission of electricity (Lundström, 1986).

Unfortunately, the historical knowledge of these Swedish manufacturing subsidiaries is rather scanty. Some private studies have been conducted, but they contain little data from the early period. Although the export statistics for the early development period are quite good, there are no official statistics on subsidiaries abroad. There is some scattered information regarding individual companies, but that is about all.

The growth of multinationals is a recent phenomenon, dating back less than a century. Moreover, the vast majority of multinational companies were developed following World War II, when there was a substantial increase in globalization of competition. Internationally oriented enterprises had to devise global strategies to strengthen their international position. Nowhere is this more evident than in Sweden, which has many multinationals with a long presence in foreign markets.

Swedish multinationals are known for their pioneering efforts to move abroad with sales, service, and manufacturing facilities. These companies include AGA, Alfa Laval, ASEA, Atlas Copco, Ericsson, ESAB, Nitro Nobel, Sandvik, and SKF, which had extensive foreign operations before World War I, forming the backbone of Swedish business and industry. During the interwar period and following World

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War II, other companies went abroad, including Saab Scania, Volvo, Tetra Pak, SCA, Astra, Pharmacia Esselte, and Ikea.

By the mid-1960s, some sixty Swedish firms had established manufacturing concerns abroad (Ministry of Industry, n.d.). The manufacturing industry clearly dominates Swedish foreign direct investments, accounting for almost three-fourths of the total, with a high concentration in the engineering sector. This is quite different from the American and British patterns.[23] Since the early 1960s, the number of employees of majority-owned Swedish manufacturing companies in foreign countries has risen from approximately 150,000 to about 500,000 (see Figure 1.9).

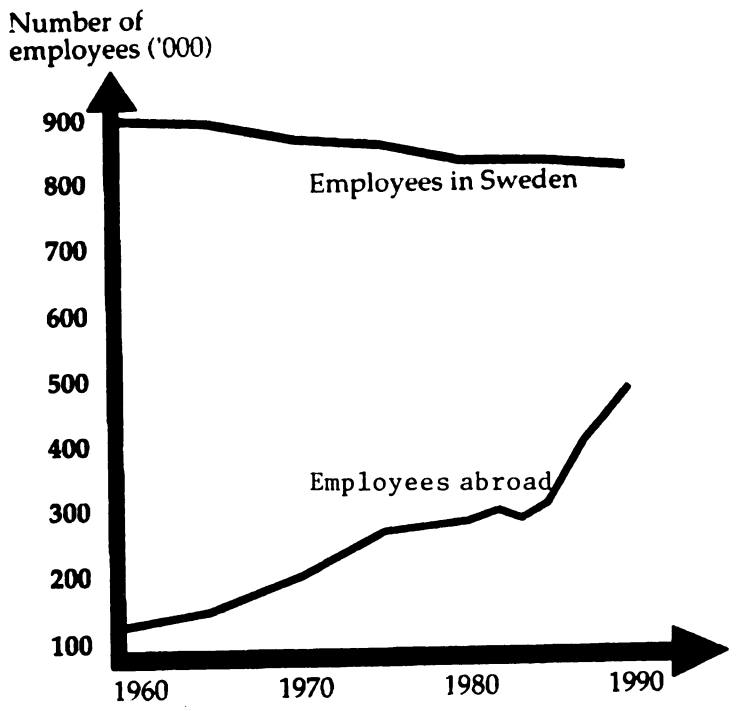

Fig. 1.9: Foreign employees of Swedish manufacturing companies, 1960-1990.

Source: Ministry of Industry and Ministry of Labor (1991), p. 14.

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Relative to size, Sweden has remarkably many large multinational corporations. Hardly any other country has such a high proportion of large companies per capita as Sweden does. Because of this particular type of industrial development, Sweden has been described as "the most multi-nationalized country in the world" (Ministry of Industry & Ministry of Labor, 1991, p. 13).

Foreign trade of goods and services amounted to 53% of Sweden's GDP in 1989, which can be compared with 39 percent for France and 17 percent for the United States and Japan (Swedish Ministry of Industry & Commerce, 1989, p. 12). Almost half of Sweden's industrial production is exported; similar proportions of manufactured and intermediate goods for domestic consumption are imported (see Figure 1.10). The companies both trade and interact internationally.

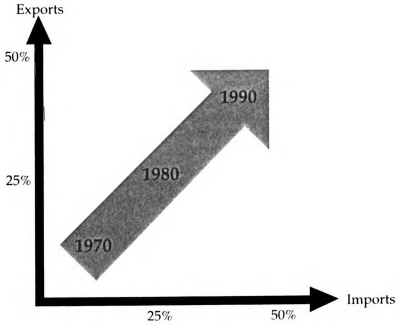

Fig. 1.10: Import/export in the Swedish manufacturing industry.

Source: Ministry of Industry and Ministry of Labor (1991), p. 13.

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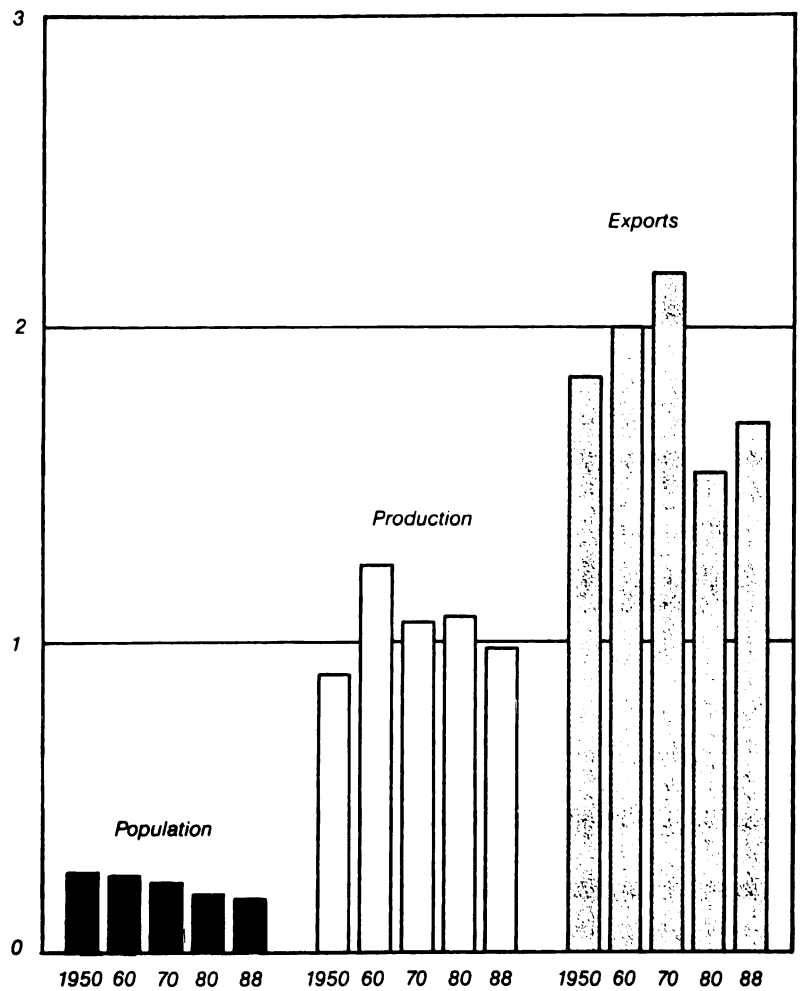
Twenty-five to thirty of the 500 largest companies in the world outside the United States have their headquarters in Sweden.[24] This is a remarkably high proportion, considering the fact that Sweden has only 0.2 percent of the world's population and that its GNP is only 3 percent of America's and 16 percent of the former West Germany's (Federation of Swedish Industries, 1973) (see Figure 1.11). Therefore, even though Sweden is a small country, "economically it is much larger, accounting for roughly 2 percent of global gross production," with an economy based today on increasingly high-technology, knowledge-intensive products (U.S. Department of Commerce, 1994, p. 3).

Thus, following a late and rather modest start during the late 1800s and the early 1900s, Sweden has experienced a period of extraordinary economic growth and structural change.[25] The industrialization process seemed to have a late start in Sweden, as compared to other industrialized nations, but once it was in motion, economic progress was rapid and modernization swift. In just over a century, since industrialization began in the 1870s, Sweden has experienced a transformation from being one of Europe's poorest nations, mainly dependent on forestry and agriculture, with an inadequately developed infrastructure, to a modern industrial society with an elevated level of material wealth.

However, even though industrialization came about rapidly once it was begun in Sweden, the internationalization of business has been gradual and incremental. The development of new products has been a step-by-step process, which Sweden still adheres to in accelerated markets today. It seems that exposure to global markets and new technologies, in itself, must have stimulated innovative product development.



Area: 450 000 km²
Population, end of 1989: 8 526 260
Population per km² : 19
Gross domestic product (GDP) per capita 1988 : USD 21 550

Fig. 1.11: Sweden's share of the world economy (in percent).

Source: *Statistics Sweden,* p. 34.

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Since the grim images of Malthus's time, Sweden has passed through a process of change related to both industrialization and internationalization. It is some of the significant aspects of these complex industrial developments that are investigated in this dissertation.

Internationalization of Swedish Manufacturing Industries

Three interrelated issues serve as the foundation of the investigation of the international aspects of the development of Swedish industry. These issues are:

1. The development of international business and the reasons why international business matters.

2. The road toward high technology–a natural and necessary route for Sweden in assuming a prominent role in international business.

3. The international thrust, requiring a complicated strategy for Swedish labor relations.

Inherent in these three interwoven aspects of Swedish economic development are the availability of endogenous raw materials, the supply of a literate and skilled labor force, and the feasibility of importing capital from abroad. However, the integration of these three salient features of Swedish industry must be seen in the historical context. Thus, special attention has been paid to the international aspects of Sweden's development because Swedish industry always has been highly dependent on foreign markets.

Swedish multinationals have developed global strategies in order to exploit technology built up at home, to export and grow in international markets, and to improve efficiency through larger volumes to achieve economies of scale (reduction

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of the cost of production by increasing the quantity produced), as well as specialization in production and marketing. Through global sales, Swedish multinationals have been able to offset the disadvantage of having a small home market (see Swedenborg, 1973, and SOU, 1975).

The imperative that pushes the internationalization of the country's business community is that no Swedish company can grow beyond a modest level by concentrating solely on its small domestic market. Although Sweden is one of the largest countries in western Europe in terms of geographical size (174,000 square miles--about the same area as California), its population density is relatively low--about 8.8 million inhabitants (in 1994), compared to 120 million in Japan and 240 million in the United States. About 85% of the population live in urban areas.[26]

Having a constrained market, especially for industrial products (the core sector critical to economic development and expansion), companies must demonstrate an ability to compete and expand sales in international markets. Swedish industry is the work horse of the country and the force behind the country's economic prosperity. In addition, total autarky is not possible due to the need to import coal, coke, and oil, the country's Achilles heel. Thus, because of the lack of fossil fuel and a climate unsuited for a variety of agricultural crops, Sweden's need for trade is great. Consequently, technical and organizational change have been a reality for Sweden.

As a small industrial country, Sweden must constantly aim at achieving a balance between internal and external factors to maintain a competitive edge. This requires continual adaptation to changing foreign markets through the use of new technology, changing organizations, and ongoing structural change. Therefore,

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Swedish industry must respond to rapid changes in the international market and develop new forms of international and domestic coordination, as seen in Figure 1.12.

EXTERNAL CONDITIONS

- INTERNAL COMPETITION
- EXPORT/IMPORT SHARES
- INTERNATIONAL PRODUCTION

INTERNAL CONDITIONS

- LABOR MARKET CONDITIONS
- CAPITAL MARKET CONDITIONS
- ECONOMIC POLICY
- LABOR MARKET POLICY
- INDUSTRIAL POLICY (INC. R&D POLICY)
- REGIONAL POLICY
- EDUCATION POLICY

Fig. 1.12: Determinants of structural change in Sweden.

Source: Swedish Ministry of Industry (1990/91).

These economic and structural changes make Sweden, a small state with an open-oriented economy, of considerable interest to international scholars and industrialists who understand the multitude and complexity of problems facing advanced industrialized economies as they become increasingly interdependent. Advanced industrial societies moving toward a postindustrial era face the challenges of shrinking world markets and downsizing, protectionist measures, heightened international competitiveness, and the increasingly difficult task of balancing internal stability with external turbulence.

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So far, Sweden has been able to maintain domestic stability during times of world war, economic depression, and external turmoil. The influence of other nations on Sweden's domestic policy has been exerted through economic realities. No foreign power has intervened directly in Sweden's domestic policy and constitutional matters.

Economic Growth and Structural Change

Sweden emerged as an industrialized economy late in the nineteenth century, based on its natural resources such as timber, water (later hydroelectric) power, and metals, mainly iron and copper. In the early stages of industrialization, capital-intensive industries such as pulp, paper, mining, steel, and heavy chemicals were dominant. However, during the twentieth century, Swedish industry has been characterized by a shift to knowledge-intensive industries, such as engineering and chemicals (see Figure 1.13).

The labor-intensive industries such as textiles receded in the 1960s, when wages for relatively unskilled workers became high. Engineering companies now top the list of the largest industrial enterprises. Most recently, the pharmaceutical industry has become more important to the export market.

Industry and commerce have become increasingly differentiated as a result of technological developments. Technology transfer and international exchanges on many levels, not the least of which were with England in the nineteenth century and the United States in the twentieth century, have been vital to maintaining the momentum of technological renewal and a robust export sector.

Fig. 1.13

Source:

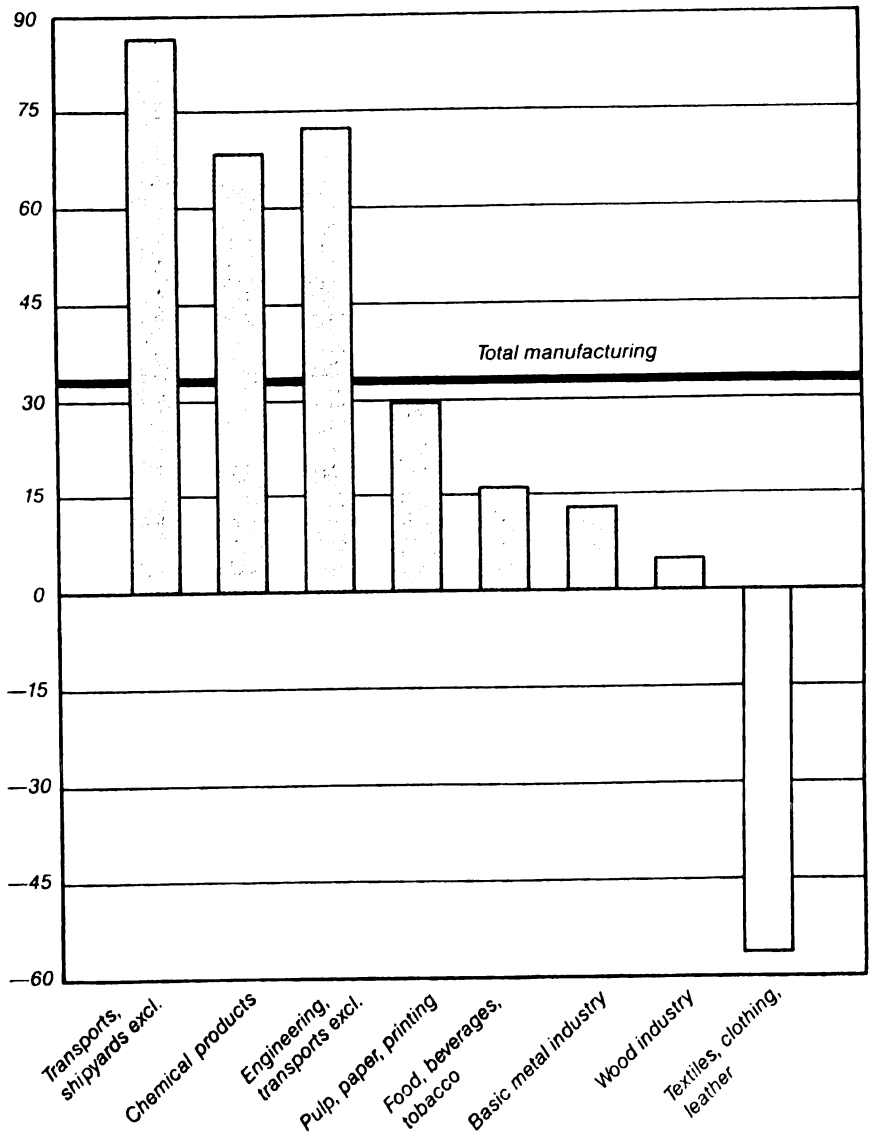

Fig. 1.13: Sweden's industrial production; change in percentage, 1970 to 1989 (in volume).

Source: *Statistics Sweden*, p. 17.

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By 1990, agriculture, forestry, and fishing contributed little more than 3% of the GDP and employed less than 5 percent of the labor force due to a technological revolution initiated in the nineteenth century (see Table 1.5).

Table 1.5

Distribution of Employment Shares in Different Sectors, 1890 to 1990
(Actual and Forecast Development, in Percent)

Year	Agriculture	Industry (Including Building)	Service Production
1870	73	12	5
1900	61	24	9
1950	21	34	42
1980	6	23	71
1990	5	21	75

Source: De Geer et al. (1987), p. 24.

Sweden's Competitive Position in International Markets

The prosperity of a nation is commonly referred to as competitiveness. Competitive success in the international Swedish economy seems to focus on a strategy to compete primarily by offering quality high-tech goods with a concentration on relatively few industries and clusters of industries "often connected with heavy industrial products characterized by long product life cycles, rather than consumer products with short product life cycles, where design, marketing and fashion constitute key success factors" (Porter et al., 1991, p. 13).[27] Swedish firms rarely succeed in industries with short product life cycles.

Sweden emerged as an innovation-driven economy around the turn of the century, when technological breakthroughs created an environment for sophisticated

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competitive advantage and entry into more advanced industries. Productivity has risen steadily, especially in manufacturing, and prosperity has followed the increase in productivity (Porter, 1990). Prosperity in Sweden vis-à-vis industrial development can most likely be attributed to the development of industries and companies that were competitive in the international markets.

According to Harvard scholar Michael Porter, who has studied the competitiveness of nations, the international competitiveness of firms and industries is essentially driven by the home industrial environment. It is in the home base where the firm's strategy is set and the core product and process technologies are created and maintained. Sweden achieved and sustained a competitive advantage as a result of efforts to draw strength from the home industrial environment, to create competitive products and services, and to innovate around disadvantages. In their advanced country, Swedish firms developed strengths that offset and cushioned the effects of macroeconomic changes through innovation and technological development, in order to overcome disadvantages and create strengths that are firm-specific and not imitated easily by foreign competitors.

Beyond the broad evolution of the economy at the national level, to make a profit, firms in key industrialized nations must demonstrate an ability to survive and grow over longer periods, in competition with foreign rivals in the home and foreign markets.

> In a static view of competition, a nation's resources are used in industries where they produce the greatest returns; firms maximize within fixed constraints. Taking a dynamic and longer term view, firms must be seen instead as seeking to increase returns from new products and processes, and continuously upgrade their competitive advantage. To stress an important but often forgotten point about international competitiveness, it is not given once and for all. (Porter et al., 1991, p. 20)

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When Porter (1990) studied the operation of highly internationalized Swedish firms, he noted an unusual degree of globalization. Far-reaching global networks have yielded a robust advantage for the unusual number of large Swedish multinational enterprises.

Foreign Policy and Neutrality

The internationalization process of business has been favored by the Swedish government's policy of nonalliance and neutrality. The guiding principle of Swedish foreign policy is nonparticipation in alliances in peacetime and neutrality in the event of war. This policy is supported by all of the political parties represented in the Riksdag, the Swedish Parliament, and must be seen in the light of Sweden's history. The country has been spared the ravages of war for almost 185 years. Sweden has not been involved in a war since 1814, and throughout the two world wars, the nation persistently pursued a policy of neutrality (Lawrence & Spybey, 1985).

As a small industrialized country, many important branches of Sweden's economy depend on imports from other countries. It is significant that Sweden itself chose and formulated the foreign policy of neutrality, making it necessary to stay outside various types of political and military alliances. However, Sweden's two major trading partners since before the onset of internationalization at the turn of the century have been Britain and Germany (Hadenius & Lindgren, 1992). Thus, due to a combination of dependence on international markets and a reluctance to be dependent on major trading partners, Sweden's ability to be independent has been tested during times of global conflicts.

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Sweden avoided World War I but suffered from a naval blockade. The Conservative war government led by Hjalmar Hammarsköld, a well-known figure in international law and an official at the Court of Arbitration in the Hague, gave Hammarsköld the authority to point to international law when Sweden proclaimed a position of neutrality (Olsson, 1933). Dependence on imports from both Germany and the Central Powers and Great Britain and the Allies led to a "pragmatic" trading policy.

Sweden's maintenance of neutrality[28] during World War II against the background of German occupation of Denmark and Norway was an important watershed for the nation. The Skagerack blockade struck a harsh blow to the Swedish economy. Sweden was cut off from imports of many essential products. In reaction to the imposed deficiencies during the war, and also to meet armaments requirements for national defense, Swedish industry underwent a radical conversion, which raised the level of self-sufficiency with respect to commercial iron, gas, water, machinery, tools, electrical appliances, agricultural machinery, office machines, surgical instruments, and so on.

Since World War II, the aim of Sweden's policy of neutrality has been to ensure that other countries should have confidence in its policies of nonalignment in peacetime and neutrality during times of war. To maintain the credibility of its nonalignment policy, the Swedish government believed it was important not to be dependent on arms systems from other countries. Instead, the nation built up an arms industry capable of competing in international markets, in order to help foot the bill for research and development and production.[29]

Also, as a small neutral country, Sweden aimed at strengthening a "middle way," an independent position between the East and West Blocs. In the late 1940s, the Swedish government rejected the idea of joining the North Atlantic Treaty Organization (NATO), the Western military alliance. No Swedish political party supported NATO membership at that time. Because Sweden did not get caught up in World War II, it was in a privileged position to supply the war-torn countries of Europe following the war. Sweden suffered less from the two world wars than did most other European countries, and the repercussions did not cause extensive economic dislocation or produce a break in industrial development, as was the case in some belligerent countries. Moreover, in the late 1940s, the removal of trade barriers and cheaper transportation costs stimulated trade. Subsequently, the post-World War II era was one of record expansion. In fact, the four decades following the Second World War can be characterized as a period of internationalization.

Swedish neutrality is an essential element of the stability of the Nordic area, which has been remarkably free of tensions throughout the postwar period. There is a broad consensus that neutrality is the best way to preserve the country's independence and safeguard its democratic system of government, a policy supported by all political parties in the Riksdag. The success of this policy in economic terms has meant that material resources and human capital resources for Swedish industry could be kept intact, making continued expansion in international markets possible.

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The Road to European Integration

Sweden took a leading role in creating the European Free Trade Association (EFTA) and joined the group in the late 1950s, along with Denmark, Great Britain, Norway, Portugal, and Switzerland. In 1972, Sweden had a free trade agreement with the European Community, but it did not become a member of the European Union until the 1990s.

The European Community was founded in 1952, with the creation of the European Coal and Steel Community. Six war-torn countries decided to pool their basic industrial resources of coal and steel, making war among them less possible. The six member-nations signed the Treaty of Rome in 1957, based on the visions and ambitions of its founders, namely, the process of integrating a single European market (described as the largest frontierless free market in the world).

For four decades following the creation of a peaceful union, Sweden rejected the idea of joining the common market, the European Community (EC), on the grounds that it would be inconsistent with the nation's neutrality policy. Also, because of superpower conflicts that divided Europe during the Cold War, Sweden was not a member of the EC (or the European Union, as it was referred to after the 1992 Maastricht Treaty). Sweden had had a free trade agreement with the member-nations since 1972, covering industrial products, and in 1985 almost half of Sweden's exports went to EC countries. Many Swedish international companies compensated for the increased trade handicap of not being a member of the union by establishing production subsidiaries within the European Economic Community area. Corporate executives and industrialists promoted membership in the European Community as the safest way to avoid trade barriers.

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The reasons behind Sweden's reluctance to join NATO and the EC were explained by Lars Lidén (1991), managing director of the Swedish multinational enterprise Esselte:

> Sweden had to be neutral--and the reason was Finland. Finland was under hard pressure from Russia, and defeated by Russia, but between 1946 and 1948 it was a small step from being occupied, especially in 1948 when Stalin wanted to have a pact with Russia . . . and everyone in this country was very worried about what would happen. Norway and Denmark entered NATO, but we had to stay out because if we had joined then Finland would have been occupied. Finland and Sweden were connected for many hundred years up to the nineteenth century, and we still have many connections with it. Finland is bilingual, so they speak Finnish and Swedish as well, and in Sweden we have lots of Finns who speak Finnish. So I think in the future that these two countries may have two languages with the population moving between them. So these developments meant that during the 1960s and 1970s we were caught up with that situation from the late 1940s and 1950s when we had been so careful; now it is the opposite way. Finland is independent, and they do not have to be afraid of Russia like they used to be, and they are a member of EFTA. Also, Finnish industry has started to internationalize; they have subsidiaries all over Europe, a new pattern.

When asked about joining the EC, Lidén stated that he had been interested in this question for thirty-five to forty years, starting in the early 1950s when he worked with the Federation of Swedish Industries. He explained,

> It all started in Rome when the first steps were taken in Western Europe, and for a long time the debate in this country has included periods of great interest and periods of less interest. Especially for the Social Democrats, the EC was a threat because the EC was dominated by countries which were not social democracies and which did not have strong trade unions, and things which formed the so-called Swedish model, so their attitude was against it. Now I do not see any way we can stay outside of the EC. The attitude has changed dramatically when suddenly the cold war and the balance of terror between the two parties, and the reasons for being neutral, are not the same anymore. On the other hand, to be realistic, EEC in some ways is a dinosaur, and it is a very bureaucratic system. We are used to, in this small country, a system which is not very bureaucratic; this [Sweden] is pragmatic and a fairly small bureaucracy.

To avoid confusion, the term European Union will be used throughout the remainder of this dissertation.

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The 1992 European Economic Area (EEA) treaty was an important milestone on the road to membership in the European Union and the mutual goals of promoting greater free trade and expansion of the union's economic cooperation with the Baltic countries, Central and Eastern Europe. In January 1995, Sweden became a member of the European Union. Finland and Austria joined at the same time, when the European Union expanded from twelve to fifteen member countries. Membership in the European Union signifies the culmination of a long period of economic integration and cooperation with the union. In addition, Swedish companies see great opportunities in emerging markets in Russia, Poland, and the Baltic states. Historically, the trade links with these countries have been very strong, and many Western countries consider Sweden a suitable base for further expansion into these countries.

A Historical Summary of the Political/Economic Environment

Politically, Sweden is a constitutional monarchy with a parliamentary form of government; the king has only ceremonial duties as head of state. The throne has been hereditary within the Bernadotte family since 1810. In 1975, a new constitution superseded the constitution of 1809; it reaffirmed the basic rights of each citizen. The Riksdag today consists of one chamber; its 349 members are chosen by direct election every four years. Every citizen who is at least eighteen years old may vote and run for office. At each level of government, voters choose a political party list, not individual candidates. In contrast to the United States, where there are rather low levels of voter participation, the usual participation rate in Sweden tends to reach almost 90 percent.

Sweden has a multiparty system of government. The Social Democratic Party has held power alone or sometimes in coalition with the Agrarian Party (with only a short break in 1936) from 1932 to 1994, except for nine years of nonsocialist rule, from 1976 to 1982 and again from 1991 to 1994. As early as 1914, the Social Democratic Party was the largest party in the Lower Chamber of the Riksdag. During the twenty-two-year period from 1917 to 1939, after the parliamentary system had been fully adopted, the Social Democrats held the responsibility for the government for thirteen years, including seven and one-half years without any other political party being represented in the Cabinet.

Shortly after the outbreak of World War II, the Social Democratic Party and the Agrarian Party government resigned in favor of a coalition government in which all four of the major political parties were represented. But the coalition government resigned in July 1945, when the Social Democrats assumed sole responsibility for the government.

The Social Democrats have been in power based on a coalition of the two labor parties, i.e., Social Democrats and Communists. However, the combined party power has exceeded that of the nonsocialist minority, i.e., Conservatives, Liberals, and Agrarians, by only slim margins since that date. Therefore, one could argue that the extraordinary success of the Social Democratic Party, which has sometimes been regarded as the most successful social democratic party in Europe, is based not so much on party strength as on the inability of the bourgeois parties to muster a strong counter-alternative. Political strength may also be attributed to the disunity of the nonsocialist parties on the right.

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Unity and political and economic stability attracted international attention to Sweden in the postwar era. At that time, foreign observers reporting from Sweden coined the phrase "Swedish model," meaning that Sweden had succeeded in combining rapid economic growth with an ambitious reform policy--a high economic standard aimed at egalitarianism with a deep social security safety net, all built on the foundations of a vigorous private economic sector. Partly because of this utopian view of Sweden's economic development, the country has served as a model for other industrialized countries. During the 1950s, Sweden as a model was embedded in the nation's internal political rhetoric, and foreign journalists and experts visited Sweden to study the frontiers of "social modernity."

During the interwar years, in the international context, the Swedish economy was not severely damaged by the Great Depression, owing to the special composition of the nation's foreign trade, expansive building construction, and, to a more contested extent, the government's monetary and financial policy. Sweden was one of the first countries to accept, among other things, the method of intentional budgetary deficits as a politico-economic instrument.

In considering the historical development of Sweden's political structure and its impact on industrial development and international business, it is crucial to understand that the extraordinary success of the Swedish Social Democrats is particularly impressive in the European context (see Tomasson, 1969). Since its beginnings in the 1880s, the party has been the most successful social democratic movement in Western Europe. In fact, no other social democratic party anywhere has been able to maintain, over such a long period, the legislative and popular support enjoyed by the Swedish Social Democrats, all within the framework of a five-

party system. Although normally classified as a left-wing party, Sweden's Social Democrats are nevertheless difficult to pigeonhole in relation to major political parties and programs in other countries. There are no identical counterparts elsewhere, and the party's program itself includes some surprising contradictions.

The Interwar Years

Although the Social Democrats had established themselves as the dominant party by the late 1930s, the relatively high levels of governmental instability common among regimes first experiencing the conditions of mass democracy had been evident only a decade before. In Sweden there were eight administrations between the realization of universal suffrage in 1920 and the beginning of the Social Democrats' virtually unbroken forty-four-year rule in 1932 (Elder, Alastair, & Arter, 1982). Moreover, Norway, Denmark, and Sweden, unlike several of their counterparts elsewhere in Europe, were able to withstand the main systemic challenge of the interwar period, the Great Depression, but they also achieved a growing consensus in support of state involvement in the field of social and economic policy reform (Elder et al., 1982).

In principle, the unemployment policy seems to have been the most important area of reform. Much attention was devoted to it, particularly in the 1920s, when there was a sharp parting of the ideological ways. Industrial production and its share of both total production and total employment rose sharply from the 1890s onward. This expansive sector of the economy and those parts of the economy associated with it were demanding more and more labor. But at the same time, productivity was rising, and increased demand was not as great as the growth of output. The output

per working hour rose more sharply during the interwar era than it had in the 1890s or even in the 1930s and 1940s. The rise in unemployment during the 1920s was partly due to rationalization[30] and partly due to the greater efficiency occurring from the introduction of the eight-hour work day in 1919.

The crisis of capitalism signaled by the Depression was remedied by far-reaching changes in the productive fabric of society, with the participation of a government that was not standing in the wings waiting for inevitable revolution. Even though there was an absence of significant parties of the radical left, Elder et al. (1982) argued that the Swedish economy was still very much in a

> transitional stage and still containing sizable small-farming sectors; thus there existed a potential susceptibility to millennial movements. The fact that they did not emerge on a large scale should be attributed in no small measure to the capacity for elite accommodations demonstrated by the party representatives of the main sectoral interests. In particular, the Social Democratic-Agrarian, Red-Green coalitions of the 1930s constituted the 'historical compromises' of inter-war Scandinavian politics [in general].

Once the Social Democrats were ensconced in power (with almost 50 percent of the popular vote in Sweden by the Second World War), the party promoted Keynesian-style measures, attacking unemployment through a program of public investment and social policies. Moreover, it was only with the coming of the Depression that conditions were ripe for the development of the peculiar Swedish labor peace. In 1931, events abroad, as well as in Sweden, marked a dividing line between the two epochs. They marked the end of an era characterized by a largely liberal economic policy and increased government intervention in economic planning. Thus, political objectives achieved importance in all areas of economic policy and influenced economic development in different sectors and industries (Dahmén, 1970, p. 38).

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As part of an effort aimed at recovery from the international crisis of the Depression, which hit Sweden late in 1931, the Social Democrats abandoned the traditional liberal economic system that had been successful during the previous century. The Great Depression delivered a death blow to the old system, when the liberal creed was virtually abandoned in practice.

In 1932, the Social Democrats' expansionary fiscal policy included an increase in governmental spending through loans to finance public expenditures. But public spending did not alone move the economy out of the Depression. An increase in government spending amounted to approximately 1 percent of the GNP in 1932-1934. Therefore, external factors such as a revitalized world trading market contributed significantly to the improved economy (Lindbeck, 1975, p. 23). However, after the Socialist-Agrarian coalition was formed in 1933, the expansionary policies led to a favorable climate. The economic situation improved by 1933, and unemployment declined.

A significant aspect with regard to multinational development is the choices made by the labor party leadership to cooperate with big business to promote external trade. Scase (1977) argued that international markets provided the financial basis for the development of the Swedish welfare state without nationalizing industry--the coexistence of social democracy and capitalism. However, the development of the Swedish economy did not hinge on a welfare state but a competitive position in markets outside of Sweden because the domestic market was too small to rely on large-scale production to fund research and development and finance fixed assets.

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Another related factor contributing to international expansion was a minimum of industrial strife, which led to full production. This does not mean, however, that there was an absence of turmoil in the Swedish labor market before the late 1930s.

The devastating impact of the Depression in the agricultural sector prompted the collapse of farm prices. (Between 1890 and 1930, the agricultural share of employment fell by about 22 percentage points, 13 points in the 1890-1910 period alone. Since the last part of the nineteenth century, markets for Swedish agriculture had been largely domestic. This prevented any appreciable rise in production over and above what was motivated by population growth and rising income. But income elasticity for agricultural products probably outweighed total production.)

Unemployment reached crisis proportions among trade union members. "Averaging 11 percent from 1926 to 1930, it rose to 19 percent between 1931 and 1935, and exceeded 23 percent in 1933" (Samuelsson, 1968, p. 233). Workers were suffering from unemployment mainly because the supply situation had been altered. The population statistics reveal that since the turn of the century there had been a rise in both absolute and relative terms in the active population, which generally speaking are those between 15 and 64 years old. But the rise in the active population reached a peak in the 1930s and started to fall swiftly again in the next decade. Therefore, between 1900 and 1940, this meant that, for every person of working age, there were fewer children and elderly people to support. The labor market came under pressure as more people were competing for the available jobs, which caused a change in the relationship between demand and support for labor *(Historisk Statistik for Sverige,* 1969).

Consequently, both groups of unemployed workers and farmers, reacting to a depressed price structure, saw themselves as disadvantaged in Swedish society and demanded state intervention. To get a freer hearing in Parliament, in 1932 the Social Democrats reached a compromise agreement with the Agrarians over government policy. This agreement resulted in an alliance between the Agrarians and the Social Democrats; the former therefore abandoned their traditional cooperation with the Conservatives.

Because Sweden had left the gold standard in September 1931, it was possible for a Swedish political party to implement domestic policy with a higher level of freedom. This allowed room to maneuver in the currency system so that the coalition government could argue for an expansionist financial policy from the early to mid-1930s without risking negative effects on the external balance. This new scenario represented a breakthrough for new theories in economic policy and the concrete formulation of a new unemployment policy. The focus shifted to work rather than unemployment benefits, which had been the guiding principle for rising unemployment in the 1920s. The argument that pay for relief work should be at the same level as in the open market was a new element in the discussion about recovery policies. This showed that Sweden was now seen to be more independent of the need to adapt to the international market.

A new economic policy was adopted and launched by the Social Democrats and some liberal politicians who were inspired by economic theories within the country. In Sweden, the labor market policies were introduced by a cohort of young economists from the Stockholm School, under the leadership of Finance Minister Ernst Wigforss. These policies provided the framework for employment programs

that were identified, at first, as the basis for Sweden's early recovery from the dislocations caused by the Depression (Weir & Skocpol, 1983). John Maynard Keynes was highly influential, as well. His theories were known to Swedish economists before he published his famous work in 1936. In a 1933 article entitled "National Self-Sufficiency," Keynes drew attention to the intimate connection between social welfare policy and protectionism. Keynes asserted that if a government was to manage its own economy, it needed to be isolated from the flow of goods and capital in a global economy (Gilpin, 1987).

In the 1930s, it appeared to international onlookers that Sweden could be considered an exception by having chosen a path between the extreme left and right political systems operating at that time in the industrialized world, during a decade of authoritarian governments. The myth of the "middle way" grew to a point of political folklore in the English-speaking world. The restoration of economic growth and social stability seemed to be achieved through a policy of rational cooperation between government and industry. Internal political development in Sweden during the interwar period was characterized by stability even though the period marked an era of minority parliamentarianism in the political history of the country. The Depression provided new opportunities for leaders of political parties who could devise appealing responses to the exigencies of the decade (Weir & Skocpol, 1983).

The Depression era is characterized by the ascendancy of the Social Democratic Party. At the same time, Sweden demonstrated a rather quick recovery from the economic dislocations in a comparative sense, even though Finance Minister Wigforss, under the direction of Prime Minister Hansson, employed some economic measures similar to those used in the United States (for a comparison,

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see Weir & Skocpol, 1983). Wigforss, a trained linguist who was influenced by Keynesian economic policies, realized that there need not be a revolution in response to the economic and social problems associated with the Great Depression. He also recognized that the government did not have to own the means of production to have social control and redistribute wealth. Wigforss advocated a policy of full employment at full market wages and full production, and he mapped out a massive policy for government-sponsored public works and deficit spending (Jangenäs, 1985).

In the meantime, Prime Minister Hansson, the son of a bricklayer from Malmö, convinced the public that the collective good of society was the main goal of the Social Democratic Party. In 1928, Hansson had stated in his welcoming speech at the Social Democratic Party Congress in June, "We ought to strive to increase the party by a broader base, making it be the very big people's party that is supported by a majority of the electorate, to have a realization of *folkhemmet* (the home of the people). He had said the same thing during a Parliamentary debate on January 18, 1928.[31]

After Sweden suspended the gold standard in 1931, a counter-cyclical economic policy was implemented to even out fluctuations at the highest level of employment by underbalancing the budget during the Depression and overbalancing it in boom periods. The overriding objective was to adhere to a policy of full employment, in order to raise the standard of living and induce consumer spending. The perceived problem shared by all parties was unemployment. Unemployment affected 161,000 or 25 percent of the union working force in 1932 (the total population was around 7.5 million in the 1930s). Thus, the most pressing social

problem was also an economic problem. Unemployment, all parties agreed, was the most pressing concern during a decade of complex social and economic problems (Weir & Skocpol, 1983). However, the political parties disagreed about strategies for alleviating unemployment. Economic policy making was developed through a reliance on commissions studying social problems, comprising a cohort of young economists from the Stockholm School (Weir & Skocpol, 1983).

The Minister of Finance during the Depression (1925-1929 and later 1932-1949) was Ernst Wigforss, a professor who was sometimes regarded as the ideologue of the Social Democratic Party and was keenly interested in economics. He had served on the Commission of Inquiry into Unemployment, along with Swedish economist Gosta Bagge. The commission issued its report in 1931. In 1932, the experience Wigforss had accumulated was funneled into policy when he was appointed Finance Minister, one of the most visible political positions in Swedish political life. Unlike nonsocialist politicians, Wigforss believed that under-consumption was the cause of the economic crisis, requiring stimulation of the economy. The elixir was increased government investment, a stimulus for demand that would boost production. Wigforss argued for creation of jobs with good wages as key to economic recovery and some form of economic equality for the labor class. High wages would create the purchasing power necessary for manufacturers to have outlets for their products.

Sweden became the first Western country to adopt the Keynesian/Wigforss type of public employment policy. By 1934, the nation was further on the way to recovery than most other countries (Dahmén, 1970). Recovery was the key to later political and economic success for the Social Democrats as the party leadership

claimed responsibility for Sweden's climbing out of the Depression earlier than other industrialized countries. Their recovery package could be implemented due to new political alliances during the early years of the Depression decade. Eventually, it appeared that one of the main functions of the Swedish government was to redistribute income, and industrial production was the key to distribution. According to economist Nils Elvander (1979), the strength of the industrial sector was the primary underpinning for the Social Democrats' "unique power position" in contemporary Swedish society (p. 11).

Wigforss was a practical politician, and he and Prime Minister Hansson chose to cooperate with capitalists by formulating an economic policy that would even out income disparities, provide full employment without threatening the wage structure for union members, and strive for efficient and full production, all within a frame driven by capitalistic production. Wigforss concluded that it was not so important whether or not the state owned a factory, but whether or not the state could organize the economy as a whole, aiming at social control based on philosophical underpinnings that would somehow address the two fundamental criticisms of capitalist society–that patterns of distribution were grossly unjust and that the capitalist economy operated inefficiently, creating unnecessary insecurity and competition. The solution was to introduce gradual reforms under their form of a planned economy. This meant a radical shift from the established laissez-faire economic policy to one of Keynesian expansionary methods. The apparent success of the Social Democratic recovery package seemed to many people to pull the country out of Depression, albeit this process was more complex than can be covered in this brief background discussion.

The road to success for the Social Democrats was marked by the 1932 election; a turning point for the party's dominance came when they won the Lower Chamber election in the fall of 1932, which led to a coalition with the Agrarian Party in 1933. This alliance strengthened the minority position in the Riksdag. The Social Democratic-Agrarian coalition of 1933, known as the Crisis Agreement, was referred to as a "crisis deal," a "horse-trade," or a "cow-lition." In subsequent elections of 1934, 1936, and 1938, the Social Democrats increased and broadened the coalition's support among voters.

The Crisis Agreement focused on a crisis economic package, which marked an end of minority governments and a cooperation between workers and farmers. The major objective was to adhere to a policy of full employment and raise the standard of living to induce consumer spending. The Social Democrats adopted a policy, not of nationalization of industry, but of government intervention to stimulate the economy and public spending to achieve full employment and higher levels of output. The new policy was in opposition to the views of free-market economists, who proposed that the market would always correct itself in perfect competition. Sweden was the first country to adopt this type of public employment.

Social reform measures included subsidies for housing and unemployment insurance (in 1934), increases in the basic pension for retired people (in 1935), a law to regulate working time for rural laborers (in 1936), aid to young mothers and allowances to set up households, as well as child care subsidies (in 1938), and paid vacations (in 1938). The cost of the reforms was financed by higher progressive taxes on income, inheritance, and wealth; corporate taxation was kept at a low level to induce full growth and production and to increase the size of the national

economic pie. The creation of a huge social safety net made optimistic Sweden a symbol of a well-ordered society in a dismal decade.

During the Depression, many scholars visited Sweden to investigate how the nation had come through the worldwide Depression almost unscathed. Their studies aided in understanding the Swedish model of industrial development, which had been shrouded in a mystique, sometimes impeding scholarly analyses of the process of development and changes in the model over time.

Marquis Childs's (1936) widely read book, *Sweden, the Middle Way,* which he wrote after visiting Sweden in the 1930s, enticed a stream of foreign visitors in search of the Swedish formula for success and tranquility in a disruptive decade. In the troubled decade of the Great Depression, during the instability of the interwar years, industrial relations in Sweden and all Scandinavian countries progressed from conflict to cooperation. Following a history of industrial strife, Sweden established a peaceful labor market and began to build up an apparent welfare state while retaining its democratic institutions and a free-market economy. Although some scholars did not take Childs that seriously, his book depicted a rather serene picture of Sweden in the 1930s:

> Sweden is almost the only country in the world in which capitalism has "worked" during recent decades. Checking the evolutionary development of capitalism at the point at which monopoly tends to distort the cycle of prosperity and depression, the Swedes seem to have interrupted the process of self-destruction which marked the economic life of other industrialized countries. In a sense it is the only country where laissez-faire has continued to exist. (pp. 160-161)

Also, following the 1936 election, the Social Democratic Party obtained an absolute majority in the Lower Chamber. The party leader, Per Albin Hansson, deemed it advantageous to share the responsibility of the government with the

Agrarian Party, which had supported the labor party's economic policy during the recession of the early 1930s. Moreover, the government declared that, in view of the uncertain international situation, it was bent on seeking collaboration between ideas and interests, parties and classes. The politics of compromise in Sweden was designed to counter the threat of Fascism by providing a radically different set of policies, a "middle way" (see Rostow, 1955, pp. 101-110, for a discussion about this strategy). A synthesis between capitalism and socialism developed without violent revolution, and this compromise has been of intrinsic interest in the wider comparative context.

Further international interest mounted as a result of reports by commissions sent from the United States Department of Labor to investigate Swedish labor market innovations. In 1938, a presidential commission from the United States was sent to Sweden to analyze what "curious readers had determined was Utopia" (Davis, 1938). "Swedish politicians [were] surprised at heightened American interest when Swedish officials and labor representatives traveling in the United States went to a great deal of trouble to refute the image of Sweden as a real-life utopia" (Ruth, 1985, p. 65).

The existence of labor peace in Sweden can be attributed to two historic events in the 1930s: (a) the Social Democrat-Agrarian political compromise, which led to a coalition government, and (b) management and labor's agreement on collaborative methods to settle disputes and prevent government intervention and control.

In Sweden, the historical development of multinational companies and the role of the main actors indicate that there has been a cooperative effort by labor,

management, and the state to increase productivity and efficiency and attain one of the highest standards of living in the modern world. In contrast to management-labor struggles in the United States ("High Tech to the Rescue," 1986), business and labor in Sweden and the government's labor policy goals seemed to be, not mutually exclusive but in fact congruent with Sweden's growth--at least until the 1970s.

The successful development of multinational companies in Sweden depended, to a great extent, on the unique ingredients of the Swedish model of collaborative labor-management relations and agreements that ensure labor peace, creating an environment where full employment and full production can operate. The climate of cooperation among labor, management, and government has allowed Swedish multinationals to grow and expand, providing the engine for the development and expansion of a welfare state based on capitalism. This study suggests that, for historical reasons going back to the roots of the two organizations, SAF and LO, at the turn of the century, labor and management saw it in their best interests to establish this peace, based on Sweden's dependence on international markets.

In the same decade, delegates from the umbrella groups representing labor and management forged a compromise agreement, the historic compromise embedded in the Saltsjöbaden Agreement of 1938. This agreement paved the way for decades of labor peace in an era of industrial turmoil, the Great Depression. As a result of increased labor market conflict and encouragement from the government to find solutions or risk government intervention, both parties eliminated areas of friction from the negotiation process and tried a step-by-step approach to find solutions that were advantageous to both parties. Stability in the labor market was

achieved by the two major organizations representing business and labor. The Swedish Employers' Confederation, founded in 1902, and the Swedish Trade Union Confederation, founded in 1898, the two major social partners in Swedish society, signed the now-famous Saltsjöbaden Agreement, which prevented labor strikes while an agreement was in place.[32] This agreement ushered in an era of labor peace during an "era of Saltsjöbaden." The resulting stability pivoted Sweden, in subsequent decades, into an enviable position in world markets as it rationalized production and reaped the benefits of high employment and further development of the nation's engineering industry. This high-tech sector would eventually contribute more than 50 percent of Swedish exports in the postwar era.

Even though the economic crisis was not as deep in Sweden as it was in other industrialized countries, it triggered a watershed in Swedish history as it catalyzed economic policies and planning and profound political and socio-psychological consequences that were unprecedented in the Swedish experience. It elevated full employment to the pinnacle of a lasting policy priority, and it provided the framework for labor peace.

Sweden recovered from the Depression more quickly than did other European nations. The economy reached a state of recovery, primarily due to an increase in international trade rather than the government's expansionary fiscal policy. By the end of the turbulent Depression decade, Sweden had achieved a level of political and economic stability that was the envy of other Western industrialized nations. That stability had created a collaborative atmosphere and a climate for compromise solutions. The state had become a friend, not an enemy, of the working class, and the social programs had created what appeared to be a "people's home" for Swedish

society. The cornerstones of the Swedish model–full employment and social equality–provided the Swedish labor movement with a pattern to reshape society and were firmly in place as Sweden approached the 1940s.

The concept of *folkhemmet,* the people's home, figures strongly in the Social Democratic ethic. It is not a detailed blueprint for Swedish society, but it represents strong attachment to an egalitarian vision, many elements of which are widely shared even outside the party's own ranks. As a result of widespread acceptance of the concept, Sweden has been able to function in an environment with two important fundamental characteristics: political stability and a relatively strong, if often tacit, base of shared societal values.

During the 1930s, the Social Democrats, often in cooperation with the Agrarians, passed laws that improved employment possibilities and benefits, created a more generous public pension system, and added new forms of social insurance. Child allowances were introduced, in an effort to reverse a declining birth rate. Some of the reforms that were part of Sweden's *folkhemmet* ideology bear at least superficial resemblance to social legislation passed in the United States around the same time, during Franklin D. Roosevelt's New Deal and later.

Due to the relatively mild effect of the international economic crisis during the early 1930s, Sweden was spared any serious differences among various groups of people. The process of equalization was actually based on the twenty-five years preceding World War II, when the standard of living of the less well-to-do segments of Swedish society steadily improved, mainly as a result of greatly increased industrial production. This improvement was especially pronounced among industrial workers. As the standard of living of the Swedish middle class had not

shown a corresponding improvement, developments brought about a certain equalization of the previously rather considerable differences between the way of life of the middle class on the one hand and the labor class on the other.

International expansion and the growth of production gave rise to a rapid improvement in the Swedish standard of living. Even though Swedish multinationals had their roots in the latter part of the nineteenth century, a great expansion of foreign activities increased in tempo following World War II. The Saltsjöbaden agreement confirmed the improved situation on the labor market since 1932. The labor-management pact of 1938 may be regarded as parallel to the agreement between the Social Democrats and the Agrarians in 1933. By 1936, political and economic stability were a reality for most of Swedish society.

Significantly, the conditions of the Depression harkened to an immediate need for recovery. The cooperation of industrial workers and farm producers in the Red-Green agreements of the 1930s had a twofold significance:

1. Although the class contours of the party system in Sweden had been delineated since the turn of the century, with the Social Democrats representing workers, it was by no means impossible to build bridges at the elite level.

2. The Red-Green agreements represented a significant defense against extremism of left and right. The Communist Party did not become electorally significant until 1945, and the Fascist counterpart in Sweden received only 1.6 percent of the vote in 1936 (Elder et al., 1983). As a result of these maneuvers and bridge building, Swedish politics has been characterized by a great amount of stability since the 1930s.

Literature Review

International Markets and the Swedish Labor Force

Stable labor relations are particularly important in Sweden because of its dependence on international markets and the concentration on products used in industry rather than consumer goods. The ability of an export firm to keep promised delivery dates depends in large measure on a stable supply of labor.

Swedish labor force participation rates are among the highest in the industrialized world. Full participation of the labor force is the backbone of Sweden's economic and social welfare policy. Today, approximately 90 percent of men and 80 percent of women in the 20- to 64-year age bracket are employed. A dual income is essential for the average Swedish family's livelihood.

After the Second World War, a few great export industries dominated exports and also established themselves abroad. Today, more than half of the work force in Sweden's manufacturing industry produces goods for export. A large part of the balance of industrial production is manufactured in competition with foreign producers for the domestic market. Therefore, business, unions, and government must consider Sweden's dependence on international markets when making decisions on prices, wages and salaries, and economic policy (Larsson, 1988).

Private companies account for more than 85 percent of industrial employment, and more than 40 percent of the people in the industrial sector work for one of the country's largest multinational companies. A rapid growth of exports and imports has been accompanied by an increase of production abroad.

Industrial Relations and the Swedish Welfare State

The Swedish industrial relations system is linked to the nation's political economy and a form of Scandinavian democratic mode of welfare, *välfärdstaten* (the welfare state), which is a Social Democratic political slogan. The term *välfärdstaten* has led to misunderstandings due to translation. The word traditionally has been rendered "welfare state," which has negative connotations in English, conjuring up images of social assistance and being on the dole in English-speaking countries. However, although often debated, the term is understood and accepted in Swedish society.

In Europe and in the Scandinavian and Swedish languages, the word "welfare" conveys a more positive and universalist sense of well-being or prosperity. According to LO economists Per-Olof Edin and Dan Andersson (1995), "In Swedish society *'välfärd'* refers to a general system of social insurance and other benefits that apply to the entire population–rich and not so rich alike" (p. 1). Although this may sound like the standard economist's definition, a major feature is a high degree of social security and equality without the humiliation of means testing, often equating social democracy and economic democracy and the development of a highly comprehensive welfare system with a redistribution of wealth by the government. The instruments of redistribution are administered through a complex transfer-of-payments system.

The managed distribution of income has been tied to the hegemony of the Social Democratic Party since their ascendancy to power in the 1930s, and in subsequent decades, when labor rose to be a factor of considerable influence. It

was accepted as the natural progression of things that the rise of labor to political influence and political leadership would entail heightened development of those branches of public policy that would specifically benefit the groups of people who formed the chief electoral basis of the labor party, the Social Democrats. However, many of the universal benefits cover all members of Swedish society, even though the benefits are constantly debated. In reality, few Swedes are willing to forego these benefits, especially if the tax structure stays the same and if the alternative would be a system fashioned more like the American form of capitalism and social security with its individualistic rather than collectivistic approach.

Much of the social policy developed during the 1930s and subsequent decades centered on a Social Democratic slogan of *folkhemmet,* or the people's home, meaning that Swedish society would provide a wide-cast social safety net for the citizenry. Due to this development, Sweden has been characterized by numerous scholars as a social democracy with a capitalist economy (see Scase, 1977, for example). This dichotomy is often misunderstood by those outside of Sweden.

English speakers (usually this means Americans and Britons) seem to misunderstand the Swedish approach to the marketplace more than others. Capitalism in Sweden is more akin to the European version of capitalism, which is called social capitalism or "Rhineland capitalism, evidently since it has been most successful in Germany" (Pfaff, 1995, p. 8.).[33] Contemporary journalist William Pfaff argued that "the European model has held that social return, or social responsibility, is as important as investment return to the enterprise, and is essential to the society in which the corporation functions" (p. 8). This model has consistently been

criticized in the 1990s by both Democratic and Republican administrations in the United States and by Britain's Conservative Party.

The twentieth century witnessed the development of a Swedish welfare state and an expansion of an ever deeper, ever more widely cast social safety net providing "cradle to grave security." This development depended on a vigorous private economic sector. The complex and traditional Swedish system, even in the comparative European and to some extent the Scandinavian context, is linked to the main actors in Swedish society--the social partners representing labor and business, the umbrella organizations LO and SAF. These two central organizations, as well as other interest groups, influence all spheres of public society, preferring compromises and peaceful solutions to conflicts (Einhorn & Logue, 1986). They share a goal of sustained labor peace as the underpinning of a high standard of living, dependent on a strong trading position in international markets.

A Climate for Mutual Understanding and Collaborative Industrial Relations

There are numerous reasons for Sweden's ability to manage industrial relations. Most important, the frequently conflicting policy views of representatives of capital and labor have not resulted in political turbulence. First, the working class has been united in a singe party (Social Democrats), and there are no strong religious or ideological allegiances. The Social Democrats have been in power for most of the modern era, since the 1930s, and the Social Democratic Party has benefited from the collective membership of union members. Second, the Social Democratic Party, the unions, and cooperative societies are three independent

elements in the Swedish labor movement, a tripartite labor market structure based on compromise decision making.

Over the years, Sweden has tried to avoid pursuing a governmental income policy. Employers and unions were regarded as strong enough to reach their own agreements about pay and conditions of employment, which were regulated for many years by nationwide collective agreements. Relations between employees and employers were characterized by a spirit of reasonableness, which was initiated with the cornerstone of the Swedish negotiating and cooperation model in 1938, the Saltsjöbaden Agreement. This agreement led to four decades of relative calm on the Swedish labor market, characterized by "the spirit of Saltsjöbaden."

> The principal object of the agreement was to enable the labor market organizations to protect themselves against government intervention on the labor market. The agreement marked the start of a new era of cooperation. The parties shared the common objective of resolving a variety of problems by means of collective agreements and of avoiding legislation. (Lundgren, 1987, p. 16)

Thus, Swedes gained a reputation for an ability to reach agreements in a climate of cooperation and mutual understanding. Swedish firms became well known for finding simple and flexible ways of reaching agreements on such issues as working practices, consultation and participation, rationalization, introduction of new technology in the business enterprise, and creation of healthy work environments. The most important function of the collective bargaining contract was to preserve labor peace. The Swedish model was characterized by collective bargaining, steadily growing union influence in an active government labor market policy, and few labor disputes.

enterprises met with understanding from trade unions. This was important, as was the general framework of stable labor relations, for almost half a century. During that time, companies like ASEA, Electrolux, Ericsson, Saab, Scania, SKF, Stora, Volvo, and others became strong.

From Agreement to Legislation

Using international perspectives of labor law in assessing the development of modern labor law in Sweden, law professor Sten Edlund (1986) concluded that it is clear that, in the comparative context, the development of modern labor law in Sweden was for a long time markedly extralegal in character. The Swedish labor market began to assume a well-defined structural pattern by the turn of the century, and employers and employees had begun to establish a system of organization that, in turn, facilitated an increasingly collective regulation of working conditions. "Once this process had gotten under way, the role of Government and Parliament remained primarily supportive for a long time, with direct control and regulation more the exception than the rule" (Edlund, 1986, p. 47).

In the early decades of the twentieth century, collective agreements had become widespread arrangements for manual workers. In time,

> these national agreements came to function as a kind of labor legislation, the contents, scope and formulation of which varied in the different sectors and occupational spheres. An important development was that it became usual to include clauses on negotiation arrangements aimed partly at reinforcing the function of the agreement as a peace document and partly at guaranteeing to the parties the facility of talking to one another on questions that arose during the period of agreement. (Edlund, 1986, p. 47)

Generally, Sweden was passive with regard to anti-trust legislation.

In contrast, during the 1970s, there was an explosion of labor legislation. The Swedish labor market experienced extensive statutory reforms aimed at improving

the work environment, enhancing job security, making work life more democratic, and strengthening trade union organizations. The kingpin of this extensive legislation was the Co-Determination Act of 1977. In that decade, public employees were seeking virtual parity of status with employees in the private labor market, where trade unionism was particularly strong. At that point in Swedish industrial development, one-third of all employees in the Swedish labor market worked in the public sector.

The two central organizations representing labor and business, LO and SAF, had set the norms for others to follow. But they could no longer maintain a central position following the confrontations and changes in the 1930s. Consequently, during the 1960s and 1970s, the traditions of the Swedish model started to show signs of cracking.

Labor Peace--The Preconditions

High levels of employee involvement developed in Sweden due to significant preconditions for peace. Those preconditions include the following (Bratt, 1987). However, these points do not provide a total explanation for Swedish collaborative industrial relationships and the long record of labor peace.

1. Sweden has a small and homogeneous population with a long tradition of political independence. One-tenth of the population of 8.6 million (1996) are not Swedish by birth; however, most of the immigrant population comprises people from nearby Finland. Most immigrants did not enter Sweden until after 1940. The population speaks one language, Swedish, which is a Germanic tongue; the Lutheran Church is the State Church of Sweden; and the majority of Swedes share

a mutual economic background based on agriculture. This homogeneous societal structure lends itself to a common base for agreement, in comparison with pluralistic societies such as the United States.

2. The development of industrial relations has been going on for quite some time, since the turn of the last century. The legal foundation for rules regarding industrial relations, such as the collective bargaining system, were already laid in the 1920s. Therefore, the legal structure, but moreover, tradition, established a pattern of collaboration.

3. Sweden has a higher degree of trade union membership than any other Western country. Almost 90 percent of all industrial workers belong to the powerful Swedish Trade Union Confederation (LO), which has 2.2 million members. The Central Organization of Salaried Employees (TCO) has 1.1 million members. In addition, a quarter of a million professional employees, those with university degrees, are members of the SACO-SR. These organizations provide all workers with a great deal of collective strength, financial resources, and social security.

4. Most unions of any significance are industrial unions. This means, for example, that all organized production workers at Volvo, regardless of their craft, are members of the Metal Workers' Union, under the umbrella of LO. For many years, a system of nationwide agreements regarding wages, salaries, and other conditions of work meant a well-structured labor market with few industrial conflicts in the private sector.

5. All of the above-mentioned factors, combined with the fact that for forty-four consecutive years before 1976 the Swedish government was led by the Social Democratic Party in close alliance with one or another party to form a coalition

government (in most cases the supportive party has been the Communist Party), have resulted in labor issues being pushed to the forefront of the political agenda.

6. Finally, it is likely that a high economic standard and high levels of material welfare based on a foundation of strong companies in the international marketplace, such as the major Swedish multinational enterprises, contributed to social security and the necessary psychological conditions for worker demands. An increase in employees' influence gained strength in the 1960s and made it possible for the trade unions to see many of their demands for industrial and economic democracy realized in the 1970s and 1980s. However, during the 1970s, Swedish industrial relations were characterized by a shift from agreement to legislation, in a departure from the traditional relationship developed by the "spirit of Saltsjöbaden" back in the late 1930s. At the same time, during the late 1970s, management adopted a "new paradigm" and a shift in doctrine to encourage more employee participation in company matters.

The Swedish Model Under Investigation

The origin of the Swedish model, in the sense of problem-solving cooperation in the labor market on the basis of shared interests, has been the subject of numerous studies by both Swedish and foreign scholars.[34] An extensive body of literature about the Swedish model and the political-economic analysis has focused on the Great Depression, from 1930 to 1933, and Sweden's recovery, as well as the ascendancy of the Social Democratic Party. Various researchers have focused on Swedish developments; the most relevant to mention here are Hans De Geer, representing the historical view of business, and Alf Johansson, investigating labor

history. Their individual works elucidate the basis for Swedish labor market cooperation.

In his unique study about the development of SAF, the umbrella organization representing business in Sweden, De Geer (1992) stated that "the wage-earners and their organizations are not directly addressed, but are reflected in the analysis of the labor market and of industrial relations during the present century."

> Inevitably the story [the history of SAF] also becomes one of the rise and fall of the Swedish Model, that Grand Project of Swedish Industrial Relations. The Swedish Model, as people outside Sweden were wont to call it, referred essentially to the labor market function and the way this was perceived or described in Sweden. It was a potential model, a prototype, an abstraction. In Sweden, the model has meant something different. The model has come to be regarded as a reality, as a kind of apparatus or ingenious mechanism for regulating the flux of events. (De Geer, 1992, p. xi)

For De Geer (1992), the complexity and fundamental theme with regard to labor market relations focused on the coexistence and cooperation of both sides. The net result for forming joint associations for trade unions and employer organizations meant that "conflict in the labor market becomes institutionalized" (p. 4). He continued,

> The experiences of the industrial society provide a basis for the transition to a new age, but at the same time they represent a system of rules that can delay or inhibit progress. The Swedish model is a mental construct, firmly entrenched in the labor market and among political actors. It is a tradition, a way of thinking and evaluating. (p. 9)[35]

University of Uppsala labor historian Alf Johansson appraised the parallel experience of trade unionism and productivity growth in Sweden and Britain during the interwar years. In his view, there was a different development after World War II in Sweden than in Britain, which has a reputation of corporatist management and high productivity. Johansson concluded that the Swedish economy has been

successful in combining a steady improvement in output with high levels of trade unionism. Johansson and Melling (1990) wrote, "We have to understand the subsequent development of labor relations in each country as a product of the interwar experiences and the peculiar historical context in which employers and unions devised their policies during the long postwar boom" (p. 22).

According to Bernt Schiller (1977), in Sweden, as in the rest of Scandinavia, "the existence of an unusually large middle class made a fairly smooth transformation from agricultural to industrial societies possible" (p. 64). Trade unions were soon accepted by employers, and collective bargaining became widespread; at first collective agreements were local, and then they became industrywide. The Social Democrats embarked early on a path to reform, but they had no real access to power until the end of World War I. Even though the transition phase was comparatively smooth, a conflict phase of labor relations stretched from their early beginnings at the turn of the century, and were later followed by a cooperative phase from 1930 to the 1960s.

Historian Schiller argued that the Swedish model is largely preconditioned on steady economic growth. According to him and others, stagnation and economic decline in the late 1970s, following the oil crisis, made the redistribution problem more acute. That era signaled the strained limits of the Swedish welfare state and industrial expansion.

The Great Depression challenged the liberal orthodoxies of public economics, when the economic crisis called into question the predominant conviction that government should balance its budget, maintain the gold standard, and let business re-equilibrate on its own. Throughout the industrial world, new demands were made

for "extraordinary government actions on behalf of industrial workers, farmers, and other distressed groups" (Weir & Skocpol, 1983, p. 4). Thus, promising opportunities opened for politicians or parties that could devise solutions to the great dilemma of how to cope with an unprecedented volume of unemployment and a severely contracted world economy.

In the 1930s, the ascendancy of the Social Democratic Party left a strong imprint on Sweden's economic and political development. The Social Democrats and the Agrarians reached a crisis deal in 1933, the coalition was formed, and crisis solutions gained the base for a ministry that would open a new era in Swedish politics. Thus, the basis of power was permanently altered. The government's financial policy, notably the unemployment policy, led to a general rise in the standard of living and changed the pattern of consumption. However, it seems that the upward trend in the country's industrial production toward the end of the Depression decade, rather than political measures, delivered recovery from the Great Depression in Sweden. However, this is still a point of debate among some scholars.

Critical of the popular view about Swedish modernity, Samuelsson (1968) referred to more than forty years of literature about how the Swedish model could be examined and copied. He concluded that the bulk of that literature was really a misunderstanding about the European tradition. He further pointed out that Sweden was backward in social legislation until the 1930s, and that one should be careful in generalizing about how advanced Sweden really is. In Samuelsson's view, the 1930s workers' insurance was the key to welfare reform because it could promise security to mobilize public support for Social Democratic government policies.

According to Samuelsson, radical views of socialism had to be reconciled with employment policies. He wrote, "Unemployment began to increase during the summer of the 1930s, and by the end of the year the crisis was a fact. Unemployment among the trade unionists, averaging at 11 percent from 1926 to 1930, rose to 19 percent between 1931 and 1935, exceeding 23 percent in 1933" (p. 233).

In *How Sweden Overcame the Depression,* Swedish economic historian Arthur Montgomery (1938) argued that three points were especially important: (a) Sweden's monetary policy; (b) the consequences of the government's financial policy, notably their unemployment policy; and (c) the influence of international economic trends. All of those factors depended largely on the character and the structure of Sweden's economic life. According to Montgomery, the Swedes tended to formulate a view of long-run tendencies, and over time, even though the first years of the 1930s brought with them harsh circumstances, there was generally an upward trend in the country's industrial production. The Depression ushered in an era of prosperity.

One of the foremost scholars about the early period of industrialization in Sweden, Montgomery (1939) asserted that most of "the social oppression of ancient times was made possible simply through the lack of publicity and the ability of the proletarian to press his views upon the ruling classes of society" (p. 25). Montgomery further stated that high-handed and paternal policy of ancient times, imposed by secular and ecclesiastical authorities alike, had repeatedly attempted to confer supposed benefits on people, even against their own wishes. Furthermore, there was no continuous line in the evolution of humanitarian sentiment. For

example, factory legislation in 1919, which instituted the eight-hour day or rather the forty-eight-hour week, was incorporated into the Swedish labor code, which provided a considerable rise in hourly earnings.

It is difficult to trace with any accuracy the further economic effects of the reforms introduced by the Social Democratic Party in coalition with the Agrarian Party in the 1930s. The objective of the reform policies was to provide the great mass of the less well to do, whether they were wage earners or not, with a reasonable amount of economic security. One policy that gained a good deal of favorable public following was the state-subsidized insurance against unemployment, instituted in 1934.

Social debates gained increased importance when labor rose to be a factor of considerable political influence.

> This accounts to some extent for the large expansion in the scope of social policy in the present century and, more particularly, in the postwar period. But apart from this, it was the nature of things that the rise of labor to political influence and, later on, to political leadership should entail great development of such branches of public policy as were more specifically to benefit those groups of people which formed the chief electoral basis of the Labor party. (Montgomery, 1939, p. 252)

The spread of humanitarian legislation improved the means of information and communication, and "official investigations" of various kinds provided an abundance of data concerning social conditions. Further, the spread of educational facilities had enabled the formerly more or less submerged strata of society to voice their grievances and force their claims on the attention of authorities. "This accounts to some extent for the large expansion in the scope of social policy in the present century and more particularly in the post-war period" (Montgomery, 1939, p. 253).

Montgomery (1939) argued that the interwar years were times of both depression and prosperity. The Great Depression was a watershed in the economic history of Europe. As Montgomery stated, "The international economic crisis of 1929 and probably still more the financial crisis of 1931 marks the beginning of a new phase in the economic history of Sweden as in that of other countries" (p. 240). In this respect, 1929-1931 was the end of an epoch, and prewar standards were to a considerable extent discarded. In the new era of autarchy, people ceased doing lip service to the free trade ideal, even in its not very exacting prewar form.

Nevertheless, there was still much less of a break with former tendencies and ideals in Sweden than in many other countries. Several favorable factors were influential in this regard. For one thing, its semi-insular position enabled Sweden to remain comparatively unaffected by the political disturbances on the Continent, and economic dislocations of the postwar years were transmitted to Sweden only in a rather attenuated form. Also, the Depression of 1930 to 1933 was less severe in Sweden than in many other countries. To some extent, this was due to its timely, if involuntary, transition to a paper standard. Moreover, the export industries retained much of the favorable position that had been a feature in the last prewar period and that had been very helpful in overcoming the crisis of 1920 to 1922. Even in the new period of autarchy, the export industries were able to maintain their sales relatively well.

In *How Sweden Overcame the Depression,* Montgomery (1938) cited the sale of export products as the reason Swedish exports largely comprised vital raw materials and semi-manufactures, such as timber and wood pulp and also iron ore, or specialized articles, such as high-grade charcoal iron and a number of

engineering products of international repute. The financial policy of the State, which pursued moderately expansionist aims, also contributed to maintaining the purchasing power of the home market. The export industries suffered a persistent fall in prices, which undermined the prosperity of home-market industries, but the home-market industries kept up fairly well. Housing production, in particular, was maintained at a still higher level than in 1929. Sweden followed Great Britain, as did other northern countries, and abandoned the gold standard in the autumn of 1931.

Montgomery (1939) observed that a new wave of prosperity, which gained momentum in subsequent years, carried industrial-production figures in Sweden to higher levels than ever before. In 1935, industrial production was more than 20 percent above the 1929 level. In 1936 and 1937, the figures rose still further, reaching an average level of perhaps 50 percent above that in 1929. Housing production also rose to new record levels.

The margin between industrial production in Sweden and that in other industrial countries in Western Europe increased in the 1920s. "Whereas industrial production in Sweden in 1937 was about 50 percent higher than in 1929, the general European figure exclusive of Russia rose only about 10 percent above the 1929 level" (Montgomery, 1939, p. 242). The home market, rather than exports, gained importance, but Sweden was particularly successful in maintaining its level of exports.

The transition to paper currency, for all practical purposes, instituted a temporary increase in the protection of the iron industry, which greatly enlarged its home business. Later, iron production soared to new record levels and more than doubled the prewar record of 1913.

The engineering industries played a prominent part in economic expansion in the 1920s. In 1936, production of the engineering industry was 40 percent higher than in 1929. Machines, pulp, and paper were active factors in the industrial history of Sweden; in 1937, production of wood pulp was 40 percent higher than in 1929, although the timber export decreased. Among the leading export industries, only the pulp and paper trade and iron mining did not witness any relative decline in their export business. But all of them, with the sole exception of the timber trade, have in recent years been among the most prosperous of Swedish industries. Thus, export industries were comparatively successful in the hard struggle for markets. The home market gained in importance, but agriculture did not experience this upswing. Montgomery (1939) proposed that,

> Thanks to the advantages of her geographical position, her freedom from political entanglements and the keen demand for her leading exports, Sweden has so far been able to proceed further on that path of rapid industrial expansion which she entered upon in the pre-war period, though she too has suffered from the increased violence of the international trade fluctuations. (p. 273)

From the beginning, the Swedish system of unemployment relief was based on the idea that it was preferable to grant assistance in the form of relief works. However, the increased scope of social policy and the growth of State interference in general deprived Sweden's economy of some of that elasticity and self-adjusting power of the liberal era preceding the 1930s.[36]

In his discussion of entrepreneurial activity in Sweden, Dahmén (1970) described the interwar period, 1919 to 1939, as an "era of industrial metamorphosis" (p. 399). By the end of the First World War, bank executives had gained industry experience and insight into industrial problems, which meant that cooperation

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between industrialists and bankers was heightened. In addition, many banks had converted their claims for financing industry into shares; in some instances, they had also been able to place these shares with the public. The capital-owning segments of society, i.e., the upper class and the upper-middle class, had begun to overcome the aftermath of the 1920-21 economic crisis, which had caused them large losses. This increased their ability to purchase shares, as well as to contribute to the financing of firms in other ways.

Novel products were developed following the World War I blockade, systematic and technical research gained momentum, lightweight metals were developed for engineering, and Frederick Taylor's Scientific Management and industrial rationalization were influential in industrial management and the organization of production facilities. The Stockholm School of Economics provided 214 fellowships for study trips to the United States; 101 of these fellowships were to study the assembly line process created by Henry Ford. American literature also was influential in Sweden at that time.

The electrical engineering industry was of exceptional importance to the interwar industrial expansion and laid the foundation for development of a special type. In 1929, both ASEA and Ericsson started specialized contractor subsidiaries in order to create a wider market for products for manufacturing companies: power transmission and telephones and communication systems. To achieve increases in markets over the long run, it was necessary to do more than supply first-class products at competitive prices and to provide an efficient sales organization. It also became necessary to create a market for the firm through wholly owned

subsidiaries, which contracted for electrification projects and for extension of telephone networks.

Most Swedish companies had begun to operate in this manner at an early stage, but by the late 1920s, the situation was regarded as requiring a bold new step in this direction (Dahmén, 1970). In his study, Dahmén found that, by the end of the 1920s, the Swedish manufacturing industry stood at the threshold of a strong, general expansion in one area after another. The conditions necessary for expansion either had been created or were just being created.

Dahmén (1970) argued that the best approach to studying the problems of economic progress was not to focus on Swedish business cycles,

> since in Sweden the impulses to a crisis have generally come from abroad, e.g., through the markets for exports and imports, and since experience shows that they always suffice to create a depression whenever they occur, to that extent there are hardly any reasons to tie the study of Swedish economic development to this particular chronology of ups and downs in the economy. Instead it would appear more fruitful to proceed somewhat independently of the *business cycle* issues and to [focus], for example, on the *periodicity of the industrial transformation process* . . . the struggle between new and old activities. (p. 427)

However, Olsson (1993) argued that it is "the development of the home market rather than foreign demand that explains the growth of the Swedish economy during the 1930s. Although this seems a bit of a stretch, it means that during World War II, the Swedish economy and foreign trade policy could be less dependent on imports than in World War I. But Sweden still was dependent on the international market for expansion and also for oil. Most analysts today concur that the external market stimulated the economy, although the government programs most likely added a much-needed psychological lift, boosting confidence in a better future.

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Much of the discussion surrounding the Swedish experience in the Depression has centered on the emphasis on a shift from a static economic theory to a dynamic theory, namely, John Maynard Keynes's theory described in his major work, *The General Theory of Employment, Interest and Money,* which appeared in 1936. However, Keynes was known among international economists even earlier. He undoubtedly became influential among economists in Sweden and other countries when he published his *Treatise on Money* in 1930, the same year that he was appointed to the Macmillan Committee on Finance and Industry.

During the Depression, American economist J. K. Galbraith met Swedish economists Bertil Ohlin, Erik R. Lindahl, Erik Lundberg, and Dag Hammarskjöld, members of a group that became known as the Stockholm School of economists. They had broken with the earlier static theory of economics and instead chose the dynamic approach by proposing affirmative government action to overcome hardship and unemployment. In the early 1930s, in Galbraith's view, nowhere else were economists so influential as regards practical policy. Indeed, to a substantial extent, the Swedish economists who were active in public affairs **were** the policymakers.

Galbraith concluded that, by the latter part of the decade, the Depression was over early in Sweden because of the Stockholm School's actions. He believed that, due to their influence, the governmental program had been put into effect in the early part of the decade, well before the world of Keynes. From Keynes one had the theory, but from the Stockholm School one had intensely practical democratic experience. In addition, recovery occurred without any dependence on armaments or war. Galbraith's personal observations in Sweden during this period were the most instructive an economist could have. He proposed that, in a just world,

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"It has been said that Sweden provided three generations of outstanding contributors to macroeconomics who, together, constituted what came to be called the 'Stockholm School.'" Erik Lundberg belonged to the second generation; consequently, he initially held a somewhat junior position in that "great group of macroeconomists" *(Scandinavian Journal of Economics,* 1990, p. 1). The leaders of the group were Bertil Ohlin and two of Erik Lundberg's teachers, Erik Lindahl and Gunnar Myrdal. It was Lundberg who contributed profound ideas to the economics literature in the 1930s and the postwar period. His work encompassed what was a part of the valuable vision offered by the Stockholm School--not what later was to be described as Keynesian analysis, but a sequence or process analysis--rather than a formal model of unemployment equilibrium.

Lundberg's extensive work was not available in English until the publication, in 1994, of a compilation of his selected writings covering five decades. Much of Lundberg's work included innovative efforts at empirically assessing the instability of the Swedish economy.

In "Memories of the Stockholm School," a paper presented at a conference in Saltsjöbaden in 1987, which Lundberg had authorized for translation but due to illness could not present himself, he stated:

> The view that the Stockholm School was and is a **myth** is, surely, generally accepted. As early as 1937, when Ohlin launched the concept in the *Economic Journal,* many of us economists in Stockholm protested at what we felt to be a strange invention. But words dominate thoughts. We came to accept and sparingly use the concept. Even a myth has its real base: the myth may become at least as real as reality itself. . . . When we refer to the Chicago school or to Keynesianism, it is fairly clear what we mean--though

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> there is ample scope for misunderstandings. Nowadays, an allusion to the approach and doctrines of the Stockholm School would hardly be received with a smile of recognition by leading international economists. (Lundberg, 1994, p. 491)

Lundberg recalled that there were major differences in the Keynes model, whose purpose was to show how a capitalist economy tended to become trapped in a more-or-less permanent position of equilibrium with high unemployment. According to Lundberg, the Stockholm School was more oriented toward problems of the business cycle, stabilization policy, and period analysis. This required a different method of analysis, in which one relied on a sequence analysis that would set for leads and lags of the business cycle. Lundberg recalled that

> For me, what gave luster to economics and research in the 1930s was the optimism concerning the potential of economic policy to activate the process of social and economic development. In Sweden, there was no pessimism about the depression and stagnation comparable to that in the USA. This new, fresh view of the potential expansion policy was fertile soil for the emergence of a purposeful stabilization. The marked responsiveness of the Social Democratic Party's leaders--headed by Wigforss, the Minister of Finance--was, of course, a particularly important factor. (pp. 493-494)

Lundberg's view was colored by his experience, when he spent two years in the United States as a student in the early part of the 1930s. He recalled,

> In Washington I saw American economists doing practical and important work. Earlier I had the impression that American university professors in economics had very little to do with how the country was managed economically. This was the opposite of Swedish conditions, where economists play a great role in the government of the country directly as advisors, but also indirectly through their great influence on public opinion. As in so many other respects, I had to wholly revise my opinion about the influence of American economists. (Lundberg, 1994, p. 65)

Young Lundberg was part of a steady stream of students who went abroad for education and international experience, an important aspect of Swedish industrial and economic growth and expansion. Lundberg visited different parts of the country

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during his two years in the United States. He went to the University of Chicago; then to the University of Minnesota for six weeks; on to Columbia University in New York, "a most confusing and stimulating place"; and then to the Brookings Institution. During a summer in Cambridge, he was influenced by a course he took in economic history from Professor Usher at Harvard, which gave him insight into the main problems of American economic history. All of these experiences gave Lundberg a valuable opportunity to build an understanding as he prepared to write his dissertation.

Following the Depression, the postwar era was one of increasing prosperity, an increasing internationalization of business, and an upswing in international trade. As a small country with an open economy, Sweden gained a lot from growth in world trade during these decades. The country's GNP to a large extent followed the normal rate of expansion for the OECD nations. At the same time, it became increasingly integrated with the global economy and in this way increased its dependence on foreign trade.

Well-known LO economist Rudolph Meidner (1986) reaffirmed labor's view that the cornerstones of the Swedish model, which provided the Swedish labor movement with a pattern of its efforts to reshape society, were full employment and social equality.[37] Meidner wrote,

> Every able-bodied person should be able to choose a job to support himself. Gaps between different people's educational opportunities, incomes and living standards should be reduced. The public sector should assume the ultimate responsibility for supporting children, the ill, the aged and the weak. . . . The ambitious concept of a "people's home" for all inhabitants of Sweden has provided the basis for decades of social reform work and for the wage policy of solidarity [equal pay for equal work, regardless of company profitability]. Efforts to achieve social equality and the ideology of solidarity have turned out to be reconcilable with economic growth. (p. 8)

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The Economic Nucleus of the Swedish Model

Until the mid-1970s, whenever the Swedish model was the topic of international debate, politicians and economists consistently referred to the concept in highly positive terms. In a more narrow sense, the concept has been applied primarily to conditions in the Swedish labor market, reflected by the ability of employers' and employees' organizations to reach reasonable wage settlements while under an obligation to keep labor disputes to a minimum. According to former Stockholm School of Economics professor Erik Lundberg (1981), who was head of the National Institute of Economic Research from 1937 to 1955, the model had several connotations:

> The parties were supposed to share a common social outlook regarding the value of free negotiations, exempt from government interference, but not from an inherent responsibility for the country's general economic development. This includes a positive attitude towards the competitive conditions of a market economy engaged in free international trade, combined with full acceptance--also by the Confederation of Trade Unions (LO)--of the necessity of high enough profitability in private enterprises for investment in expanding production and rising productivity. In a wider sense, the Swedish model also embodies aspects of overall trends in society such as progressive social development including high employment levels, continuous income equalization and rapid expansion of the social security system and the rest of the public sector, accompanied by increases in direct and indirect taxes. (p. 12)

All of this activity occurred during the decades from the end of World War II to the early 1970s. Sweden's GNP continued to rise from a relatively high per-capita level at the close of the war, at a fairly steady annual rate of 4 to 5 percent, while the rate of general price increases remained relatively low, 3 to 4 percent per year. The stabilization policy appeared to be successful, and total unemployment varied between 1.5 and 3 percent (Lundberg, 1981). No serious imbalances arose during

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that period. The development of international trade and the balance of payments remained harmonious, without systematic disequilibrium tendencies. The model was, no doubt, consistent with rather rapid economic growth and rising, and ever more equally distributed, material welfare during the first twenty-five years after World War II.

The approach in this dissertation is not to join the debate about the rise and fall of the Swedish model, as it has been scrutinized and pondered by a multitude of scholars. Rather, the model is brought to the forefront as part of a discussion about Sweden's economic development in the international arena and to underline the industrial/economic structure of the Swedish model, which enjoyed its heyday in the 1950s.

The model is known, more specifically, for the shared premise by the parties in the Swedish labor market and the government concerning the preservation of the competitiveness of Swedish industry in relation to foreign production in both the domestic and export markets. The economic nucleus of the Swedish model was a prerequisite of satisfactory profit margins, investment and expansion, and increased levels of productivity to provide an increase in real wages.

The reason for bringing history to the fore in discussing the Swedish model is the widespread tendency, as common in Sweden as it is abroad, to view it purely as a model, i.e., as a construction of social engineering of a radical reshaping of society by means of political intervention. This concept perhaps explains why "some people, from time to time, have come to the misconceived idea that the Swedish Model is some way replicable" (Rojas, 199, p. 64).

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The so-called Swedish model is absolutely dependent on distinctive historical traditions and the strong economic base created before any implementation of the "model" came into question. Thus, the Swedish model possesses neither historical nor economic autonomy; it is in no sense self-contained or capable of producing by itself its cultural and economic foundation. Therefore, any attempt to replicate the Swedish model is rendered futile without the prerequisites of both comparable historical traditions and an economic structure with the unusual strength of the Swedish economy before the 1930s.

However, Ruth (1985) argued that the generally dominant view of Swedish history has been too narrow, the chronicle of victors. Many historians deemed the ideological heritage of the predemocratic era as largely irrelevant to the ensuing development, rather than "an intrinsic part of its structure" (Ruth, 1985, p. 80). Moreover, Ruth reminded us that modern Swedish industrialism was shaped by an ancient legacy, the manufacture of iron dating back to the thirteenth century, when Sweden's iron producers had a virtual monopoly on the European market. For centuries, Swedish iron manufacturing took place in factory villages, or *bruk,* somewhat semifeudal in nature, where the workers were provided with amenities unknown to the society at large and local peasants became involved in the industrial process as suppliers of charcoal.

Thus, in Ruth's analysis, the roots of *folkhem,* or the people's home, reach back to the idyllic ironworks, the antecedents of the Swedish model and its belief in planning and care, "a protective reason and constructive cooperation between governors and governed" (Ruth, 1985, p. 70). According to Ruth, the cultural patterns associated with the *bruk* were influential in clearing the way for Swedish

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industrialization and internationalization of business, with its roots in agriculture.

Unfortunately, we know little about the process.

Endnotes

1. Cameron (1989) wrote:

> In 1798 the Reverend Thomas R. Malthus, an English clergyman turned economist, published his famous Principle of Population. In it he assumed that "the passion between the sexes" would cause populations to grow at a "geometric ratio" (2, 4, 8, . . .) but that food supply would grow in an "arithmetic ratio" (1, 2, 3, . . .). In the absence of "moral restraint" such as celibacy and later marriage (he did not foresee artificial contraception), he concluded, the law of diminishing returns and the "positive checks" on population of war, famine, and pestilence would condemn the great majority of people to a bare subsistence standard of living. Now, almost 200 years later, it would seem that Malthus was wrong--at least as far as the industrialized nations are concerned. Malthus did not foresee, of course, the host of productivity-enhancing technological and institutional innovations that have repeatedly postponed the operation of the law of diminishing returns. (p. 14)

Therefore, if a society fully uses its resources, increases in population eventually will result in a declining standard of living due to lower incomes. Consequently, only increased productivity through innovation, technical or institutional or both, would reduce the dilemma.

2. Heckscher (1954) noted that the enclosure movement was not peculiar to Sweden as it took place in other countries, but compared to England, the enclosures in Sweden were far less painful: "Neither a flight from the land nor a decrease in the small farmers' holdings occurred in Sweden" (p. 155). One of the main differences was the cost of reform in the two countries. Whereas every contested enclosure in England required a private act to pass both houses of Parliament, in Sweden the enclosures were handled by surveyors who were civil servants with a fixed salary, and they received a mere bonus for every transaction. Thus, Heckscher concluded that because the enclosures were organized as a public service, they may not by themselves have saved the Swedish peasantry as compared to the disappearance of the yeoman farmer in England; yet they were a powerful contributory factor.

3. See Heckscher (1954, pp. 155-156). Much of the work for enclosures was administered by Jacob Faggot, head of the government's surveying bureau and a member and one-time secretary of the Academy of Sciences, a body keen on economic progress. Faggot was the first to raise the question of enclosures, in a famous pamphlet entitled *Svenska lantbrukets hinder och hjälp (The Obstruction of Sweden's Agriculture and Its Remedy)*, published in 1846 (Hanssen, 1946, p. 275). It is not clear how much foreign influence guided Faggot.

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4. Harsh conditions of life in Sweden culminated in a distinctive political and social structure when compared to the continent and, in some respects, to other western industrialized nations during the twentieth century.

5. Demographic development, i.e., changes in size of population due to birth and mortality rates, immigration and emigration, and the population's age and regional distribution, provides a general basic framework for considering development in the economic, political, social, and cultural fields (De Geer et al., 1987). Data on Sweden's demographic history are very good from 1749 onward.

6. See Simon and Nardinelli (1996, pp. 384-413), for a discussion of the historical correlation between urbanization and modern economic growth post-1850s in England.

7. Forests, iron ore, and an abundant supply of water were important aspects of Sweden's industrialization. This process began at the end of the nineteenth century; today, Sweden is one of the world's mostly highly industrialized nations.

8. **Physical resources** include land, water, hydroelectric power, minerals and timber, physical traits, climate, location and geographical size, and location relative to other nations that supply markets and determine transportation costs and ease of cultural and business exchange. For example, England has been a cultural influence on Swedish industry in terms of goods and technology. **Human resources** include quality, skills, and costs of personnel, taking into account standard working hours and work ethics; electrical engineers; business managers; and application programmers. **Knowledge resources** include a nation's stock of scientific, technical, and market knowledge, such as universities, private and governmental research institutes, scientific and business literature, and trade associations. **Capital resources** include amount, type, and cost of capital available to finance industry, as well as the stock of capital affected by the national rate of savings and the structure of national capital markets. **Infrastructure** includes the type, quality, and use cost of infrastructure available, including the transportation system, the communications system, mail delivery, transfer of payments or funds, health care, and patent offices, as well as housing and cultural institutions that affect the quality of life and attractiveness of a nation as a place to live and work--in other words, the "business environment."

9. Jan Glete (1987) claimed that changes in the power relationship among owners, entrepreneurs, and banks have made many Swedish enterprises more dynamic.

10. Sweden's complex process of catching up after a late start in industrialization, compared to other industrialized countries, particularly in Europe, is most readily apparent in a number of competitive multinational companies trading in international markets, regarded as firms "exposed" to or unsheltered from international competition.

11. In 1973, Sweden's GNP per capita was 6,195, as compared with 6,261 for the United States, 5,614 for West Germany, and 3,075 for Britain (SCB official statistics).

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12. Investment in human capital should increase labor productivity.

13. According to Sandberg (1979),

> Around 1850, Sweden did not suffer from a set of legal, cultural, political, social and institutional obstacles to the efficient economic use of its resources and to the introduction of modern technology that was large by contemporary European standards. While Sweden might not have been as efficient as England or the Netherlands, it almost certainly suffered less from such problems than did a number of countries with substantially higher income levels. (p. 225)

14. For a discussion of the early period of railroad construction and policy, see Heckscher (1907).

15. Capital goods are manufactured or constructed items that have a long useful life and are used to assist in the production of, but not incorporated in, other goods. Capital goods include machinery, tools, and factory buildings.

16. An important component in the early stages of development of Swedish firms was interaction with the customer, as revealed in a study visit I made to Sandvik, the specialized steel company, on May 25, 1994. G. F. Göransson, who founded the company in 1862, was able to adapt the Bessemer steel process to Swedish conditions. Today, the company manufactures special alloys and rock drills. An important factor in its success has been a long history of customer contact, which aided in establishing the firm's niche in the international market. In helping customers make decisions about industrial needs, the close customer contact contributed information to upgrade Sandvik's product line to fulfill those special needs. Currently, Sandvik is the most profitable company in its trade worldwide, and spends 4 percent of its turnover on research and development. The company's quality commitment includes three main goals: (a) satisfied customers, (b) the right result on time and (c) continuous improvements.

17. Carlson's valuable work is available in both Swedish and English: "*Ett Sekels Industriledare, En Studie av Chefer för Svenska Industriföretag åren 1880, 1930 och 1980, Deras Familjebakgrund, utbildning och utlandsefarenhet,*" Working paper, Företagsekonomiska Institutionen vid Uppsala Universitet (Department of Business Administration, University of Uppsala), 1985; and "A Century's Captains of Industry," *Skandinaviska Enskilda Banken Quarterly Review*, 2 (1988), pp. 52-60. "An important factor has usually been overlooked in the literature on this subject, namely the men behind the industrialization process" (p. 82). Carlson used *Svenska män och kvinnor,* an eight volume dictionary of biography published in the 1940s, and *Vem är det?,* the Swedish *Who's Who,* as his primary material.

18. Although small ideas that make great ideas useful often are local, inventions and ideas travel across geographical boundaries. It is costly to acquire knowledge, and productive growth occurs in places most capable of innovation. Innovation, in turn, occurs in those places most capable of using and creating information, and this seems to apply to Sweden. See Simon and Nardinelli (1996, pp. 384-413).

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19. According to the *Oxford Dictionary for the Business World* (1993), a multinational corporation is one that has production operations in more than one country for various reasons, securing supplies of raw materials, using cheap labor sources, and bypassing protectionist barriers. Multinationals may be seen as an efficient form of organization, making use of local resources and transferring technology between countries. Multinational firms can also have excessive power beyond governmental control and an ability to exploit host countries, i.e., third world or developing countries.

20. The theory concerning the traditional driving forces behind the overseas expansion of a vast majority of multinational corporations, and innovations created in the home country, is part of the well-known product-cycle theory developed by Raymond Vernon (1966, pp. 190-207). For purposes of analysis, motives often are reduced to a few distinct categories. Nevertheless, from a historical perspective, motives behind the expansion of multinational corporations were often complex, requiring an understanding of the preconditions for expansion.

21. In this study, it was noted that multinationals are mostly American in origin.

22. For the current situation in a postindustrial era, see management author Peter F. Drucker, *Managing for the Future* (New York: Truman Talley Books/Dutton, 1992).

23. An official survey of Swedish foreign direct investments in 1982 showed that 37 percent were in the mechanical engineering industry, 15 percent in the electrical engineering industry, 14 percent in the ferrous and nonferrous metals industry, and 11 percent in transport equipment (*Statens offentliga utredningar* [SOU], 1982, p. 74).

24. In 1992, the United Nations estimated that there are a total of 35,000 multinational corporations in the world and that, of these, about 2,700 or 10 percent have their headquarters in Sweden.

25. Cameron (1989) defined structural change as follows:

> The twin processes of shifts in the proportions of the labor force employed and of income originating in the two sectors are major examples of structural change in the economy. Since about 1950, the most advanced economies have experienced a further structural change, from the *secondary* to the *tertiary* sector. (pp. 14-15)

In the economic structure, the primary sector includes activities in which products are derived directly from nature: agriculture, forestry, and fishing; the secondary sector includes those products from nature that are then transformed or processed, such as through manufacturing and construction; and the tertiary or service sector comprises services covering a wide range from domestic and personal, to commercial and financial, professional and governmental services (Cameron, 1989).

26. Sweden is the largest country in Scandinavia, occupying the eastern part of the Scandinavian peninsula. With an area of 147,000 square miles, Sweden is the

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fourth largest country in Europe. However, it is one of Europe's least populated countries, with a total of 8.8 million inhabitants in 1994. Compared to larger countries such as Japan with 120 million inhabitants and the United States with 240 million, the Swedish domestic market is limited. Therefore, the ability of Swedish companies to compete and expand sales in international markets is essential for industrial growth, and thus also for economic prosperity and maintained standards of living. Consequently, openness is the traditional overriding principle in Swedish trade and industrial policy.

27. In an interview with this writer, Sune Carlson (1992) revealed that different marketing strategies for industrial goods are part of the curriculum at international business schools in Sweden.

28. It is often difficult for international critics to understand aspects of neutrality during this time. But to many Swedes it pointed to the narrow and difficult pathway between occupation and neutrality. Sweden provided a haven for many fugitives from the Nazis. At the same time, with permission from the British, Sweden continued to supply Germany with high-grade iron ore and ball bearings, and only slowly reduced the supply to a half by 1944. Samuelsson (1968) referred to "new acquaintanceships" among people from all walks of life at a time when there was a great feeling of cooperation in the face of adversity during the height of threats of German invasion, in 1943.

29. The export of arms has been controversial; some groups have demanded a total ban on them. The armaments industry is subject to legal restrictions; legislation forbids the export of war materiel and allows the Cabinet to grant waivers on a case-by-case basis.

30. Industrial rationalization can be defined as any approach that has the potential to increase efficiency or output. Reorganization of firms may include closing some manufacturing units and expanding others (horizontal integration), merging different stages of the production process (vertical integration), or merging support units that are duplicating others, thereby eliminating waste, sometimes called downsizing in modern terms. The most comprehensive study about rationalization is Hans De Geer's work "Crisis and Crisis-Policy in Scandinavia During the Inter-War Era," which was part of a research project aimed at investigating the reaction of Swedish society to the setbacks that were caused by the international economic crisis of the early 1930s. (See De Geer, 1972, pp. 359-369, for a summary, in English, of an investigation of the "trend towards rationalization in Swedish industry, more specifically, the ideological and organizational preconditions for rationalization. This has implied a concentration of the 'rationalization movement,' that is, measures that have promoted the development of rationalization without directly being a part of it" (p. 359). De Geer found that "before the First World War the most important form of rationalization was mechanization; however, during the interwar years the rationalization movement began to focus on the restructuring of organizations with the help of 'cost-analysis' and 'time and motion' studies" (p. 360). De Geer proposed that until the years preceding the First World War the predominant form of work management within Swedish industry was very strongly patriarchal. However, the

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system was becoming obsolete as a result of the common endeavors of the trade union movement and the employers' organizations. De Geer pointed out that the common denominator in the 1930s was the development of the state, industry, and labor unions in the widespread acceptance of the need for rationalization, which was a key feature of comprehensive economic planning, part of a smooth adjustment of nineteenth-century ideologies to the reality of the twentieth century. Until the Depression, state intervention in the economic sphere was strongly opposed, but unemployment led to labor's demanding more from the government. The fundamental scientific work management, based on American F. W. Taylor's *Principles of Scientific Management,* translated into Swedish in 1913, aimed at changing the world through rationalizing industrial management. Critics of Taylorism pointed out that the principles of scientific management could not distinguish between man and machine. "The beginning of the rationalization movement in Sweden was marked by a strong dependence on American 'efficiency programs'" (De Geer, 1972, p. 364). But by the 1920s, there was a departure from orthodox Taylorism by advocates of the rationalization movement as new values were being introduced that extended social relations between employer and employee, and there was a growing understanding of the psycho-social preconditions of effective management, as well as more cooperation between business and labor organizations. According to De Geer, "certain features of Taylorism--the fundamental foremanship, the wage system and the unwillingness to acknowledge labor unions--were never successfully implanted in Sweden" (p. 361), mainly because the influence of other ideas was stronger or that Taylor's ideas met with resistance in Sweden, the real explanation lying in a combination of the two reasons. Later, Taylor's simplistic conception of the dynamic interplay between management, foremen, and workers was modified by Henri Fayol and George Elton Mayo.

31. The term *folkhemmet* had been used earlier by Rudolf Kjellen (1912), who stated, "Sweden can only be expanded on its own base as it is intended to be that happy people's home" (p. 56). During a feast in Hogsby on June 17, 1909, it was also recorded that Alfred Petersson stated, "Our society, what is it less than a home for mankind, a big *folkhem?*" ("Pa Boda," 1909). However, the original source of this Social Democratic slogan is most likely Ibsen's play, *The Building Contractor* (cited in Holm, 1964).

32. Political instability, coupled with incidents in the 1930s and increased economic instability, had prompted the public to demand government intervention after a series of strikes in the 1930s. The Cabinet appointed a commission to investigate the best way to achieve industrial peace and ensure industrial calm. In an effort to stave off government interference in their arenas of control and interest, SAF responded to a government commission's (the Nothin Commission) recommendation that the two parties should settle their own debates. Gustaf Söderlund, Managing Director of SAF, seized the initiative. At an address at LO's school in Brunsvik on 25 June 1935, he called for cooperation. SAF and LO were prompted to act together and independently, making government intervention superfluous. (See Appendix for a translation of his address.)

SAF and LO sought to solve problems themselves as third parties demanded to be protected from the consequences of labor conflicts. "Labor and management,

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and trade unions in particular, rejected the idea of legislation, saying the right to strike or impose a lockout should not be limited by law" (Hadenius, 1985, p. 42). Both LO and SAF had a common interest in ensuring that politicians had no reason to make decisions concerning the labor market through legislation.

Following more than two years of meetings, the overall guiding instrument of labor peace, the Saltsjöbaden Agreement, was finalized and signed in 1938 by representatives from the two organizations. They met at the Saltsjöbaden Hotel in a resort community located at the gateway to the Baltic archipelago, just outside of Stockholm. The agreement institutionalized labor peace in Sweden. Under the terms of this historic agreement, negotiations covering wages and all terms of employment are conducted periodically on a national scale (Scott, 1977). An important effect of the agreement was an "obligation for peace" (Martin, 1984, p. 193).

33. According to Pfaff (1995), two arguments surround the "new economic ideology": The first argument maintains that unfettered trade among societies at all levels of economic, social, and political development is an unqualified good and will eventually produce a better life for all who take part in this trading system. This argument is based on observations made by David Ricardo (1772-1823). The second argument says that the sole appropriate criterion for corporate decision making is return on invested capital, and that any other consideration, including concern for the well being of the workforce and of the community in which the corporation functions, distorts economic rationality. Thus, this rules out corporate social responsibility.

34. The established and internationally recognized Swedish model seems to have disintegrated in the 1970s, when labor disputes became more frequent. Many analysts refer to a mass lockout in May 1986 as the conclusive signal that Sweden had reached the end of an epoch when the recession deepened and industrial production stagnated. The success of the earlier postwar stabilization policies designed and implemented by LO, SAF, and the government dominated the labor party. The Social Democrats seemed to disappear or, at best, change complexion significantly. Part of this development can be traced to an increase in the public sector to halt rising unemployment, which postponed the need for structural change. However, perhaps the conclusion that the Swedish model has collapsed is highly exaggerated, as there is always a tendency to inflate the occurrence of unexpected events.

35. See De Geer, *The Swedish Employers' Confederation and Industrial Relations Over Ten Decades* (1992). Regarding industrial rationalization and productivity or, in other words, growth by continuous adaptation to foreign markets and productivity and efficiency, see the comprehensive studies by De Geer (1978, 1988).

36. It is beyond the scope of this dissertation to present an exhaustive analysis of the great rush of social legislation that has characterized the last twenty years to an ever-increasing extent. On this point, the reader is referred to other sources of information, such as "Social Work and Legislation in Sweden," issued by

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37. Other scholars who have taken an interest in the origin of the Swedish model are Walter Korpi and Göran Therborn. However, they did not concentrate primarily on the dominating parties in the labor market, SAF and LO, but more on the entire societal system, the "historic compromise," and the like (see Åmark, 1991).

CHAPTER II

THE SWEDISH ECONOMY AND INDUSTRIALIZATION: THE GREAT TRANSFORMATION, 1810-1914

Introduction

This chapter is an investigation of Sweden's transformation from an agrarian to an industrialized economy. Swedish industrialization can be traced back to the end of the nineteenth century, when the society experienced vast structural changes associated with the process. Historical factors that distinguish the Swedish experience of industrialization include the growth of urban areas and towns and a doubling of the population in the nineteenth century.

By the seventeenth century, Sweden was a great power in Europe (see Figure 2.1), and fear spread through central Europe when it was declared that "the Swedes are coming." However, as every Swedish school child learns, at the Battle of Poltava in 1709, the majority of the Swedish army was destroyed by Russian forces, and Sweden's status as a great power came to an abrupt end.[1] Sweden fell into backwardness, becoming a poor, agrarian economy until the advent of industrialization toward the end of the nineteenth century. At that point, the economic base was transformed from agriculture to industry, based on the natural resources of forests and iron and a focus on exports and international markets.

To understand this transformation in Sweden, it is important to highlight that Sweden's industrial development included synthesizing diverse historical traditions,

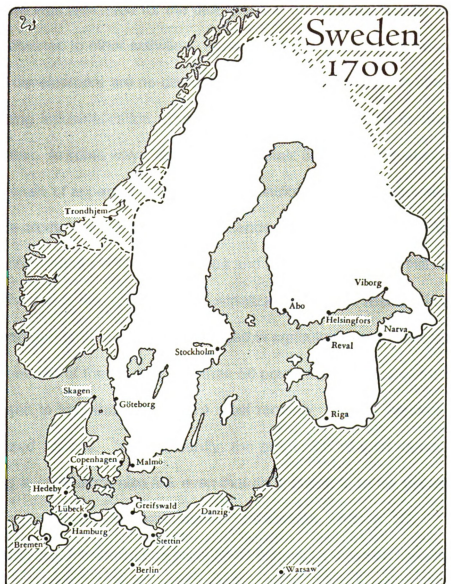

Fig. 2.1: Map of Sweden in 1700.

Source: Heckscher (1954), p. 12.

products of domestic as well as international factors. Prominent among these are geography, population characteristics, and economic resources. As agricultural productivity began to rise, at first slowly and then more rapidly within the past 200 years, there was less need for the production of subsistence goods, and workers could be diverted to other activities. Although changes that occurred in Sweden's industrial development are no doubt somewhat similar to those in other countries experiencing industrialization, Sweden's experience embodies its own particular eccentricities. In some ways, Sweden's economic and social development seems to be a mosaic of apparent contradictions, contributing to exceptionalism.

The process of industrialization extended from the late Middle Ages into the mid-twentieth century in Western Europe and North America. It is still continuing in much of the rest of the world. The industrialization process resulted in a decrease in the proportion of the labor force engaged in agricultural economic activity--from 80 to 90 percent of the total, to less than 50 percent by the end of the nineteenth century, and to less than 10 percent most recently, in most Western advanced industrialized nations. "Concomitantly, the proportion of total income, or GNP, originating in agriculture also fell, even though in absolute terms the total value of agriculture production increased manifold" (Cameron, 1989, p. 15).

When considering industrialization as a process, it can be seen that the time frame for various countries' industrialization differs due to the special conditions embodied in the particular nation's economic history, as well as the social and political development of the individual country. Industrialization spread to new countries from its original center, Britain, the first to undergo an industrial revolution and the first industrialized country in Western Europe. The result was an increased

competition in domestic markets as well as in the world market, a development that particularly hit the old industries, as well as concentration on cotton, coal, and so on.

World Trade and Economic Liberalism

An integral part of the transformation from agrarian to industrial economies was long-distance trade. Such trade had existed since at least the beginning of civilization; however, its importance grew enormously during the nineteenth century. For the world as a whole, the volume of foreign trade per capita grew the most rapidly in the nineteenth century; for example, free trade per capita in 1913 was twenty-five times greater than it had been in 1800. Europe reflected the world trend, with almost two-thirds of the total imports and exports; the most accelerated growth occurred between the 1840s and 1873 (Cameron, 1989, p. 273).

An era of economic liberalism characterized the European economy during the 1800s. Liberalism was supported by intellectuals, patriots, and romantics imbued with eighteenth-century Enlightenment and French revolutionary ideals. The liberal doctrine highlighted greater political, intellectual, and economic freedom for the individual.

The 1840s was an important decade for a loosening of the rigidities of the old Swedish system of regulating industry in general. The break-up of the open field system and the chief legal obstacles to the spread of new modes of production, prompted largely by classical liberal economic doctrines imported from England and America in an era of laissez-faire economic policy, formed the institutional structure for industrialization.

According to Curt Nicolin (1991), former president of the Swedish Employers' Association (SAF) and chairman of the board of ASEA, one of the Swedish engineering firms that expanded outside the country at the turn of the century, the policies leading to free trade and increased competition were vital components of Sweden's industrial development. Because the Swedish market became relatively free from protective barriers, the domestic industries had to compete with industry from abroad for a share of the home market, and export products faced a more open playing field. Nicolin stated:

> We have a very long tradition of, in relative measure, free trade. I can go back to the seventeenth and eighteenth centuries when Sweden produced half the world's consumption of steel and iron with one and a half million people. When the Bessemer process and the charcoal-based steel industry emerged in Great Britain and we [Sweden's iron industry] were based on charcoal, and that was a lot more expensive, we started to compete on the market. In the 1820s there were long debates over this matter, and finally they [the authorities] decided they could not protect the Swedish steel industry. Later that became known as Swedish steel, a high-quality steel, made from charcoal because of the lack of sulfur, and a number of other factors. Literally hundreds of steelworkers died in the process in a short time, and the ones who survived did so because of quality. Today we have to live by other virtues, because anyone can make steel. This was a very important decision, because as far as I know this was one of the very early decisions in which we made up our minds on trade with other countries. And then we have been, in general I would say, among the earliest to liberalize our foreign trade.

The Swedish foreign trade quota started to rise in the middle of the nineteenth century, as the controls of trade were removed and customs barriers were lowered:

> There was a liberal period from the middle of the century to 1890, when the freeing of international trade was accompanied by domestic deregulation. Governments eased control over manufacturing, trade, and financial transactions, and in principle permitted the market to set its own course. Thus, liberalized world trade functioned as a distribution mechanism making the state no longer responsible for the exchange of goods. (Olsson, 1993, p. 9)

The legal status of the joint stock company with limited liability was established by the Company Act. This was an important measure promoting investment and economic growth. Nicolin (1991) considered this aspect of economic reform an integral part of Sweden's business success:

> I think that we are very lucky in Sweden that we have a top management organization in our corporations that is based on the Company Act (Swedish law), which gives us a frame that I think is as good as I have seen anywhere in the world. And I go as far as to say that this is one of the important elements that has made Swedish industry successful.

By the 1870s, the state attempted to abolish all of the old laws or regulations governing the country's economic life. Production contributed to an industrial transformation; subsequently, a considerable volume of free trade resulted in a decentralized market system of private concerns and market prices.

These developments meant that, for Sweden and the rest of Europe, the nineteenth century was a period of industrialization and increased activity. This dynamism was expressed in the movement of people and capital across borders, as well as an integration and internationalization of capitalistic markets. By the dawn of the twentieth century, it was possible to think of a developing world market with Europe at center stage.

Industrialism, Industrialization, and the Industrial Revolution

French historian Fernand Braudel (1985) defined industrialism as the adoption by a whole society of an industrial mode of life. He defined industrialization, which is broader than the industrial revolution itself, as "the transition from a predominantly agricultural society to one which manufacturing dominates" (p. 588), a far-reaching movement in itself.[2] The industrial revolution,[3]

which became visible in England in the 1750s and 1760s, was an extremely complex process that had begun earlier, consisting of both a rapid sequence of events and a long-term process, culminating in industrialization. According to Rostow (1960), the English economy experienced its "take off" between 1783 and 1802, after crossing a critical investment threshold. Therefore, the industrial revolution was an accelerating factor in the entire industrialization process.

Although the industrial revolution signifies violent and rapid change, it can be regarded as being based on long-term development. Everything achieved by the industrial revolution took a long time: coke smelting, the mechanization of weaving, the true agricultural revolution, the steam engine, and railways that ran properly (Braudel, 1985, p. 586).

Strictly speaking, the industrial revolution began in two areas: the cotton and steel industries. Early on, the cotton-based textile industry and cotton factories began to spring up throughout Great Britain. However, it was not long before the unpredictable costs of raw materials and a scarcity of skilled labor forced the industry to make more efficient use of human resources and mechanize its production methods.

The steel industry became mechanized during the first quarter of the nineteenth century. Britain began mining coal, which, due to a series of inventions, became useful for the production of iron. With abundant mineral resources, Great Britain began to build steamships from steel and iron to transport its exports and return with raw materials and products acquired cheaply abroad. Soon British ships dominated the seas and trade. By 1867, English merchants were predominant even in parts of the world that were not under British sovereignty. Nevertheless, it is

important to note that, as the first industrialized country in Europe, Britain's industrialization and economic supremacy did not protect it from domestic problems. Landowners accused the burgeoning middle class of enjoying their newly acquired wealth at the expense of the poorer workers.

However, economic growth must be seen in the context of a wider movement. Economists do not talk about growth in periods earlier than the nineteenth century, and they are far from agreeing about just how it occurs. Braudel (1985) proposed that growth "consists of the process of catching up with the leader" (p. 588). In this regard, it is the effect on the outside market that matters, and this is what is relevant to Sweden's industrial development.

Industrialization and Economic Growth in Sweden

At the end of the eighteenth century, Sweden still retained an almost purely agrarian aspect; in fact, about 80 percent of the population was classified as agricultural (Montgomery, 1939). At that time, occupational divisions were far from clear-cut, but the figure still may be accepted as a good approximation. At that time, the majority of the agricultural population belonged to the peasant class. In some districts where agriculture was hampered by poor soil and an unfavorable climate, the people often were able to gain reasonable well-being by means of part-time subsidiary employment in the iron trade. However, the traditional national export industries, iron and timber, were not expanding, and they could not offer any permanent employment to the masses during an era of an expanding population and structural change. The limitation of output meant that, before the 1830s, iron production had been rather stationary.

According to historian Sture Martinius (1970), the definitive structural change from a slow-growing preindustrial economy to accelerated growth took place about 1830; in various ways, agriculture played a major role.[4] A deep transformation of the agrarian structures in the first half of the nineteenth century created central preconditions for a remarkable industrial breakthrough in the 1860s and decades marked by a massive emigration and increasing urbanization, creating the foundation of Swedish industry.[5]

Few developments in Sweden during the century preceding the First World War were more dramatic than its population growth. The population problem remained a social issue for most of the 1800s. Fear of a population increase had arisen in the 1830s and 1840s; by 1870, the population had grown to 4,169,000, thus doubling in a little more than a century (Montgomery, 1939, p. 189). As a result, there was increased pressure on the land and the traditional agricultural sector. For agriculture to provide a living for a rapidly growing population without lowering the standard of living for the vast majority of the people was no small achievement.

Consequently, one of the major problems during the era leading up to Sweden's industrial breakthrough after the mid-nineteenth century was the need to find other avenues for employment as agriculture became more scientific and thus more efficient, requiring fewer workers. Structural shifts in the economy created some imbalances leading to unemployment.[6] Simultaneously, emigration served as somewhat of a regulator, draining the market of some of its labor supply. Moreover, in 1868, the last year of Sweden's great famines, the country was not yet united in a national market. During the winter, the Gulf of Bothnia was icebound,

and there were only a few local railways. The banks that existed were small, and most of them were local.

The early phase of industrialization began in the 1860s. It developed, based on Sweden's natural endowments--iron, water power, and forests--which were crucial to Sweden's ability to engage in international trade. Rapid economic expansion from the mid-1850s through the 1860s was due mainly to the dramatic export of timber from sawmills.

Before the 1860s, the last virgin forests in the North had no commercial outlet for their products due to a lack of international demand. The undeveloped state of northern Sweden's timber trade was partly a result of transportation difficulties, although this point should not be overemphasized. Even in the early 1860s, a great sawmill of Västerbotten in northern Sweden reported that it took from three to five years to bring down the timber from the more distant forests (Boethius, 1921, p. 95). The long delays in delivery were prejudicial to the industry in various ways, and they also resulted in a relatively heavy loss of timber.

During the early stages of industrialization, as in the past, export products came from agriculture and the small industries located in the countryside. This was true of both the old, well-established iron industry and the sawmill industry. The latter had started slowly, but by the middle of the nineteenth century it had developed fast enough to distinguish Sweden as the world's largest exporter of timber and lumber products--commercial activities all integrated into rural life.[7]

A critical aspect of Swedish industrial development is that industrialization did not set in, in the modern sense, until the 1870s. It was financed by commercial

capital until it entered a new stage of accelerated growth in the 1890s, backed mainly by financial capital.

In the late eighteenth century, 75 to 80 percent of the Swedish population worked in agriculture. By the late nineteenth century, the figure was still as high as 72 percent, even though, meanwhile, an agricultural revolution had taken place. As the agricultural revolution wore on, the population continued to increase, mainly because of a decline in the death rate rather than an increase in the birth rate. These figures reveal some progress as compared to the difficult times in Sweden's agricultural past and the early stages of industrialization, which forced native Swedes to abandon Swedish soil.[8]

The persistent agricultural crises were largely overcome.[9] Only toward the end of the nineteenth century was pressure relieved through growth of industry and commerce, which increased the capacity of industry to absorb unskilled workers. Leading up to the end of the nineteenth century, rationalized agriculture and industrial production stimulated investments in new technology and factories, which led to job creation. In addition, toward the end of the nineteenth century, the urban population rose from 10 percent to more than 20 percent. However, until the 1890s, Sweden remained basically an agrarian country.

Social Modernization

At the same time that Sweden was in the throes of industrialization, Swedish society moved toward an era of social modernization, defined as the mobilization of social resources on behalf of the system of transformation, which can be considered to be larger than industrialization.[10] The attainment of technical skills by an

increasing percentage of the population and a diffusion of knowledge contributed to the development of attitudes conducive to social modernization. In the meantime, industry steadily increased its share of the workforce, profoundly altering the direction of the Swedish economy and society. Science and technology became increasingly prominent, and new elite groups developed, including managers and scientific and technological experts.

At the beginning of the nineteenth century, there were two universities in Sweden: Uppsala, founded in 1477, and Lund, established in 1668. Only members of the upper socioeconomic strata could afford to send their children to private schools and universities for advanced studies. During the liberal era, in 1842, the Swedish government established a nationwide elementary school system. Although it did not overcome inequities in educational opportunity, the educational reform provided a firm basis for mass literacy and individual mobility in the industrial era.[11]

Another measure of modernization was the gradual modification of the status of women in Swedish society. In the nineteenth century, the majority of women were engaged in agrarian pursuits, and a married women was, as a rule, her husband's work comrade. Nevertheless, women were subordinate to men, both legally and socially, and they possessed few rights of their own. Women could not sell or buy property without the permission of their husbands or guardians. They were poorly educated and could be heavily fined if found guilty of adultery.

As we will see, the positive effects of industrialization and a demand for Swedish raw materials from abroad stimulated national economic growth, against a backdrop of integration of the international market. The remainder of this chapter is an investigation of the basic characteristics of preindustry and the key aspects of

Sweden's agrarian heritage, which contributed to Sweden's exceptionalism and the process of industrialization mainly up to the 1870s, the time of the early stages of industrialization. The first part of the chapter concerns the preindustrial era, highlighting some important features related to a move toward industrialization. The second part covers the transition from an agrarian to an industrial economy following the initiation of the enclosure process. There are some general aspects that span the years from 1814 to 1914, the period known as "the great transformation" of the Swedish economy.

In the context of industrialization as a process, a long-term perspective is necessary to understand industrialization in Sweden and its special social and demographic characteristics.[12] Commencing with the break-up of the open field system, the abolition of guilds in 1846, and the subsequent advent of free trade, the Swedish economy entered an initial phase of industrialization in the mid-1850s. Subsequently, industry replaced agriculture as the dominant sector. Nevertheless, the transition from a traditional agrarian economy to an economy based on industrial production, although swift once started, did not take place overnight and was not achieved without some personal and financial hardship.

Tens of thousands of Swedes migrated from the countryside to urban districts. For the first time, in the 1910 census, the agricultural population was less than half (48.8 percent) of the total population. This meant that values appropriate to an agrarian society were no longer wholly relevant. The economic and cultural dimensions of preindustrial times were an integral part of Sweden's transformation.

The Intermediary Position of the Eighteenth Century--Two Worlds

The components of economic development in the eighteenth century reveal Sweden's intermediary position between a premodern and a modern world. Eli Heckscher (1954), lauded as the Grand Old Man of Swedish Economic History,[13] proposed that, in principle, Sweden's economic history can be separated into two distinct periods: *l'ancien régime* and *le nouveau régime.* He said that the line between the two contrasting worlds would be drawn quite late, perhaps not until around 1870, relegating all early periods to a part of the *ancien régime.* Heckscher argued that the relatively late developments leading to sustained economic growth and industrialization in Sweden resulted from the lack of substantial advances in social and economic development in the eighteenth century.

Heckscher (1954) concluded that, during the foundation of modern Sweden, from 1720 to 1815, everything was tried but nothing substantial was achieved with regard to economic and social development and economic theory. However, the period did furnish a climate for change:

> The eighteenth century made few definite contributions to Sweden's economic and social growth, but it did establish the groundwork for much that was to come. Above all, by questioning all social institutions and categorically refusing to accept the sanction of traditions as sufficient *raison d'être* for the social framework, it created the spiritual climate in which the economic transformation of the nineteenth century could proceed. (Heckscher, 1954, pp. 207-208)

During this intermediary period, few serious attempts were made to formulate an economic theory, and there was an inability to appreciate a systematic train of thought in Sweden. In addition, the range of economic literature was quite narrow. Adam Smith's influence was negligible at that time, when most educated people

read German and French. In fact, no complete Swedish translation of the *Wealth of Nations* was available until 1909-1911, when the book was first translated from an abridged German version after Swedes had expressed some interest in it.

A good deal of destruction, adaptation, and restructuring had to be accomplished before the industrial revolution could begin to erode the *ancien régime* of the past. The most spectacular changes preceding the industrial breakthrough in Sweden took place in the classical manner--in the agricultural sector.

The Swedish Agrarian Heritage--The Pre-industrial and Economic Framework

Sweden's peripheral position in relation to Europe, its comparative poverty, and the harsh conditions forming Sweden's historical traits contributed to Swedish scholars' explaining to "continental" colleagues why this or that "typical European trait" did not characterize Scandinavia in general, and particularly Sweden. In attempting to explain the "eccentricity" of Sweden, which found its expression in a distinctive social and political structure, Rojas (1991) cited four intermingled elements that characterized Swedish society from the time of Gustav Vasa's political unification of Sweden (1520) until the middle of the nineteenth century:

> First, the very modest development of urban life, and consequently, the restricted political and social presence of the Swedish bourgeoisie and other urban social strata. Second, the weakness of the Swedish aristocracy, and its character of "state aristocracy." Third, the massive presence of a well-integrated peasantry, never reduced to serfdom and effectively controlling (but not always owners) the factual processes of agrarian production. Fourth, the development of a strong dynastic state based on a privileged relationship with the peasantry. (pp. 65-66)

Swedish towns were latecomers, from a European perspective. These towns had developed during the second half of the thirteenth century, under the

considerable influence of Hanseatic city-states, but their strength in the context of a very underdeveloped monetary economy was not sufficient to give rise to any kind of independent bourgeois environment.

According to official statistics, the urban population in Sweden (excluding Finland) at the beginning of the nineteenth century was only about 10 percent of the total population; this proportion remained virtually unchanged until the 1850s. In 1800, only three towns had more than 10,000 inhabitants: Stockholm with about 76,000, Gothenburg with about 13,000, and the naval base of Karlskrona with slightly more than 10,000 (Montgomery, 1939, p. 32).

Stockholm had failed to keep pace with the general growth of the population and stayed the same size during the last decades of the eighteenth century. As late as the 1820s, it had no more than 80,000 inhabitants. The loss of Finland, in 1809, dealt a heavy blow to the trade of Stockholm, a port located on the Baltic Sea, facing east. The country's capital did not experience a revival until the 1840s and 1850s.

The freedom and strength of the peasant stratum were correlated to the existence of a weak aristocracy and feeble towns, which created a "peculiar symbiosis between peasant freedom and autonomy on one hand, and political contradiction on the other" (Rojas, 1991, p. 67). This symbiosis marked both the people's lack of hostility toward the state and the paternalistic rule of the latter.[14]

Until the late nineteenth century and the era of industrialization, the Swedish nobility were historically weak; this weakness was manifested in the nonfeudalization of the country. The Swedish nobles were not only numerically limited but also very poor in comparison to most of their European counterparts. Further, a very

underdeveloped monetary economy did not build up any kind of independent bourgeois environment, and the small towns contributed to a lack of urban traditions.

According to Rojas (1991), modest urban development, the historical weakness of liberalism, and the absence of traditions stressing the individual rights of citizens all led to different cultural and political traditions in Sweden as compared to the rest of Europe. The absence of traditions stressing individual rights of citizens meant that there was less resistance to central political power in Sweden than in the rest of Europe. These features, according to Rojas, explain why

> most modern European revolutions passed quite unnoticed by the door of Swedish society, and why things so central to Western traditions like the autonomous position of universities or critical and independent role of intellectuals are practically unknown phenomena in Sweden. (p. 67)

Rojas proposed that the "illegitimacy of luxury and the very sober relation to money" are part of the expression of agriculture bearing the mark of a still unchallenged peasant heritage. The peasants detested not only "aristocratic pomp or individualist petty bourgeois swagger, but also any attempt to be noticeably different from the mass of the people or to act without some kind of collective cover" (p. 67).

It is this particular social, cultural, and economic background, including a strong agrarian heritage, a weak nobility, and an absence of a strong, independent urban class, that led Rojas (1991) to conclude that the jolt of industrialization pushed Swedish society toward a need for security and protection, "of safety and confidence, that is so well embodied in the untranslatable Swedish word *trygghet,* a word that better than any other expresses what still today is the conspicuous life motive of a majority of Swedes" (p. 69). The absence of important aristocratic and urban traditions, culturally speaking, had an enormous impact on the configuration

of modern Sweden, leading to the well-known tradition of compromise and nonviolent resolution of conflicts as means of achieving long-lasting internal peace.

Bureaucracy and Social Control

Two long-term factors in Sweden's development are particularly relevant. They are the strength of national administration and its counterpart, local administration and social control. Early in the seventeenth century, Gustavus Adolphus II laid the cornerstones for a strong state administration: royal boards, supreme courts, and counties under State-appointed governors. During the authoritarian monarchy of the late seventeenth century, the Swedish administration was further strengthened (Mörner, 1985). At that time, in the preindustrial era, high bureaucratic positions were held by nobles, and the positions carried high status.[15]

The other long-term factor was local administration and social control, which are equally important but often ignored--the interconnection that existed between the central bureaucracy and locally based or elected authorities. Mörner (1985) stressed the paramount importance of local grassroots authorities as follows:

> It should be kept in mind that for the majority of the Swedes, until the mid-nineteenth century at least, the local community and to some degree the region were normally more important than the national level. The parish and, with regard to justice, the district of the *assize* court, *härad,* provided the framework for people's life from the cradle to the grave. Led by the chief minister, himself elected by the parishioners, the parish meeting was simultaneously the grassroots organ for local autonomy and a vital channel for communication between King and peasants. The interaction helped to ensure domestic peace. These traditions even survived local tension caused by the process of consolidation. (p. 255)

There was an absence of strong aristocratic tradition, with its usual stress on individual rights. Sweden was very much a monolithic society, with a high degree of cultural and ethnic homogeneity and a hierarchical order in which local society

and central state authorities were all different parts of a continuum. The peculiar construction of state power in Sweden was not based on social diversity or any kind of balance of power among various social groups or regions.

Thus, the national state in Sweden was an expression of an unusual social cohesion, unlike in Western Europe, where the national state apparatus often mediated between differentiated and often divergent interests. This kind of integrative and pyramidal relationship between civil society and the state can be regarded as a "suffocating embrace between the rulers and the ruled" (Rojas, 1991, p. 68), which is still evident today.[16]

Contradictory Aspects of Changing Times

Following eighteen years of war, fought mostly on the other side of the Baltic, the Age of Empire progressed to the Age of Freedom in Sweden, 1720 to 1771. This meant that the Swedish population could settle down to productive pursuits. Although some twentieth-century Swedish historians have criticized the corruption of the period, there were some notable achievements. The Enlightenment had rejected the gloomy view and prompted a transformation of outlook and attitude--a belief in progress and the future as the Golden Age. A new spirit descended on the country; a new "utilitarian craze" in an era of social and economic change came to be characterized by a narrow-minded petty bourgeois atmosphere with a concern for material improvements. However, in contrast, there was a genuine enthusiasm for the arts and sciences. The period also witnessed the creation, in 1739, of the Swedish Academy of Science, one product of the intellectual climate. In addition, in 1766, freedom of the press was incorporated into the constitution.

Also, Swedish literature in the eighteenth century assumed a familiar form and became accessible to anybody who had command of modern Swedish, whereas considerable effort and historical training were required before one could enjoy the writings of the seventeenth century (Heckscher, 1954). The Grand Gustavian period, which lasted until the Swedish constitution of 1809, was accompanied by a flourishing of the arts. Hence, a dignified way of life came to play a part in the intellectual and artistic awakening of the times.

Preconditions--The Swedish *Bönder*

As part of its initial backwardness, Sweden missed out on the feudal system and its concomitant economic structure. Peasants *(bönder)* managed to exert considerable political influence and remained personally free (Lawrence & Spybey, 1986).[17]

Swedish farmers never experienced the "yoke of serfdom" during the medieval period, and since consolidation of the early Swedish kingdom, most Swedes had retained an independent existence as small farmers and rural craftsmen (Braudel, 1985). In nearby Russia, serfdom was an increasing burden; there a strong state corresponded to a tightly controlled society, and the lower strata were condemned to produce the surpluses on which the state and the upper classes lived.[18]

The Swedish peasants were never suppressed to the degree that they were in the rest of Europe, and a large portion of them were owners, under the Crown, of their own land (Tomasson, 1969). On this basis they were consistently represented in the Parliaments called by the king, in which peasant freeholders made up the

bonde estate. Mörner (1985) concluded that peasants' freedom was achieved "thanks to occasional rebellions or threats of rebellion but also through their participation as the lowest estate in the late-medieval four-estate diet" (p. 249). The often-passive but not unimportant peasant estate was crucial to putting an end to the inglorious attempts the Swedish nobility made from time to time to achieve real autonomy (Rojas, 1991).

The Swedish *bönder* needed to maintain some independence and land tenancy in order to pay taxes. Therefore, the state authorities wanted to ensure the maintenance of a well-to-do peasant class, which was important for the state treasury as well as social control. Statutes were adopted to prevent an uncontrolled subdivision of peasant lands so as not to impair the prosperity of the peasant class. Even as late as the nineteenth century, there was an element opposed to unrestricted division of peasant land. Farmers supplemented their income with work in the national industries, forestry and iron, located in the rural areas. In addition to the stable peasant class, there were also farm laborers, whom the authorities regarded as a rootless element.

The Swedish *bönder* were not to be provoked, as provocation would create a serious reaction in the Swedish Parliament (Riksdagen). Zaremba's (1987) attempt to capture the unique position of the Swedish peasant is illustrative:

> The Swedish word *bonde* is indeed untranslatable into other languages. The translation problem expresses an exceptional history--the Swedish peasantry has never allowed itself to be constrained to a feudal condition, and it has throughout time exercised a political influence that no other European peasantry has approached. (p. 96)

The existence of a peasantry with its own political representation, forming the fourth estate of the Swedish diet, did not have an equivalent outside the Nordic

countries. The composition of Swedish society during the mid-eighteenth century, the Age of Freedom, is shown in Table 2.1.

Table 2.1

The Four Estates Represented in the Riksdag, 1718-1772

Estate		Percent of Population
Nobility Clerics Burghers Peasants	The four estates represented in the Riksdag	0.5 1.0 2.0 50.0
Unpropertied, disenfranchised		40.0+

Source: Adapted from Carlsson (1975).

A well-developed parliamentary system, guaranteeing representation of the Four Estates of the Realm, had its limitations. Although the propertied farmers were represented, the remaining 40 percent of the Swedish population in the eighteenth century were unpropertied and thus disenfranchised. One of the most important changes associated with industrialization in Sweden was the shift in the social status of the unpropertied peasantry.

Toward Social Modernization

The peasant stratum, the real base and soul of Swedish society until the end of the nineteenth century, was a highly integrated compound of several socially and economically differentiated elements.[19] The dominant group, constituting the majority of the countryside population during the period under consideration in this chapter, was formed by freeholders *(skattebönder)* and the leaseholders cultivating

royal *(kronobönder)* or noble land *(frälsebönder).* (Rojas, 1991). The everyday conditions of these two types of peasants were quite the same with regard to payment of taxes or rents. The essential aspect was their freedom not only in social and economic terms, but also in political terms.

From 1772 until his assassination twenty years later, King Gustavus III favored the three lower estates of the Four Estates of the Realm, the governing body, at the expense of the nobility.[20] At that time, the peasants were allowed to buy landed estates hitherto reserved for the nobles, and many Crown tenants acquired property rights to their lands (Mörner, 1985). For the first time, those who were not nobles gained access to most governmental positions. These changes meant that, since the external peace of 1814, Sweden could advance in economic and social terms.[21]

The new climate spawned an era of social changes and a transformation in outlook and attitudes, one that emphasized development, industrial expansion, and economic growth. As both production and trade grew, new elements of the population rose to leadership in the economy.

Rich merchants in the few cities and ironmasters in the countryside appeared as rivals for status and influence with the landowning nobles (see Mörner, 1977, pp. 94-113). Industrial development and expansion in international markets were, in large part, based on the traditional iron industries located in the Swedish countryside.

"Many of the ironmasters were nobles, but they shared in a community of interests with both the ironmasters of the gentry, who were not represented at all in the Estates of the Realm, and the merchant-ironmasters, who belonged to the

burghers" (Heckscher, 1954, p. 132). Although mostly untitled, they nevertheless were able to attain considerable economic power and held prominent positions in Swedish society. The untitled upper class did not fit into the traditional political division of the four estates in the Swedish Parliament; thus, the new social groupings severed the old distinctions among the nobles, burghers, clergy, and peasants. This development set the stage for a new Swedish society based on class rather than status. Of all groups, the peasants who were represented in the Riksdag (although they lacked veto power) seem to have experienced the most significant shift.

Sweden's Industrial Preconditions--Population Changes and Their Social Implications

In the eighteenth century, agricultural reforms in the rural sector led to the first attempts to consolidate the many extremely fragmented parcels of land of families in peasant villages. At the same time, the internal colonization of land expanded. A critical aspect related to these changes was an increase in the population, which began in 1720 when Sweden's population was estimated at 1.44 million. The crafts were highly regulated then, and this precluded a shift of additional employment to that sector. At the same time, the small factories offered no economic growth potential.

Sweden's unique population statistics illuminate a fundamental aspect of the country's social history--the growth of population, which was a relevant aspect of Sweden's particular form of industrialization and one of its most striking features (see Table 2.2). In the international perspective, the historical study of Sweden's population-growth data can be carried back further than in most other countries. Central statistical data on Swedish demographic history are good from 1749, when

Table 2.2

Growth Rates of the Swedish Population, 1721-1935 (Average Annual Percentages)

Years	Marriage Rate	Birth Rate	Death Rate	Excess of Birth Over Death Rate	Net Increase or Decrease of Population
1721-1735	--	3.24	2.12	1.12	--
1736-1750	--	3.34	3.04	.30	--
1751-1755	.92	3.71	2.63	1.08	1.03
1756-1760	.88	3.43	2.82	.61	.53
1761-1765	.88	3.46	2.90	.56	.53
1766-1770	.83	3.37	2.62	.75	.65
1771-1775	.81	3.13	3.29	.16	.22
1776-1780	.89	3.47	2.49	.98	.94
1781-1785	.78	3.17	2.78	.39	.29
1786-1790	.80	3.21	2.80	.41	.35
1791-1795	.91	3.39	2.51	.88	.84
1796-1800	.80	3.27	2.56	.71	.57
1801-1805	.79	3.13	2.44	.69	.63
1806-1810	.86	3.04	3.20	.16	.21
1811-1815	.89	3.29	2.70	.59	.57
1751-1800	.85	3.36	2.74	.62	.55
1801-1850	.79	3.22	2.39	.83	.81
1931-1935	.72	1.41	1.17	.24	.35

Source: *Statistisk Årsbok* (1952), Table 39.

data collection was made compulsory by law. Thereafter, the population data were collected annually, a forerunner of the Central Bureau of Statistics, established in 1858.

The seventeenth century and the early eighteenth century were a time of incessant war. In addition, famines brought a succession of epidemics into the eighteenth century, contributing to a high death rate. Moreover, in the few cities, some people lived in deplorable conditions in dark holes such as Gamla Stan (Old Town) in Stockholm, resulting in a higher mortality rate than in the countryside (Mörner, 1985). The rising-population trend leading up to industrialization was due primarily to a decline in the death rate, rather than an increase in the birth rate. Whereas birth rates were constant, mortality rates displayed vast fluctuations from year to year, directly reflecting variations in the food supply.

In 1750, Sweden's population totaled 1.78 million; that figure increased to 2.447 million in 1800. The population approached 2.5 million by 1815, the end of the Napoleonic Wars (Heckscher, 1954, p. 135). Finland was part of the kingdom of Sweden until 1809.

One of the main problems resulting from an increase in the population was the necessity of finding a new outlet for employment at a time when the national industries, iron and timber, were not expanding. To provide the historical background necessary to understand the process of industrialization in Sweden, it is necessary to look back to the preindustrial structure of commerce and trade in Sweden before the nineteenth century.

The manufacturing industry--The preindustrial era. In the preindustrial era, manufacturing--in other words, production of goods in manufactories--was a very

narrow concept. In the late eighteenth and early nineteenth centuries in Sweden, the following were categorized as manufacturing or production by hand: the textile industry, sugar refineries, the tobacco industry, some bits of the iron industry, and various minor trades (Heckscher, 1954, p. 183). Practically all leading branches of the Swedish economy were excluded from this group, such as agriculture and handicrafts, as well as mining and metal trades and sawmills.

The distinction between crafts and factories rested only partly on technical and economic differences. The crafts were dependent almost exclusively on handiwork; in comparison, some simple mechanical contrivances played a somewhat greater part in the factories than in the crafts at the end of the eighteenth century. In fact, there was little to distinguish the workshops of the guild masters from those of the factory workers. The scale of factory operations often was very modest.

Table 2.3 shows the distribution of the population of Sweden, including Finland, in 1760. In this table, the population is categorized by estate, by occupation, and by a combination of the two. As seen in the table, few people were employed in the manufactories. Only .8 percent of the total population of 1,837,671 actually were recorded as manufacturers, although 1760 was a peak year for the period from 1720 to 1815.

The records reflect only fully employed workers. There were many part-time workers, primarily women who worked at home for the manufacturers, even though their work often was the principal occupation for the household. If they had been included in the statistics, the combined group of full- and part-time workers would

Table 2.3

Contribution of the Population in Sweden Proper and in Finland, 1760

	Sweden	%	Finland	%
Nobility	8,918	.5	1,727	.4
Clergymen & teachers	14,705	.8	3,592	.7
Gentry	26,943	1.5	5,309	1.0
Servants	39,745	2.1	6,966	1.4
Gentlefolk & servants	90,311	4.9	17,324	3.5
Soldiers	154,208	8.4	66,365	13.5
Court & church servants, etc.	26,013	1.4	6,067	1.2
Lower state employees, etc.	180,221	9.8	74,432	14.7
Merchants	10,500	.6	2,172	.6
Manufacturers	14,431	.8	738	.1
Craftsmen	38,786	2.1	3,967	.8
Shippers & sailors	5,704	.3	782	.2
Other burghers	32,894	1.8	7,120	1.5
Servants	20,055	1.1	3,440	.7
Townsmen & their servants	122,370	6.7	18,773	3.9
Iron & metal makers, miners	58,033	3.2	4,898	1.0
Rural craftsmen	39,532	2.2	11,027	2.5
Millers	10,708	.6	1,639	.3
Rural shippers & sailors	6,599	.4	912	.2
Peasants	888,793	48.2	243,005	49.7
Cottagers	195,557	10.6	51,694	10.6
Paupers & crofters	236,873	12.9	67,697	13.8
Lapps, settlers, etc.	8,514	.5	407	.1
Rural pop. (except soldiers, nobility, etc.)	1,444,769	78.6	381,279	77.9
Total population	1,837,671	100.0	489,808	100.0

Source: Heckscher (1935), vol. II, p. 130.

have numbered 16,000 to 17,000 people engaged in manufacturing during good times (Heckscher, 1954, p. 184; Montgomery, 1939). Therefore, Heckscher estimated that "even during the best years the manufactories cannot have employed much more than 1 percent of the manpower of the country" (p. 184).

Even so, "no other part of the Swedish economy has ever received the care and support that were bestowed upon those industries" (Heckscher, 1954, p. 183)--that is, the manufacturing industry, as defined here, in the preindustrial era. There seems to be no rational explanation for why the authorities gave undisputed priority in economic thought to industries that produced no economic results. In contrast, the production of bar iron, the main iron export product for which there was always a demand from abroad, which was a source of national income and hard currency, was retarded in favor of various iron manufactures for which there was little or no demand.

Even if there had been a demand for semi-finished products from abroad, the skills of industrial workers in Sweden were inferior to those of their counterparts in other countries, such as France, where they were more successful and could be more competitive in external markets. In addition, despite all educational efforts, the Swedish textile manufacturers, in particular, could not meet the demand and tastes of the upper classes and other selective buyers; that demand was largely met by foreign goods. However, the importation of these goods was often prohibited. Before commercial reform in the mid-nineteenth century, many goods found their way into the hands of discriminating buyers through smuggling (Heckscher, 1954). The demand for cheap textiles was filled through domestic weaving for home use or sometimes for distribution on the market.

The most generous conditions for exports could not evoke any sizable export of manufactured goods. In fact, during the period of the foundation of a modern Sweden, roughly 1720 to 1815, manufacturing as an economic activity showed an absolute decline, and employment in manufacturing was cut in half. Sweden's economic policies were based on the assumption that certain branches of industry were indispensable to a flourishing economy.

Subsequently, manufacturing was supported in almost every conceivable way. Competing foreign goods were prohibited, and subsidies were doled out in all forms of cash, and sometimes through donations of buildings and other physical assets. A special tax was levied to benefit manufactories, which received almost all of their "alms" from the central bank, Riksbanken.[22] "As the ultimate decline of the manufactories testifies, their need for support [appeared] to be so great that reduced aid, though still large, was insufficient to enable them to hold their own, let alone allow any further growth" (Heckscher, 1954, p. 188).

The trades that were designated factories and manufactures often were exempt from craft guild organization and subject to special legislation, all part of Sweden's industrial policy in an era when the nation was virtually an agrarian society. At the end of the eighteenth century, the system of regulation as applied to the factories was so flexible as to offer no serious hindrance to the advent of industrialism. "With the great exception of iron, practically all those industries which were prominent in the industrial revolution of Western Europe were in Sweden included among the 'factories and manufactures' and were, therefore, exempt from any very rigorous restriction" (Lindström, 1923, p. 94).

Moreover, the factories represented a more progressive element of trade than the crafts. Further, the legal regulations that governed their activities were far less rigid than the guild statutes.

> According to the regulations in force about 1820, even those who had not received any professional training could set up a factory and they were not obliged to employ a master in their work. Employers were at liberty to engage even female laborers, and it was expressly provided that all people "of whatever sorts and conditions" should be allowed to earn their living by working at the factories. (Montgomery, 1939, p. 35)

The decline in employment in manufacturing and the need to keep the industry alive by protecting it against foreign competition as well as through subsidies meant that manufacturing was not ready to absorb the surplus of labor from the rural population.

> From the historical point of view, it is of special interest that the manufactories of the eighteenth century hardly ever were a point of departure for the industrial development of the nineteenth century. Nobody, to be sure, could have anticipated either the future importance of the forest industries or the rise of the Swedish engineering industry. (Heckscher, 1954, pp. 185-186)[23]

Crafts and Manufactures--Preindustrial Structure and Rural Areas

At least in part because of the absence of large cities, it had long been a leading industrial policy in Sweden that commerce and manufacturing were to be centered in towns. The Swedish authorities adhered to this principle, at least in theory, until the first decades of the nineteenth century. There was to be a systematic division of labor between the urban and rural districts. Both guild regulations and commercial ordinances aimed at maintaining this "rational" division of labor.

While the rural population devoted time to agricultural pursuits, the craftsmen (the second largest group after the peasants) and the manufacturers in the few towns concerned themselves with the production of manufactured goods. It was also the bigger towns, Göteborg and Stockholm, that were the centers of guild life and the location of the merchant houses that were involved in timber and iron exports. The merchants managed the flourishing export business for the *bruk* communities, the ironworks located in the countryside. Both timber and iron were almost entirely rural industries.

But this division of labor was ill suited to the geographical and economic conditions in Sweden. The majority of small towns were outside the big business of the times. They were scattered over a wide area, and they had little to offer the rural districts; their resources were meager, and trade languished. The trade between the towns and the rural hinterlands was, in general, not very active (Montgomery, 1939, p. 25). Modest trade was carried out in most wood products, but in most cases commercial activity was confined to an exchange of town goods, or commodities produced by the "manufactures" and the craftsmen. For the most part, the peasants had little to sell; they were also poor buyers as their demand for manufactured and luxury goods was correspondingly weak.

The rural economy was to a large extent independent and autarchic, rather than being built up around a nucleus of a town organization. Governmental authorities regarded the remote rural areas as too large to be efficiently exploited. For the most part, peasants supplied a considerable part of the clothing, tools, and implements for themselves and for others. In the preindustrial era, domestic production was important because it supplied the great mass of the agricultural

population and less-well-to-do people who could not afford the more expensive wares produced by town artisans and factories. It was the domestic industries of the peasant population that raised the industrial activity of the agricultural districts to something of national importance.

In addition, a tendency to autarchy earlier on was closely related to difficulties of transport and commerce (Montgomery, 1939). Transportation was difficult because of the thick forests that were interspersed with the more densely inhabited great plains in the middle and southern agricultural districts of Scania,[24] Västergötland, and Östergötland, as well as the large forests of Småland, which stretched far into the adjacent provinces (see Figure 2.2).

The long distances to be covered and the small volume of business had an adverse influence on the development of land transport. In a large but sparsely populated country such as Sweden, extension of services and transport was expensive. Nevertheless, thanks to the agricultural population, the roads were better than one might expect: "Their construction and maintenance had required much labor and outlay, borne, in the main, by the agricultural population as a form of public dues. The conveyance of passengers was also in some respects well organized" (Montgomery, 1939, p. 27).

The organization of coach lines was linked to a system of taxes in kind, which had long been a feature of Sweden's public finances. Numerous agricultural holdings were charged with an obligation to convey passengers for a fee determined by governmental authorities. Although this system was organized in different ways, the duty could be very burdensome, particularly during harvest and sowing times. Sometimes the drivers and horses were kept in reserve, on call, and the farmers

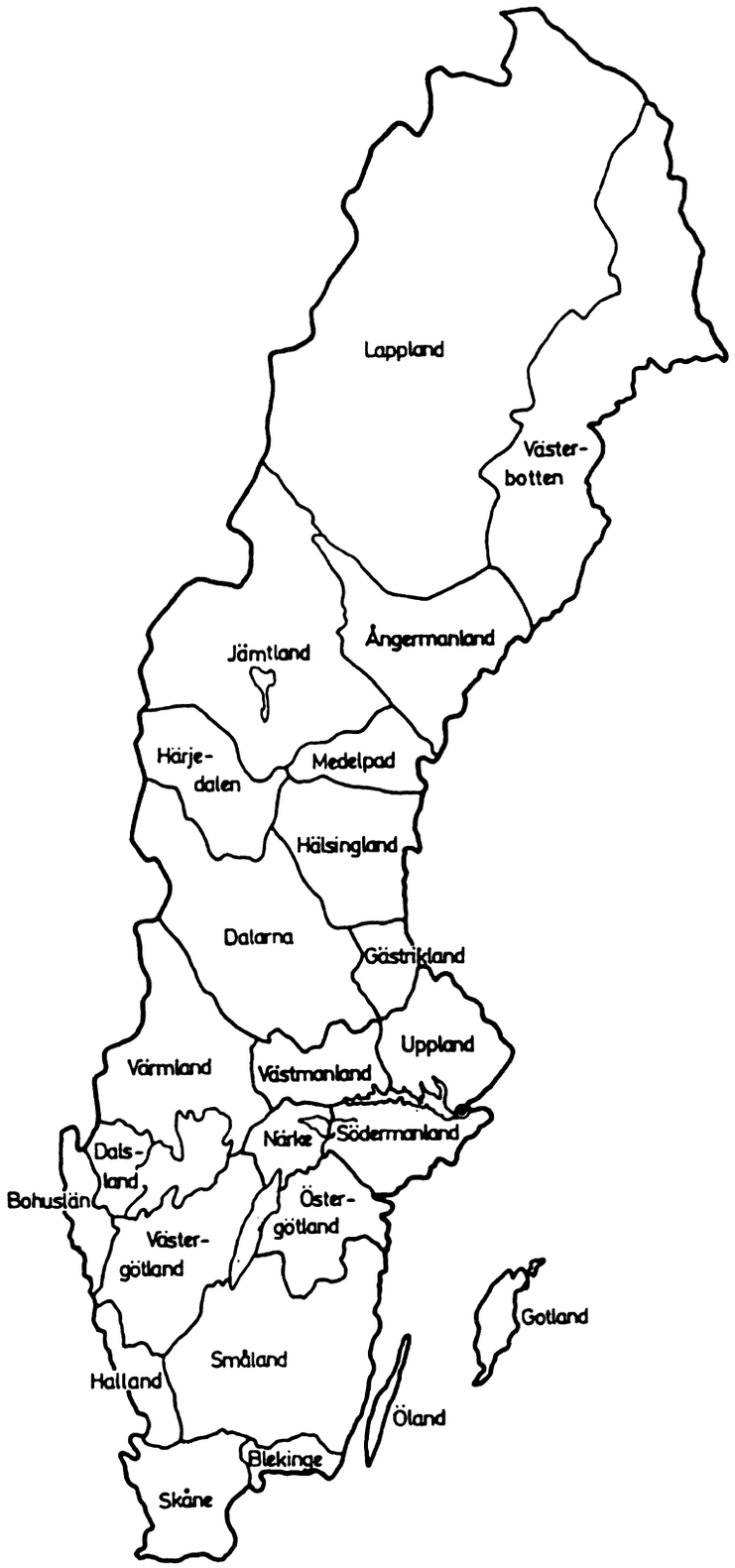

Fig. 2.2: Map of Sweden showing provincial boundaries (scale = 1:4 million).

Source: Rinblom and Norman (1976), p. 15.

had to stay at an inn. Malthus testified to this form of transportation and the low price and convenience to the traveler, which he considered to be at the same time a great waste of labor to the farmer, both in men and horses (Montgomery, 1939). However, "in the latter part of the eighteenth century and the early half of the nineteenth, when the habit of gin-drinking had become very widespread, the loitering at the inn, where liquors were easily obtained, was also undesirable from other points of view" (Montgomery, 1939, p. 27).

Because of the combination of these transportation and geographical circumstances and trade regulations, the peasant households were primarily self-supporting. These features are reminiscent of the familiar pathway from an agrarian to an industrial society, but the Swedish patterns and sequences differ from the British prototype and those of other industrialized countries.

Preindustrial Organization of Work in Agriculture: Cultural Patterns

The most spectacular changes preceding the industrial breakthrough in Sweden took place in the classical manner--in the agricultural sector. By the end of the eighteenth century, Sweden retained an almost total agrarian aspect. The majority of the population in the mid-eighteenth century still lived in villages or hamlets, where the villagers clustered their farmsteads in small settlements. Within its own confines, the village was a closed community, a little world of prehistoric origins, all on its own. The *byalag,* or village community based on a natural commonality of interests that gave rise to a living village, was an independent factor in society and persisted in Sweden for more than a thousand years, right up to the twentieth century.

According to Swedish author Vilhelm Moberg (1984), to understand the attitudes, values, and mental habits of the Swedish people it is necessary to go back to a study of agricultural roots. Moberg described these roots as important aspects of the Nordic soul--the tradition of solidarity and mutual help, firmly established through the ages in peasant villages.[25]

The village organization in the main agricultural districts in southern Sweden dated back to a far more remote antiquity than in the vast forests and mountain areas in the north. Most of the *bönder* inhabited the chief agricultural districts located in Skåne in the south, where the villages were of considerable size. In addition, in the forest districts to the north of the agricultural plains in Skåne, many larger villages grew up around Lake Siljan, in Dalarna in the middle of Sweden (the historic mining district) (see Figure 2.2).[26]

Inhabitants of the village communities joined forces in order to be able to manage themselves and their own affairs. The *bönder* often worked in teams, and group efforts were sometimes carried out in a festive mode. One of the most notable features of peasant culture was the work feast, in which important tasks were completed jointly. This practice was based on the rational arrangement for carrying out tasks on the foundation of mutual help. Within the *byalag,* troubles and joys, "toil and merrymaking, profit and pleasure were rolled into one" (Moberg, 1984, p. 12). Certainly the village's teamwork was often carried out to the accompaniment of food and drink:

> The villager's work feast had many names, varying from province to province. That the Swedish word for ale, *öl,* often appears in these names as a suffix witnesses to the crucial position of this most important of medieval beverages. There were *"slåtterröl,"* haymaking feast, *"taklagsöl,"* the feast when the roof was completed on a new house, the *"byköl"* when the laundry

> had been done, and many others. To these must be added such family occasions as the *"barnsöl"* on the birth and christening of a child, and *"gravöl,"* funeral feast. (Moberg, 1984, p. 12)

Major feasts usually were held at the end of some seasonal work. The hay feast, held during the warm, dry days at the end of July, was often the biggest event of the peasants' year. The great feast of the hay harvest went on all day at the height of summer and continued through the mild, warm night.

It was the village customs and collective resources that contributed to the independence of the *bönder.* From the grasses of the fields the villagers took fodder for their cattle and food for themselves. In the spring, the blue flowers in the flax fields in the countryside signaled the beginning of the work to make their garments. Flax was the basis for making cloth, a lengthy and troublesome endeavor that required a great deal of patience. It took a whole year--from one spring to the next--from the day the flax seed was sown in a plowed field to the day when the linen cloth was spread out on the ground for bleaching.

Before the cloth could be used, the flax had to undergo a complex eleven-stage process; the stages included sowing, reaping, drying, beating, breaking, tawing, heckling, spinning, winding, weaving, and bleaching (Möberg, 1984). Both men and women took part in the villagers' work feasts in connection with the preparation of flax. Division of labor was evidenced by women's first preparing the flax in a special shed, where it was broken, scrutched, swingled, and heckled. The men saw to the sowing, reaping, and breaking. The other stages in the process were carried out by the women, who also, using their needles and thread, transformed the woven linen into garments.

One of the more positive aspects of the village community was its unwritten laws regarding mutual aid and assistance. The communal-assistance scheme was highly advantageous to anyone who found himself in need of help. The *byalag,* the village community or local association of householders, acted as a social assistance organization. Its care for community members extended "literally from the cradle to the grave" (Moberg, 1984, p. 16).

Communal life followed a particular order that the village members themselves had designed and established. Although known in Sweden since the seventeenth century, the autonomous village law was considerably older than that (Moberg, 1984). Some of the regulations could be harsh, and sometimes the village law intervened in private matters that should have been of no concern to the village as a whole.

The closed conformist and conservative peasant society was severely moralistic, and freedom of movement was notably restricted. Often people living in other parishes (the organizational pattern of the state Lutheran church and clergy, which registered inhabitants in the official records) were regarded as foreigners and viewed with suspicion; thus, extraparochial marriages were rare. Some villages forbade anyone to marry outside the village confines, and village councils could fine those who did so. Although offenses against village custom were punished by fines, the penalties, charmingly enough, went into the council's entertainment fund. Offenders were allowed to participate in the feast, thereby receiving a certain rebate on what they had paid as a fine (Moberg, 1984).

The power of the village councils meant, therefore, that the village was the great marriage market within which a man and woman had to find their better halves.

Gradually, as a result, many of the villages became interrelated. Several Swedish provinces had a *fästmögång,* or betrothal round, in which the future bride went about the village collecting flax, wool, and hemp for her new home; each household made its contribution, as custom dictated. In the meantime, her fiancé traveled to all the farms, carrying a sack into which each farmer poured half a peck of grain for the new householder to sow his field the first time. When the wedding took place, the village council bestowed gifts on the bridal couple.

A pregnant woman was an object of special care, and all sorts of attention was showed on her. During her confinement, the village women brought her tasty porridge made from barley grain with a liberal addition of butter. (This custom still survives in Småland in the south of Sweden, the area known as the glass district.) In due course, the *barnsöl* was celebrated, and the new member of the community was welcomed with a gift.

Even though many peasants never were free from the great torments of war, crop failure, and disease (and sometimes all three simultaneously), they did have the support of the village community and its cultural patterns and unwritten laws for mutual aid and assistance. There were long periods of peace and good harvests, free from pernicious and infectious diseases. At such times, relieved of their three main torments, the villagers derived some satisfaction from life. Moreover, the *bönder,* those who owned property, sat in the Riksdag; they had constrained political clout to weaken the hands of the nobility.

Compared to later generations, the peasants' existence was austere. They were not enlightened and had none of the material conveniences of modern society. Nevertheless, the traditions and long-term existence of village life offered some form

of stability to preindustrial society in Sweden, and a form of preconsolidation collectivist values. As long as poor peasants stuck together, they could assert themselves against outside forces.

Through the ages, the traditions of solidarity and mutual help were firmly established in the peasant villages. In some respects, the old peasant communities acted as a model of strong fellowship, both in work and in the feasts that made the hardships of work and agricultural life more bearable.

The cooperative individualist. The internal isolation of preindustrial Swedish society has had an enduring effect on contemporary behavior. Long distances, extensive stretches of forest, and Sweden's intricate maze of lakes and waterways constituted historical barriers to travel and communication. The solitude born of nature's omnipotence helped nurture in the people an introspective individualism and a distinctive pride in personal achievement (Hancock, 1972).

The challenge to survival posed by climate and terrain engendered strong bonds of kinship among families and communities. Swedes also acquired a sense of collective identity that found expression in group loyalty and willingness to cooperate with others. These historical traits of individualism and group consciousness, evident in Swedish preindustrial society, can best be described as attributes of "the cooperative individualist." The fundamental notion of human collaboration and communal interest formed a lasting thread in Swedish social development, taking on a sense of timelessness.

Eventually, through agricultural and land reforms, the Swedish *bönder* adopted more scientific farming methods, one of the prerequisites for the industrialization process in Sweden. They abandoned their agglomerations, the

small villages, and became commercial farmers (Montgomery, 1939). Although the village hayfeast would vanish from people's lives, its idyllic attributes survive in Swedish literature. Strindberg immortalized the village hayfeast in his novel *The People of Hemsö.*

Efficiency measures and reform: The great transformation. The consolidation process and population growth were key factors in the impressive agricultural transformation that began during the second half of the eighteenth century. The process was unique in Europe because it was based on an expansive force of the *bonde* stratum (the highest level of the peasantry), further strengthening their historical position. The economic results of consolidation were higher production, technical progress, colonization of new tracts, and increased demand stimulating the development of nonagricultural sectors. But the enclosure process did not occur without pangs and severely shook the foundation of Sweden's traditional agrarian society.

The *bonde* dominated the modernization of Swedish agriculture, and this had important political consequences. During the nineteenth century, the Swedish *bönder* acquired a new and increasing significance in society. The *bonde* stratum became farmer-owners, and they were outnumbered by the agricultural lower classes, those who depended increasingly on nonagricultural occupations for their survival.

The government sponsored an enclosure movement, involving land distribution and the exploitation of newly reclaimed land in the rural areas, for which capital apparently was available. The slow process of enclosure movements and

efficiency measures initiated in the late eighteenth century led to some successful harvests and the introduction of the potato. As a result, the population increased, as did the number of independent farmers.

Although initiated in the eighteenth century, the consolidation of peasant land was given legal status in 1827. Important efficiency-enhancing measures and reforms implemented early in the nineteenth century yielded meaningful dividends, such as increased productivity, by mid-century. However, agricultural reforms catalyzed a new development. "The process of enclosure severely reduced the economic opportunities of squatters and other poor sections of the peasantry, and compounded the sustained population growth, which led to increased social differentiation and proletarization in the countryside" (Rojas, 1991, p. 69). As the nineteenth century wore on, the number of independent farmers making up the stable peasant class increased, as did the number of landless rural laborers (see Table 2.4).

Table 2.4

Independent Farmers and Landless Laborers, 1775-1870

Year	Independent Farmers	Landless Laborers
1775	1,052,725	548,827
1800	1,102,120	735,427
1870	1,395,543	1,288,206

Source: Adapted from Koblik (1975).

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As the trend continued, for the first time in Swedish history the *bonde* stratum, now farmer-owners, became outnumbered by the agricultural lower classes, who were increasingly dependent on nonagricultural occupations for their survival. Growing numbers of rural people had no jobs, no land of their own, and no future in Sweden. This circumstance is an important part of the explanation of the amazing exodus from the countryside, starting after the disastrous crop failures of 1867 and 1868. Urbanization and, most dramatically, mass emigration are testimonies to a time of distress and a loss of confidence--a definitive disintegration of the old society.[27] Over four decades, a million Swedes from various social classes left the country in successive waves of emigration abroad. A combination of recurrent agricultural crises, wage fluctuations in industry, and an expanding population precipitated that emigration (Rinblom & Norman, 1976).

The registered emigration from Sweden to America between 1851 and 1930 totaled about 1,150,000; the unregistered emigration for the same period can only be approximated, perhaps totaling 100,000 people (Rinblom & Norman, 1976, p. 129).[28] Ironically, the peak of emigration to the United States was at the same time that Swedish industry experienced its first heyday, in the 1870s and 1880s (see Figure 2.3).

At the same time, during the nineteenth century, Sweden's population had more than doubled. In 1800, Sweden had 2.3 million inhabitants. Sixty years later, the figure was 3.9 million, and in 1900 Sweden's population was 5.2 million (Jörberg, 1975).

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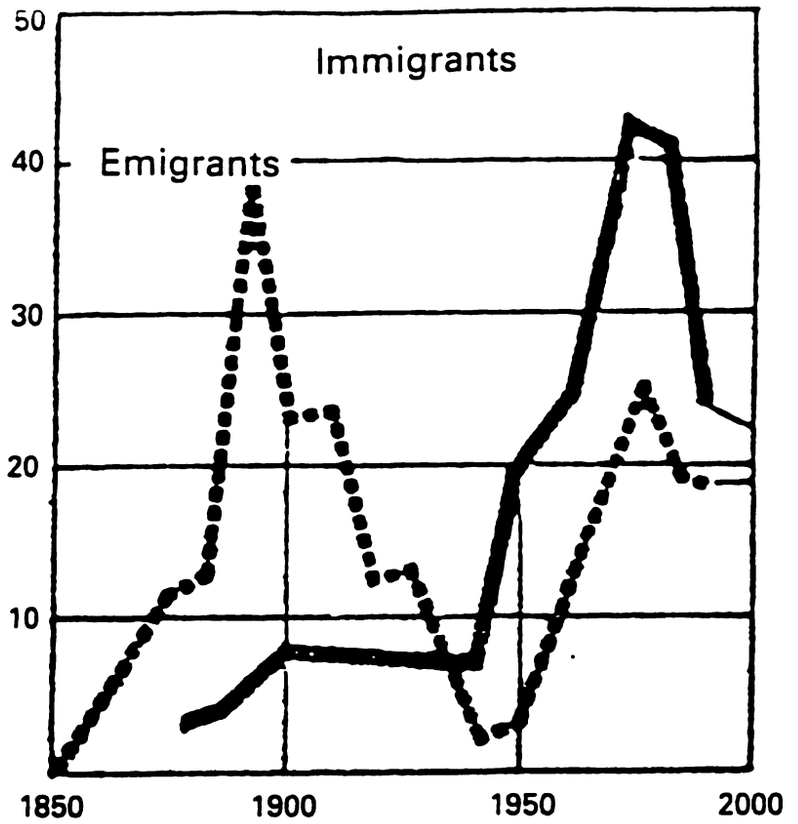

Fig. 2.3: External migration from Sweden (in thousands).

Source: *Statistisk Årsbok* (1988).

Sweden, Switzerland, and Other Latecomers in Europe: Patterns of Growth

To understand Sweden's development, it is important to place it in the context of other industrial revolutions. In continental Europe, there were scatterings of modern industry before 1850, but the industrialization process was hardly under way. Where the process did take place, it was under different circumstances than the "early industrializers," and had different patterns of development.

Britain retained its dominance as both an industrial and a trading nation for most of the nineteenth century, reaching a peak of industrial supremacy in relation to other nations between 1850 and 1870.[29] During the nineteenth century, less

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developed nations began to industrialize, leading to a decline in Britain's dominance. Britain was the last major western nation to adopt universal public elementary schooling, which was important for a skilled labor force (Cameron, 1989).

In the United States, industrialization and national economic growth were spectacular in the nineteenth century. At that time, income and wealth grew even more rapidly than the population. The rapid growth of the American population guaranteed constantly expanding markets, at a time when there was an increased supply of immigrant labor (Cochran & Miller, 1961).

In America, since colonial times, there had been a scarcity of labor in relation to abundant land and rich natural resources. The promise of higher wages and a better standard of living, together with related opportunities for individual achievement and the religious and political liberties enjoyed by American citizens when Europe had burdensome social and political traditions, drew immigrants from Europe.

The American iron industry was mainly rural based until after the Civil War. The railways linked the scattered small-scale industries that were dependent on charcoal technology. With the widespread adoption of coke smelting, the introduction of the Bessemer and open-hearth processes of steelmaking, and an expansion of demand as a result of transcontinental railways, steel became the largest American industry in terms of value added by manufacture. Labor-saving machinery was introduced in both industry and agriculture in the United States.

Despite the rapid growth of manufacturers, the United States was predominantly a rural nation throughout the nineteenth century. Agricultural products continued to dominate American exports, but the nonagricultural labor force

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surpassed the number of agricultural workers in the 1880s, and income from manufacturing began to exceed that from agriculture. In contrast to smaller countries, exports played only a secondary role in the United States economy. In the nineteenth century, manufactured goods were needed to build up the domestic infrastructure. By the 1890s, the United States had become the world's foremost industrial nation (Cameron, 1989).

According to American business historian A. D. Chandler (1977), coal was the driving force in the industrial revolution in the United States; without it, there would have been no water power in New England. The availability of cheap energy led to an expansion of the factory system in manufacturing, particularly in the textile industry in Massachusetts, in the early stages of industrialization.[30]

Other historians have examined American economic growth in an attempt to formulate some general theories of economic growth and development, particularly in the antebellum period, in order to explain the industrial predominance of the United States by the end of the nineteenth century. One of the most widely read books on economic history ever published is *The Stages of Economic Growth: A Non-Communist Manifesto* by W. W. Rostow (1960). The book contains a new version of an old device of economic history--stage theory. Rostow said the crucial stage is the "take-off" period, when economic growth becomes the "normal condition" of a society. In the United States, these crucial years were between 1843 and 1860. Rostow emphasized the stimulative effect that railroad building had on the growth of the American economy and industrialization. However, stage theory seems today to be a conventional approach to understanding the complex and continuous process of economic history.

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In general, European countries' industrialization progressed in different stages of growth, labeled *early* and *late*. Late industrializers had little or no coal within their own borders. Sweden's process of industrialization occurred later, comparatively speaking, than did Britain's; therefore, Sweden is known as a *late industrialized* country. The "take-off" period was not until the 1890s, although the industrial breakthrough had occurred in the 1860s. The nations in the early group of industrializers were led by Britain; Germany was last. Of those countries whose industrialization process occurred after the 1850s (the late industrializers), Switzerland was the first to experience industrialization, followed by the Netherlands, Scandinavia (i.e., Denmark, Norway and Sweden), and the Austro-Hungarian Empire.

Preconditions and Industrialization in Switzerland

Even though some nations became industrialized later than others and in some respects were "backwards," it was indeed viable for every nation to realize the possibility of working around disadvantages and optimizing advantages. However, approaches to this task varied remarkably, based on a country's unique history and resources. In considering individual cases, in the context of later industrialization in Europe, one notices that of the various patterns of industrialization that emerged in the late nineteenth century, those most similar to each other in the sense of preconditions were Sweden's and Switzerland's.

In the 1800s, the Swiss population grew from about two million to four million. About 25 percent of the land was unfit for cultivation, and the major natural resources were constrained--that is, mostly water and timber. The terrain influenced

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how Swiss household economies developed because people were scattered throughout primarily Alpine areas, where they practiced a combination of domestic industry and agriculture, i.e., dairying and farming. Nevertheless, by importing raw materials and foodstuffs as the century progressed, Switzerland became more dependent on international markets.

However, Switzerland's economic structure before 1850 can be regarded as preindustrial, due to the structure of the labor force and the infrastructure. By 1850, less than 4 percent of the Swiss population worked in factories, whereas 57 percent of the labor force was engaged in primarily agricultural pursuits (Cameron, 1989). Most of the industrial workers labored at home or in small workshops that lacked machinery. In the eighteenth century, Switzerland had an important cotton textile industry, based on handicraft processes and part-time labor, but the cotton-spinning industry was eliminated by competition from the more advanced British industry.

Many areas were isolated because the railroad system had not been extended. As a consequence, any changes in the infrastructure had a major influence on Switzerland's development. "Probably no other country in Europe was more radically transformed by the advance of railways than Switzerland, but, paradoxically, no other railways were, as a whole, less profitable" (Cameron, 1989, p. 251). Furthermore, the institutional structure was underdeveloped; until 1850 there was no customs union, no effective monetary union, no centralized postal system, and no uniform standard of weights and measures.

Despite these disadvantages, by 1850 Switzerland had important attributes for the development of the kind of industrialization that centered primarily on human resources. A high literacy rate as well as a strong apprenticeship system provided

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the necessary skilled and adaptive work force who were willing to work for relatively low wages. In addition to possessing valuable human resources, the country also underwent technological modernization.

The Swiss Institute of Technology, founded in 1851, provided engineers who were capable of applying technical knowledge in solving the complex industrial problems that arose at the end of the nineteenth century. Technical training schools were founded throughout the country to keep up with more dynamic developments; these included the Ecole Polytechnique Fédérale, founded in 1855, the Neuchâtel Observatory in 1859, and the Chaux-de-Fonds School of Watchmaking in 1865. (These schools, along with other technical schools founded around the same time, are still in existence.) When the age of electricity dawned, industry quickly turned to the manufacture of electrical machinery, and Swiss engineers contributed many important innovations to the new industry.

Swiss Industrial Development in the Nineteenth Century

Overcoming various "disadvantages," Switzerland was able to achieve one of the highest standards of living in Europe by the beginning of the twentieth century. Success in international markets resulted from a unique and unusual combination of advanced technology and labor-intensive industries, which required skilled workers to produce high-quality, high-priced, and high-value-added products (Cameron, 1989). These patterns can be detected in the history of some of Switzerland's important international enterprises, such as Nestlé, Piaget, and Brown Boveri.

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Nestlé. In many cases, merchants played an important role in making Swiss products, ranging from textiles to machines, food and beverages, clocks and watches. One of the world's largest food companies was started by a merchant and small craftsman, Henry Nestlé, who was born in Frankfort-on-the-Main in 1814; in 1843 he moved to Vevey, close to Geneva, in the canton of Vaud. At that time, the infant mortality rate was high; one in five babies died before the age of one. Nestlé was an inventor and a merchant--a man of his times in an era of new ideas. He decided to manufacture a product based on wholesome Swiss cow's milk, and in 1866 he started a company to manufacture baby food. Subsequently, Nestlé's baby cereal went on sale simultaneously in Switzerland and Germany. The Swiss entrepreneur developed a sales organization in France and took on an agent in Paris; his brother Georges, an employee of the Crédit Lyonnais bank in Lyons, became the chief distributor (Heer, 1991).

Although Nestlé's product was popular and established a reputation for quality, the business did not enjoy immediate success. As sales began to escalate, the Franco-Prussian War broke out (1870-1871), disrupting the business. Soon after the war, given the small size of the Swiss market, the company had to expand very quickly. The pressure for expansion eventually led to an alliance between the Nestlé firm and the Anglo-Swiss Condensed Milk Company, which became the basis for one of the leading multinational enterprises in the world, Nestlé S.A., which still has its corporate headquarters in Vevey, on Lake Geneva.[31] "Although it has remained faithful to its Swiss origins, Nestlé has evolved over the years into the most internationally oriented multinational in the world" (Heer, 1991, p. 516).

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Piaget. While factories producing textiles and machines and iron workshops began to become widespread throughout the Swiss-German cantons, watchmaking was a growing industry in some French-speaking cantons (Heer, 1991). Many watchmakers worked at home, whereas others were employed in the numerous factories built during the course of the century. The manufacture of clocks and watches continued to be characterized by handwork by highly skilled artisans. The Swiss watch conquered foreign markets--first Europe, later the Far East, and finally the United States.

One example is Piaget, which originated in the hills and silent forests of the Swiss Jura, where generations obeyed the rules of order and harmony associated with the precision of watchmaking. Here one has time "to live in harmony with the seasons" (Piaget, 1995). The serene hills of the rural setting, as well as the special light in this area of Switzerland, contribute to the patience required for the close work, which is firmly attached to a long-standing tradition.[32]

Piaget's history started to unfold when the first watches signed by a member of the ancient Swiss-Jura family appeared in the 1820s. The watchmakers concentrated on making the watches as slim and elegant as possible. This required the development of a micromechanical technology aimed toward crafting ever-thinner watches. Piaget watchmakers took their skills to France and England. Piaget almost became an American watch, but a change in the family fortunes prevented young George Piaget from emigrating across the Atlantic. As early as 1874, he founded the Ateliers de La Côte aux Fées, in his home village, overlooking the forested Jura hills uniquely devoted to the manufacture of movements (Piaget,

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1995). The Piaget firm continued as a family business, characterized by pride in fine workmanship and a concentration on the high-end, specialized luxury market.[33]

Brown-Boveri. Throughout the nineteenth century, the Swiss railway system gained in importance for industrial development. At first, Swiss investors were reluctant to invest in their own railways; instead, they invested in American railways. It was mainly French capitalists who financed the Swiss railway construction, which began in 1850s, and in 1882 the first of the Alpine tunnels, Gottard (Gotthard Pass), was completed. However, because high construction costs had contributed to bankruptcy, in 1898 the Swiss government purchased the railways from their largely foreign owners at a fraction of their actual cost, forming the Swiss Federal Railway (SBB) system. Shortly afterward, the government undertook the railways' electrification.

In 1891, Brown, Boveri & Co. (BBC) was founded in Baden, Switzerland, outside of Zurich. The transport segment of the enterprise manufactured the first electric locomotive for direct-current operation, followed by the first rail system powered by three-phase alternating current, in 1895. In 1899, BBC reached another milestone, the first main-line locomotive for three-phase alternating-current operation (Asea Brown Boveri [ABB], 1995; study visit to ABB headquarters, Baden, 30 May 1995).[34]

Other industrial developments. Although Switzerland lacked coal and had only small iron ore deposits, by relying on imported raw materials an important industry developed for the transformation of metal. Beginning in the 1820s, given the importance of water power to the economy, the manufacture of machinery for the

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cotton-spinning industry expanded to produce waterwheels, turbines, gears, pumps, valves, and a host of other highly specialized, high-value products.

The iron industry, which a mere sixty years earlier had obtained raw materials exclusively from the Jura and Gonzen regions on the Rhine, was able to use scrap and foreign ore shipped into the country by rail. The rail system had been growing steadily since 1847, when the first train plied between Zurich and Baden. Industrialization led to the production of machinery and specialized products, as well as chemicals and eventually pharmaceuticals. In addition, engines, locomotives, freight cars, and boilers for steamships were being produced in Switzerland.[35]

In other industrial developments, from 1865 on, there were a number of cotton mills in the Swiss cantons of Zurich, Aargau, Thurgau, Glarus, and Saint Gall. Power looms had been introduced in the eastern part of the country.[36] The weaving of linen also was becoming mechanized, and by that time the Swiss textile industry had its own machinery. Cotton cloth printed in Glarus was sought after throughout Asia, and Saint Gall embroidery and lace were particularly popular in England and the United States. Silk weaving from Basel, Bern, Aargau, Thurgau, Appenzell, and Zurich was exported in great quantities to the United States, and silkworm farms flourished in the Italian-speaking Ticino region (Heer, 1991). The silk industry contributed to Switzerland's economic growth in the nineteenth century in terms of employment and export. Overall, textiles and related products dominated Swiss exports throughout the century.

In sum, during the latter half of the nineteenth century, despite late industrialization and a lack of coal and iron deposits, the combination of a well-trained and literate labor force and local skills, as well as an ability to produce high-

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quality items that found a niche outside of Switzerland, resulted in the development of Swiss industries with expansion in international markets. These developments provided the base for continued dependence on international demand, including tourism from the 1870s, and financial services after World War I. In short, the experience of Switzerland shows that it was possible to develop sophisticated industries and a high standard of living without indigenous coal supplies or heavy industries. This development led Cameron (1991) to conclude that there is no single model for successful industrialization.

Economic Modernization and Economic Liberalism in Sweden: The Institutional Frame

Overall, internationalism, especially economic internationalism, characterized the nineteenth century. In Sweden, as elsewhere, the two main obstacles with regard to the speed and possibility of integrated markets and an internationalization of business receded in an era of economic liberalism, which typified the European economy during the 1800s. The first obstacle was "natural": The high cost of transportation, especially land transportation, gave way to railways and improvements in navigation, such as ocean vessels and sea navigation. The second was imposed by the regulation of international markets via tariffs, customs duties, and other restrictive measures. It was necessary to overcome rigidities in the infrastructure and displace tight controls through a more flexible and expansive economic policy, even though protectionism raised its head again by the turn of the century. Both of these obstacles were overcome as the century progressed.

The infrastructure--Transportation and communications. Development of the infrastructure was critical to advance the early stages of industrialization in Sweden.

However, investments in transportation varied a great deal from one year to another. Because Sweden was late to industrialize, and also because the domestic industries did not flourish, there was a lack of investment capital.[37]

At that time, the Swedish government stood aloof from operations regarding long-term borrowing abroad. Other long-term investments in Sweden were most likely insignificant. It was not until the 1830s that Swedish bonds began to get a market abroad, chiefly in Hamburg.

With regard to advances in transportation, land was the most important factor. Sweden had the advantage of a long coastline,[38] which provided easy access by sea transport via the prime waterways. Lake Mälaren provided transport for the iron industry in Västmanland, and the great lake of Vänern, with an outlet in the Göta River, offered similar facilities for the iron districts of Värmland. But the value of these primary waterways was reduced because of ice obstruction in the winter. Sea carriage was hampered by similar difficulties in the northern Baltic, where icebreakers still are required for winter passage.

However, changes in water transport during the nineteenth century were far less revolutionary than those in land transport.[39] By that time, basic roads were good because of public funds. Coach fares for the public were inexpensive, although it was costly to transport goods, especially iron due to its weight. Moreover, Sweden did not yet have a developed highway system by the mid-nineteenth century. Such a system was important in an extensive and sparsely populated Sweden, especially in Bergslagen, the seat of heavy industry and the historic center for Sweden's ancient iron industry. Therefore, due to high costs and

an underdeveloped infrastructure, heavy and bulky goods could be carried over basic roads only for short distances.

The iron trade particularly suffered from difficulties of road transport, and waterways were preferred to roads whenever there was a choice. Iron and ore were shipped on boats and barges on lakes and streams, and road transport was used only across the stretches of land that separated river systems. This means that the system could work satisfactorily only in a few favored places. The transportation of heavier goods was limited almost entirely to the winter months. Summer transport took place only when delay was impossible (Heckscher, 1954).

Hence, during the cold months, the winter roads[40] permitted transportation across land and ice. But in the summer, transport of heavy goods was encumbered by an intricate combination of land and water transport, with constant unloading and reloading. The highways were followed to the next port or loading place, and the cargo was shipped along lakes or rivers. Sometimes the same cargo was reloaded up to a dozen times (Heckscher, 1954). Breaks in transport resulted in correspondingly higher costs and loss of time.

After several insignificant efforts at the beginning of the nineteenth century, the first horse-drawn railroad was built in 1849 in the province of Värmland; it remained in operation as late as the 1870s. These early railroads used the same traffic paths as the basic roads, and they were designed to serve as links between the waterways. This form of transporting goods remained in use until the introduction of railroads in the late 1850s.

Railroads. The era of economic liberalism and free-trade agreements coincided with a time when interference in the economy was most pronounced in

railway construction. One of the few fields in which the state did extend into planned economic development during the Liberal Era was in the building of a state railway system. In the 1840s, the Riksdag discussed whether Sweden was to have a system of private railways with state subsidies or a state railway system; the same type of discussion was occurring all over Europe. The question was settled by means of a compromise decision in the Riksdag in 1853-1854, in which the Parliament decided that it would be in the national interest to build and operate a number of trunk lines between the nation's principal centers, in order to prevent "vacillation and planlessness" in railroad building (Andersson-Skog, 1996). The state would assume responsibility for the national trunk network, but it was up to the nonstate interests, business and industry, and local governmental authorities to build regional and local railways.

The actual creator of the Swedish railway network was Nils Ericson, a born leader and brother of John Ericsson of *Monitor* fame. Ericson evolved a design for a complete Swedish railroad network, and he worked with immense force and unwavering purpose to realize his plan (Heckscher, 1954).[41] Ericson wanted the state to control the main interregional trunks of the railroad, and private lines were to link to the state system. This meant that the private railway had to accept the policies dictated by the government.

Ericson's map of the primary railway system was realized with few changes. He was able to accomplish this feat because he was supported by Finance Minister Johan August Gripenstedt, who threw himself into the battle on Ericson's side during an era of unusually bitter parliamentary struggles about the projected railroads. Ericson emerged from the fray with the major outlines of his grand design.

Loans were issued abroad for the railway system's actual construction, which was carried out gradually so that traffic on the line could pay the interest on the loans. An influx of credit from Germany and the United States led to the creation of a national railroad system, which was undertaken under state auspices in the 1850s. However, the first short stretches were not opened until late in 1856, and the construction of the state railways and private railroads progressed slowly.

Regulation and Economic Policy

As late as the 1830s, regulations in the Swedish Board of Commerce had been consciously designed to prevent capitalist development. Starting in the 1840s, in England and then elsewhere, many liberal reforms were enacted, forming the institutional basis for industrialization. During the 1850s and 1860s, as the Swedish foreign trade quota started to rise, a leading political figure, Finance Minister Gripenstedt, was able to loosen the rigidities of the old system of regulating trade. His measures included (a) doing away with all prohibitions against imports and exports, (b) abolishing all export duties, (c) reducing import tariffs on manufactured goods, and (d) significantly establishing free trade in agricultural products.

The Era of Free Trade

The official Swedish economic policy for the mid-1800s dictated that the state would avoid collaboration to support market production.[42] The state was to remove all obstacles to free competition, based on what has been described as a generalized doctrine in business economics, economic liberalism, allowing for the diffusion of new modes of production.

An important institutional innovation for the further development of industrialization was Swedish legislation establishing the modern firm in terms of the joint stock company with limited liability, an *aktiebolag* (AB). The innovation was introduced in two stages, the first in 1848 and the second in 1895, when the principle was eventually embodied in law. In the meantime, the Supreme Court interpreted the law case by case, and while the attitude was pragmatic, it was also just in time to give legal backing to the new large companies that were being founded at that time. The limited-liability company was governed by the Companies Act.[43] The main advantages of incorporation, before an era of investment banking in Sweden, was that it served as a legal device for mobilizing the savings of many small businessmen. In addition, the Royal Ordinance of 1864 on the extension of free trade meant that every Swedish man and woman was entitled to carry on any business such as commerce, manufacture, and handicraft.

The rationally managed Swedish firm was regarded as the economy's most important component, one that should be allowed to operate unhindered. The decree of 1848 came at an opportune moment when the progress of the timber and iron industries and the advent of the railroad age called for capital association on a far more imposing scale than before. In the 1860s and 1870s, during an economic boom era, there were great waves of company promotion. Then many firms converted into joint stock companies, and numerous new companies were launched.

The growth of the world economy: Sweden and the Cobden-Chevalier Treaty. In the meantime there were new developments in expanding international trade, which would prove to have a strong influence on industrialization and economic growth in Sweden. An increase in population and an improved standard

of living brought about the expansion of markets in Western Europe, following free trade measures adopted in England in the 1840s. The excessive duties, which had been in force since the Napoleonic Wars, were lowered; these duties had restricted the import of foreign timber and the distribution of Swedish exports.[44]

Following the American Gold Rush in the 1850s, which touched off a rise in prices internationally, an interest in trade agreements surfaced. A major free-trade development was the Cobden-Chevalier Treaty of 1860, an Anglo-French pact.[45] One of the leaders was Michel Chevalier, a professor of the principles of economic liberalism and free trade at the College de France since 1840. He had traveled widely in both Britain and the United States.

The treaty with England, arranged by Chevalier's friend, Englishman Richard Cobden, led to signing the pact in January 1860. In the early 1860s, France negotiated treaties with Belgium, the Zollverein (Germany),[46] Italy, Switzerland, the Scandinavian countries, and almost every country in Europe except Russia. Moreover, in addition to this network of treaties, other European countries negotiated treaties with one another that also contained the most-favored-nation clause.

In the meantime, there was a major change in commodity trading in mid-century. Finance Minister Gripenstedt had strategized to get Sweden into the enlarged fold of the Cobden-Chevalier Treaty of 1860, without consulting the Riksdag at the early stages of negotiation. When the proposal was submitted to the governing body, the members initially were hostile. Nevertheless, by the time the covenant was voted on in the Riksdag in 1865-1866, almost a decade later, quick approval was forthcoming. Members either moved toward the middle in a form of compromise or demonstrated a lack of interest (Heckscher, 1954). The French

treaty appeared on the agenda at the same time as the reform bill introducing a two-chamber system in the Riksdag to replace the four-estates system.

This treaty with France essentially widened the export market for Sweden. It embodied a "favored nation" trade clause, which loosened some of the previous tariff constraints. The result was an expansion of trade and a general reduction of tariffs. Significantly, for a decade or more, between the 1860s and 1870s, Europe came as close as it ever had been to completely free trade (see Figure 2.4).

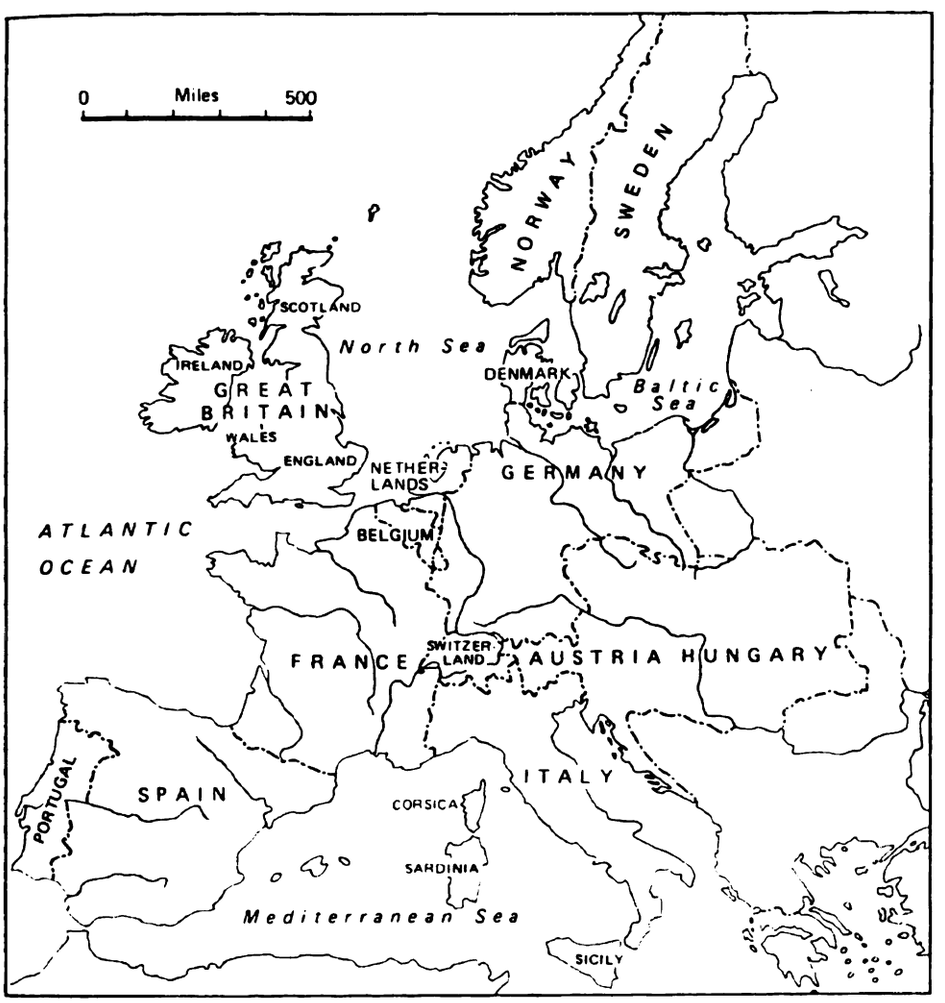


Fig. 2.4: The Europe of the trade treaties, 1871.

Source: Cameron (1989), p. 277.

The network of trade treaties, which had accelerated as a result of British reforms in the 1840s, increased international trade by about 10 percent per year for several years (see Cameron, 1991, pp. 277-278). Another consequence of the treaties was that various countries had to reorganize their industry as they were forced into greater competition. Inefficient firms and industries that had been protected by tariffs and prohibition had to modernize and improve their technology or go out of business. Thus, the treaties promoted technical efficiency and increased productivity, and they also increased pressure to develop human resources. These developments also occurred in Sweden.

Thus, various reforms initiated by Finance Minister Gripenstedt made freedom of trade a leading principle. By 1870, virtually all restrictions that had existed earlier in the nineteenth century, which had their roots in eighteenth-century economic policy, had been abolished--the old static economic system of regulations and a controlled economic life. At that time, most of the privileges and regulations of the "old society" had been abolished in Sweden. Progress was regarded as a natural law, "which does not clash with the principles of equality in what concerns income distributions" (Åkerman, 1951, p. 170).[47] Liberal doctrine had become an accepted principle, and the choice seemed justified by the swift developments during the latter part of the nineteenth century.[48] The main reforms of the period are synthesized in Figure 2.5.

Compulsory Elementary Education Act of 1842

Replaced the Church Law of 1686 and made priests responsible for teaching every person in their parish to read and write. It called for all parishes to have at least one permanent or itinerant school in operation by 1847. Compulsory schooling was financed by local governments. Sweden became the most literate country in Europe.

Guild Restrictions Abolished (Freedom of Trade Act of 1846)

Guilds had been established outside the cities and reached their zenith in the eighteenth century. But even then, a majority of craftsmen were outside the system; trade was restricted to towns.

Joint Stock Companies, 1848-1895

This established the modern firm in terms of a joint stock company with limited liability. This reform was introduced in two stages, in 1848 and in 1895, when it was embodied into law, just in time to give legal backing to the new large companies founded at that time. Until then, cases were decided individually by the supreme court, which exhibited a pragmatic attitude.

State Railroad Program, 1854

The Riksdag passed a bill and completed gradual repayment of loans by World War I. The national railroad grew ten times in length by 1880, facilitating rapid transport of agricultural products, as well as iron and timber. Geographical isolation ended.

Royal Ordinance of 1864

Every man and woman was entitled to carry on any business, such as commerce, manufacturing, and handicrafts. Freedom of trade became a leading principle. A liberal trade policy lifted import and export bans, customs duties on agricultural products were abolished, and tariffs on industrial products were lowered. Parliament agreed to Sweden's joining the Cobden-Chevalier Treaty between France and England.

Riksdag Reform, 1866

The four-estate system--comprising nobility, clergy, burghers, and peasants--was replaced by a two-chamber Riksdag, proposed by Minister of Justice Louis De Geer. The four groups had equal rights. The upper chamber was chosen by indirect vote and had high electoral qualifications; thus, the stamp of the upper chamber was its landowners and magnates of commerce and industry. Members of the lower chamber were chosen by direct vote, and were limited by a property qualification. This reform put the farmers in a stronger position than before.

Fig. 2.5: The institutional framework: Liberal reforms, 1840-1866.

Demand for Swedish Raw Materials From Abroad: Timber and Capital Requirements

In the absence of state intervention in commerce and trade, the focus was turned on international economic expansion. The export industry was important for the national wealth and currency needs of the Swedish economy. Before the 1850s, the amount of foreign capital was small, and lack of expansion in international markets meant that Sweden did not have much foreign currency with which to purchase imports. There was also a shortage of domestic capital to pay interest on foreign loans. Agriculture offered limited possibilities for economic growth and expansion, compared to the immense forest assets and great mineral resources. However, forest industries were underdeveloped and the iron industry was not expanding, due to the international competitive situation going back to the eighteenth century. Leading up to the mid-nineteenth century, export figures indicated that, of the two national industries, iron and forest products, forests offered the most immediate economic growth. However, there were many limitations on expansion; these were related to previous lack of demand and transport difficulties.

Before railway lines were constructed, timber could be floated along rivers. But as long as the floating courses remained in more or less a natural state, the floating operations often experienced a great loss of time due to natural obstructions, as well as a loss of timber. Considerable capital was necessary to improve floating conditions; this was a formidable obstacle in view of Sweden's weak capital resources. Yet the international demand for timber remained rather weak, and the costs of production had not been reduced. It hardly seemed safe to sink much capital into floating enterprises. Only when market conditions changed was there

a reasonable prospect of gain, which justified dredging and cleaning out natural floating ways to allow a more active stage of production.

In addition, the sawmills had to be located in the immediate neighborhood of the sea or a navigable river so that sawn goods could be put on board without further delay and shipped off to various markets. As long as the mills were dependent on water power, there was no free choice in this respect; the mills had to be built close to a waterfall. Consequently, the sawmills often were situated a considerable distance from the coast, resulting in further loss of time in conveying finished goods to the seaboard. Moreover, the sawmills remained on an unpretentious scale as long as the mills were equipped with simple water wheels as a source of power.

However, by the 1830s, the type of economic organization (similar to the prevalent system at the end of the eighteenth century) started to change when foreign trade statistics disclosed new tendencies and foreshadowed the "advent of a new era." Although iron exports were not increasing, the timber industry entered a period of more rapid growth. As a result, the domestic market gained a source of capital in the rapidly growing timber industry.

In Sweden's foreign trade, for a long time timber was far less important than iron.

> In the latter half of the 1830s, some time before the great timber boom, the average annual value of Swedish exports was given at about 29 million kronor. Out of that sum perhaps 16 to 17 million--possibly even somewhat more--represented iron exports. Timber counted for something between 4 to 6 million (circa 20 percent). Its share in the total value of exports had been somewhat less at the end of the 18th century though statistical comparisons are rendered a little difficult by the fact that Finland, at that time, formed part of the Swedish kingdom. (Montgomery, 1939, p. 21)

The Swedish timber industry has a long history. The wood-products industry made its breakthrough in the 1850s, when semi-finished and finished products began to be sold abroad on a large scale alongside the traditional timber exports. By the 1840s and 1850s, it was becoming increasingly evident that the foreign demand for timber was expanding with unprecedented rapidity. "Saw milling pioneers and forest buyers penetrated to districts which had previously been considered altogether beyond the confines of trade" (Montgomery, 1939, p. 88). Linked-up waterways and a network of floating ways united distant forest areas with sawmills on the coast belt.

The British demand for timber created an enormous boom for the Swedish wood-products industry in the period from 1850 to 1880, initiating Swedish industrialization. The spectacular growth of timber resulted from the demand for products from the sawmilling industry. This demand was mainly from Great Britain, where two-thirds of the population was urban by the mid-eighteenth century. At that time, large investments for construction in English cities created a demand for timber products that could be supplied only from abroad. When the timber boom began in the middle of the nineteenth century, sawmilling was rapidly transformed into Sweden's leading industry.

The newly formed industrialization process based on higher demand linked the vast reserves of forest products in Norrland with international markets in the 1840s and the 1850s. This remote area in northern Sweden was somewhat isolated from the main trading centers because of the poor transportation situation, before the development of railroads. Nevertheless, in this remote region there was another

ample natural resource, water, and rapid rivers provided a seasonal convenience in floating timber toward Baltic ports.

Timber exports escalated in the mid-nineteenth century; these exports were sold through industrial trading houses. "An abundance of wood, a labor cost advantage at the time vis-à-vis competing nations, a rapid increase in English demand for sawn timber, and the introduction of the steam engine laid the foundation for the expansion of timber yards along the Swedish Baltic coast" (Porter et al., 1991, p. 84).[49]

Swedish timber exports increased rapidly for a number of reasons. The first was a growth in population and an advance in the standard of living. Second, in the 1850s, exports were temporarily stimulated by the Crimean War and a check on Finnish and Russian competition. In the 1860s there was renewed expansion, and by 1870 the export of sawn and plane goods was about double the quantity exported in 1856. Third, improvements in sawing techniques meant that sawmilling operatives could meet increased demand by adopting steam as a motive power.

Compared with the iron trade, the organization of sawmilling was very loose. Tradition counted for less, and legal restrictions were far more difficult to enforce. It was well known that cutting exceeded the acceptable limits.

> Even in the 1850s and 1860s the iron industry preserved much of its former historical setting; the transition to new conditions had much more the character of steady growth than in the timber trade. The timber industry was expanding at a much more rapid pace, and there was also less of historical tradition than within the iron industry. The old organization could offer less resistance to the forces making for change, and the saw mill trade was accordingly built anew to a much greater extent than the iron industry. (Montgomery, 1939, p. 95)

The comparative absence of tradition and legal shackles made it easier for the timber industry to adjust to changing business conditions when the timber boom started in the middle of the nineteenth century. Also, timber profited from having fewer restrictions in other countries due to an era of economic liberalism and a less protectionist commercial policy in Sweden. When the limited quota fixed by authorities was dropped in 1842, no heated conflicts arose, and the restrictive policies affecting the timber industry were dropped by the 1850s. Thus, laissez-faire had its way more easily in this sphere than generally was the case elsewhere.

Socially and economically, the sawmill workers often were practically indistinguishable from the agricultural laborers. However, the sawmill workers did not have the recognized status of the ironworkers. Timber was less fertile in technical inventiveness than iron, but timber contributed a larger share in the economic upswing of the 1850s and 1860s, and it resulted in a greater change in industrial organization and social relations than did the iron industry. While the iron trade was freeing itself from public regulation and supervision, the timber industry was advancing at a speed that far outpaced the growth of the iron trade.

In the early stages, many peasants were ruthlessly bargained out of their property by smart buyers, who often took long-term contracts for fifty years or so to dispose of standing timber. It later became more usual to buy property outright. The transference of a whole piece of property provided more incentive for reforestation. Still, a majority of peasants derived great benefit from the advance of the timber trade, as compared to earlier times when the forests had yielded a meager return.

As the sawmilling trade attracted an increasing number of industrialists and speculators, the center of the Swedish timber trade was moved from the Midlands

to Norrland, where there seemed to be inexhaustible forest wealth along with river systems to connect with the export trade. The vast virgin forest reserves attracted foreign investors such as Scots, Britons, and Germans, who had become acquainted with the business as importers or agents. However, a great share of the rise in the timber trade had a strong native element. The astounding growth of the timber trade in the middle of the nineteenth century raised Norrland, the extensive northern part of Sweden, to an influential position in the country's economic life. Also, during the course of the nineteenth century, the sawmill operatives became a large and influential group.

The joint stock organization, which became popular in the reform era of the 1850s and 1860s, gave people with comparatively modest resources an opportunity to join in the business. New steam-operated mills required considerable capital, which could be raised by means of joint-stock forms of organization, through a limited-liability type of company. From a yearly average of six million kronor at the end of the 1830s, timber exports rose to about eighty-five million kronor by the beginning of the 1870s (Montgomery, 1939).

> In many cases, large fortunes were amassed in a very short span of time. Forest properties rapidly acquired a considerable selling value, and the fold who were able to buy freely in the early stages of this great expansion usually came off with very handsome profits. (Montgomery, 1939, p. 88)

So great was the timber boom that it influenced export figures and contributed to a population increase in Norrland, the chief home of the trade. Workers moved to Norrland from other parts of the country, but the trek was moderate because more effective methods of sawing reduced the need for manual labor. The number of

workers increased proportionately less than production because new technology and improved methods resulted in a need for fewer workers.

The export branch of the timber trade evolved into a large-scale industry with the introduction of steam-powered mills. When the steam engine freed the mills from their dependence on water power, the industry could expand to meet the increase in demand. With steam-powered mills it was possible to concentrate the industry more than ever before on the seaboard or along a navigable river. Later electrification meant a concentration of industry would reduce transportation costs (see Montgomery, 1939, p. 87, for more on the development of this industry). Ultimately, iron exports were overtaken by timber in the first half of the 1870s, when forest products accounted for about 45 percent of the total export value. Metals and metal products were next with 24 percent, whereas agriculture and subsidiary occupations contributed approximately 26 percent (Montgomery, 1939, p. 87).

During the last three decades of the nineteenth century, the sawmilling trade attained its full growth. The pulp industry rose alongside it, while the mining of rich ores in Lapland likewise developed into a great export trade. Considerable communities such as Sundsvall grew up along the coast.

Therefore, through the influence of timber exports and the sawmilling industry, as well as the consequent breakthrough of industrialization, more capital was available from increased savings out of the expanding national dividend in the 1850s and 1860s. To some extent the situation was also linked to foreign borrowing, although that is hard to trace. By the 1860s, imports exceeded exports, and most smuggling had been done away with due to the advent of free trade. Thus, the balance of trade was less favorable. Also, statistical methods changed in that era.

Exports declined somewhat, but they still represented a large share of industrial output. In 1873, however, Sweden entered the international market for a new era of investment in the financial and industrial fields when the country adopted the gold standard.

Industrialization: Demographic and National Income Data

Between 1861 and 1930, the development of exports based on raw materials, driven by timber, transformed Sweden from an agrarian to an industrialized country. The industrialization process can be detected in both demographic and national income data.

Before 1860, relatively speaking, the reduction in the number of people who relied on agriculture as their main source of income had already begun. In 1840, it had been 80.9 percent, and it had continued to rise in absolute figures until about 1880, when there was a reduction in the agricultural population. From 1880 on, reduction in that population was rapid. At the end of the transformation, the agricultural population had fallen to only 39.4 percent. "Thus, based on population data, the 1870s mark the arrival of industrialism" (Dahlgren et al., 1937, p. 242).

The transformation from agriculture to manufacturing is also evidenced by the way in which the incomes of three large sectors developed. The net income of agriculture, including forestry, trebled from 1861 to 1913, whereas that of the manufacturing industries increased thirteen times and that of transport and communications twenty-two times (see Figure 2.6). Rapid growth was associated with large sectoral changes in the economy.

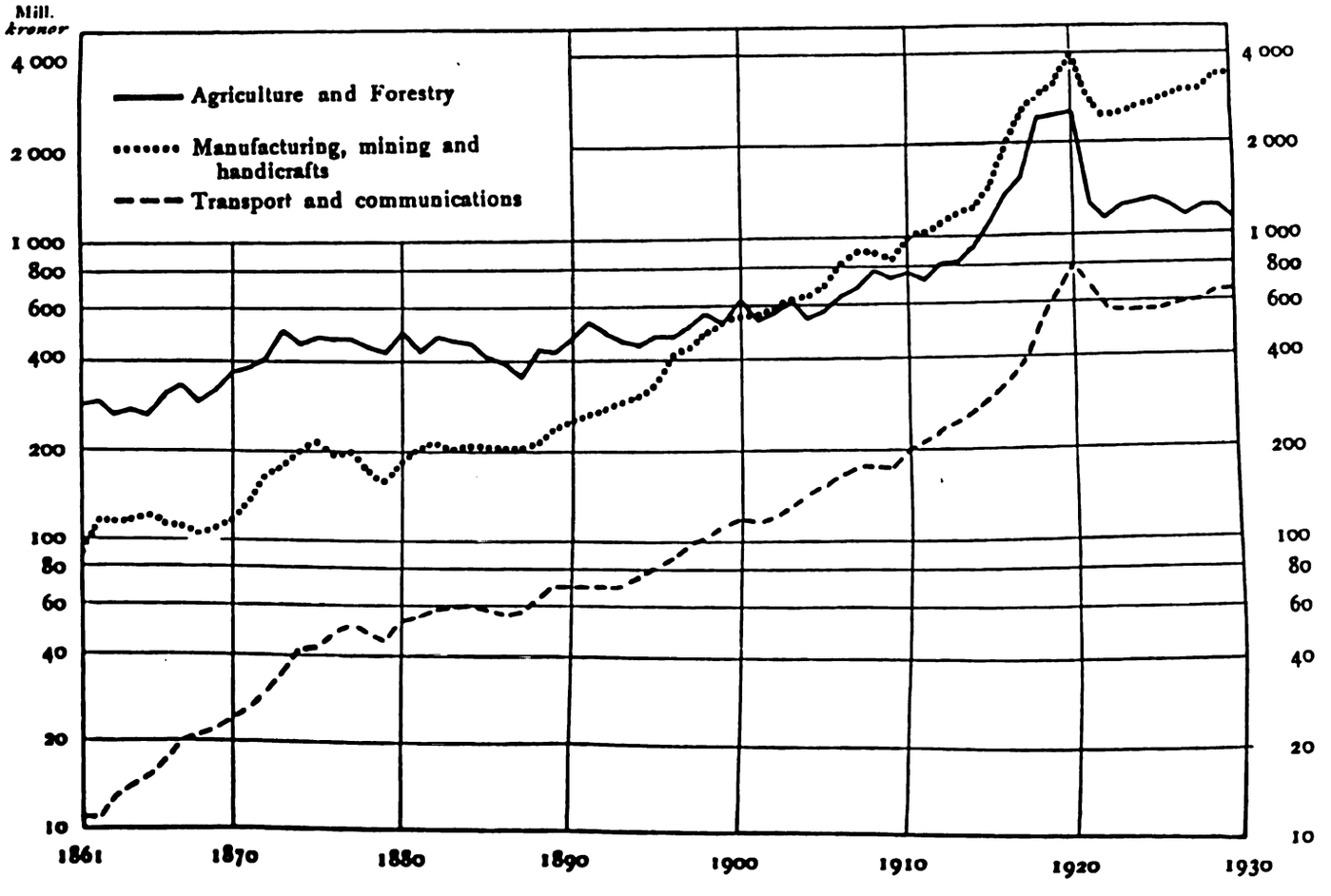


Fig. 2.6: Net income of agriculture and forestry; manufacturing, mining, and handicrafts; and transport and communications, 1861-1930.

Source: Dahlgren, Lindahl, and Kock (1937), p. 242.

Thus, the agricultural sector's contribution to the national product fell from 38 percent in 1870-1874 to 23 percent in 1910-1914. In contrast, the contribution of the industrial sector rose from 21 percent to 35 percent over the same period (Mitchell, 1992, p. 917). In terms of employment, the contraction of the agricultural sector was more pronounced. The portion of the labor force employed in that sector fell from 72 percent in 1870 to 49 percent in 1910 (Jörberg, 1973, p. 379). There is little doubt that foreign trade played an important role in Sweden's economy during the nineteenth century.

Summary

Swedish industry was built on the exceptionally strong combination of abundant natural resources and human capital, stressing such factors as education, an absence of strong prejudices against technical and manual professions, and a comparatively high degree of social equality. Sweden's initial industrialization was the starting point for an outstanding, century-long growth cycle that ended just a few decades ago.

Simultaneously, the momentous transformation of industrialization was not without its travails, which severely shook the foundations of traditional Swedish society and violently disrupted people's lives. The most positive aspect of the village community was its unwritten laws concerning mutual assistance and village teamwork. The *byalag* was based on a natural community of interests.

The most visible change associated with industrialization, in this sense, was the end of the ancestral social and economic order embodied in the village that had evolved over a thousand years. There was a disintegration of the village community,

a way of life that had provided a good deal of neighborly solidarity and pleasant traditions that were shattered when the villages gave way to homesteads located far apart. These developments generated a need for social and political order in changing economic times.

In this sense, in the latter decades of the nineteenth century, industrialization strengthened group loyalties in the form of new associations established to promote collective goals. The proliferation of vocational and voluntary groups that accompanied modernization resulted in Sweden's acquiring a reputation as a land of organization (Rostow, 1955).[50]

To understand the Swedish mentality, therefore, one must go back to these agricultural roots and the influence of the *bönder,* which continued far into the twentieth century because Sweden industrialized later than other countries. In the past, there was no feudalism, and the peasants had never been as oppressed as they had in most of Europe. In the future, a high standard of living would be available to the middle class and the working class alike. This enabled them both to develop a great belief in progress, which eventually was linked with Social Democratic politics.

By initiating demographic change and creating new occupational strata, a more mature industrialization eventually played a significant role in Sweden's social and political modernization and economic growth. By the end of the nineteenth century, Sweden was developing a national economy based increasingly on manufacturing and the production of steel. Even so, until the 1890s, as Sweden approached another level of more mature industrialization, it remained basically an agrarian country.

As we shall see in the next chapter, the bridge between early and late industrialization, or the link between the Old and New Worlds, and the formation of new forms of industrial organization can be found in the Swedish *bruk,* or ironworks dotting the countryside. It was necessary for Sweden to fulfill the technical and capital requirements associated with its late industrialization, found in the special aspects of the *bruk,* before the country could be regarded as an industrial rather than an agrarian economy.

Regarding cultural aspects, Swedes emerged as "cooperative individualists," who are highly conscious of themselves but establish their dignity primarily according to collective norms--part of the powerful agrarian heritage. To this day, Swedes have strong connections with the countryside. In many respects, the modern twentieth-century Sweden's high-technology society is only a few generations removed from its agricultural past.

Endnotes

1. Many observers thought that Sweden regained power following World War II in a more peaceful manner, through industrial expansion and increasing international trade, concurrent with the postwar western European dream of establishing a welfare state.

2. Braudel's *The Perspective of the World* (1985) is an impressive survey of civilization and capitalism between the fifteenth and eighteenth centuries. Braudel was born in Lorraine in 1902, and during the five years he spent as a prisoner of war in Germany, he wrote the thesis that was to be published in 1949 under the title *La Méditerranée et le monde Méditerranéen à l'époque de Philippe II.* In 1946 he became a member of the editorial board of *Annales,* the journal founded by Marc Bloch and Lucien Febvre, whom he succeeded at the Collège de France in 1949. In 1956, Braudel became head of the VIème section of L'Ecole des Hautes Etudes, a department formed to promote relations between history and other social studies.

3. The term "industrial revolution" was not in standard use among historians until after its appearance in print in 1884 in Arnold Toynbee's *Lectures on the Industrial Revolution* given at Oxford in 1880-1881 and published after his death (Braudel, 1985, p. 358).

4. Carlsson (1980) also analyzed the linkages between agriculture and industrialization in the anthology *Industrial Development in Sweden. Theory and Reality During a Century* (pp. 205-243). Carlsson emphasized the role of traditional merchant houses in exports.

5. According to Montgomery (1939),

> The 1860s constitute, indeed, something of a landmark in Swedish economic history. Railway building had just begun, the isolation of the countryside was broken through, and rural economy was definitely drawn into the orbit of commerce. . . . The epoch of industry, railroad construction and the growth of the building trades opened new avenues of employment, while emigration, mainly to the United States, began to drain the market of any "surplus labor." (p. 4)

6. At that time, the official view about unemployment was that it was brought on by the individual, rather than by shifts in the economic structure. In addition, emigration was always possible.

7. Sawmill production was not included in official industrial production statistics until 1896. Indeed, cutting, transporting, and floating timber were classified as agricultural endeavors until after World War I.

8. In general terms, infant mortality dropped sharply from 1820 to 1850. The last epidemic to have a demographic impact was cholera in the 1850s, although in the early twentieth century there was an outbreak of Spanish flu during a time of malnutrition at the end of the First World War. Until about the middle of the nineteenth century, the declining death rate was due largely to progress in two important respects. First, the devastation of epidemics had been reduced partly as a consequence of medical service. Second, the crop failures were becoming less disastrous than in former times, and they did not develop into real famines after 1869, which had an important influence on Swedish mortality statistics. This was partly a result of improvements in agricultural techniques and partly a result of vigorous relief measures when agricultural yields decreased. Also, mortality rates in cities decreased. From an average of 41.5 deaths per 1,000 in the 1850s, the death rate in Stockholm dropped rapidly in subsequent years. In 1913 it was 13.7 per thousand, and in 1935 the figure decreased to 10.9 per thousand (Montgomery, 1939, p. 190).

9. Because of increased productivity in the agricultural sector at a time of rural proletarianization and a 4 percent rate of demographic growth, the needs of the rapidly expanding industrial sector were met (Mörner, 1989, p. 247).

10. Braudel (1985) argued that the industrial revolution was only part of a period heavy with developments and that social modernization embraced multiple facets.

11. Supplementary efforts were undertaken through private initiative in the 1860s. High schools *(folkhögskolor)* offered elementary and vocational training to adults.

Most of these schools were located in rural districts for the benefit of the agrarian population and were operated as boarding schools during the winter months.

12. For a summary of Swedish history, see Carlsson (1975), an anthology that provides an excellent overview of modern Swedish history. For an examination of the period since the mid-seventeenth century, see Samuelsson (1968).

13. Heckscher (1879-1952), a highly regarded economic historian and economist, was the recipient of the first Chair of Economics and Statistics at Stockholm School of Economics *(Handelshögskolan)* in 1909. He exchanged the chairmanship twenty years later for a professorship in Economic History, combining it with the directorship of the Institute of Economic History (Heckscher, 1954, p. xv). One of the few survey studies available in English about economic development in Sweden during the postwar period is Heckscher's *An Economic History of Sweden,* published in 1952, following his death. A major part of Professor Heckscher's work focused on mercantilism and the era preceding industrialization in Sweden. Heckscher addressed economic questions regarding how scarce economic means were used to satisfy given ends, how changes in economic questions reacted on other aspects of human life and society, and the "interplay" of other influences. The Heckscher-Ohlin Principle states that advantage arises from the different relative factor endowments of the countries trading. That is, a country will export those commodities that are intensive (capital intensive, labor intensive) in the factor in which it is best endowed. Samuelson further developed this principle in his factor price equalization theorem.

14. A striking feature of Swedish political life, to some extent even today, is people's confidence in the fairness and altruism exhibited by rulers. This attitude has its roots in Sweden's agrarian past.

15. Mörner (1989) emphasized that even during periods of instability, such as in the early nineteenth century, Swedish bureaucracy functioned quite well. "For a long period, from the early nineteenth century until the 1920s, corruption was virtually unknown" (p. 255).

16. Rojas (1991) argued that this background explains why such things as the classical ideas of the division of power and that state power must be externally controlled are not prevalent in Sweden. This is an essential component of the Swedish model.

17. Sociologists Peter Lawrence and Tony Spybey (1986) claimed that this development provided a solid foundation for the high level of involvement in and enthusiasm for government, engendering an ingrained respect for the law for which Sweden has become so renowned.

18. Braudel (1985) pointed out that although all members of Russian society were reduced to obedience, some Russian serfs had access to the huge Russian market. This meant that they were not totally dependent on village self-sufficiency.

19. Swedish historian Magnus Mörner (1985) stressed that even before Christianization in the eleventh to twelfth centuries, society, contrary to nineteenth-century myths, was clearly stratified, with a bottom category of serfs.

20. According to Heckscher (1954, p. 131), a new constitution made everyone feel responsible for good government, even under the strong monarch, Gustavus III (1771-1792). Gustavus was assassinated while attending the Royal Opera in Stockholm. Verdi's *Masquerade Ball* depicts this event. During his reign, there was a fervent interest in social problems, especially on the part of educated classes, or a passionate concern for social questions that smoldered under the surface.

21. Under Gustavus III's successor, Finland was lost and the king overthrown in 1809. He was replaced by Jeane Bernadotte, one of Napoleon's marshals, the Regent of Sweden, who became king in 1818 under the Swedish name Carl XIV Johan.

22. Straight subsidies ended when, following an international financial crisis in 1763, the bank could not continue after a Swedish economic crisis in 1765. This forced a change in the support policy, and even though the issue was heatedly debated in the *Riksdag,* some forms of support remained and most protective measures were retained (Heckscher, 1954, p. 187).

23. The rapid expansion of the textile industry in the nineteenth century was not related to the preindustrial manufactories. Most indicative of this development outside of the manufactories was the first mechanized cotton mill in Sweden in Rydboholm, outside of Borås in southwestern Sweden. The mill developed from a domestic industry initiated by a peasant woman, Mother Kerstin of Ståmmemade. In 1834, her son, Sven Erikson, reorganized the domestic industry into a factory (Heckscher, 1954, p. 186).

24. Scania is the Latin name for Skåne; often these names are used interchangeably in Swedish. In 1891, the company AB Scania-Vabis, which manufactured trucks, motors, buses, and so on, was founded in Södertalje, half an hour from Stockholm, and not located in Skåne. The name was changed to Saab-Scania AB in 1969.

25. See Moberg (1984), pp. 9-10. Linguistic research into place names has revealed that the village must have come into being as early as the period of the Great Migrations, about 500 A.D.

26. Farther north in Norrland, there were other patterns of community organization in areas where peasants settled in vast forests; there agricultural production was organized differently. In heavily forested and hilly areas, farmsteads often were grouped in an irregular way in many of the numerous valleys. The narrow fields did not allow for village clustering, and isolated farms were often separated by long distances. Also, the two regions differed economically; due to the short growing season in the north, agricultural pursuits were devoted more to cattle farming (Montgomery, 1939).

27. There was an era of "wild" building to accommodate people in the few urban areas during the middle of the century, when the towns attracted workers but were unable to accommodate them decently.

28. Of all the European countries, only Ireland and Norway, and possibly Iceland, had higher emigration rates than Sweden.

29. In 1825, the first railway system in the world was inaugurated in Great Britain. By 1830, there was an engine capable of pulling twelve tons of cargo at almost fifteen miles per hour.

30. The most comprehensive history of the big-business sector in America is *The Visible Hand: The Managerial Revolution in American Business* by Arthur D. Chandler (1977).

31. Nestlé celebrated the 125th anniversary of its founding in the same year that Switzerland, the country in which the company was founded, celebrated the 700th anniversary of the Swiss confederation. The following statistics illustrate Nestlé's vitality in 1991. Nestlé has more than 400 production centers throughout the world; 100,000 Swiss and foreign shareholders; and nearly 200,000 employees, manufacturing and marketing Nestlé products. The company progressed from a two-product company focusing essentially on infant nutrition to a comprehensive range of foods. When Nestlé was founded in 1866, many villages and small towns had their own local production and supply structures for food. However, the proportion of income allocated for food was about 50 percent at that time, compared with about 15 percent in the 1990s (study visit to Nestlé headquarters and meeting with Dr. B. Link, 31 July 1992).

32. According to the management staff at Piaget, the tranquil nature of the countryside and the special light in this part of Switzerland enhance the local skills (study visit to Geneva and workshops at La Côte aux Fées; meeting with Piaget President Yves Piaget and Thierry Oulevay, Director of Marketing, and management staff, 21 June 1994). It takes twenty-five years of experience before a jeweler can claim he really knows his trade (Piaget, 1995).

33. Three generations later, the Piaget workshops underwent a process of vertical integration. To effectively control the overall manufacture of a Piaget watch from start to finish, the *habillage* concerned with the external features was entrusted to Prodor in Geneva. Today, the fourth generation is represented by company President Yves G. Piaget. Piaget International, S.A., manufactures 20,000 movements a year. Currently, eight apprentices are training at the workshops to be the watchmakers of tomorrow (study visit to Piaget workshops, La Côte aux Fées, and Prodor, Geneva, 1 June 1995).

34. According to the ABB *Annual Report 1993*,

> Today, ABB Asea Brown Boveri Group is a global $29 billion company serving electric power generation, transmission and distribution, industrial and building systems, and rail transportation customers. More than half of ABB's

sales are in Europe, about one quarter in Asia, Australasia and Africa, and one fifth in the Americas. ABB Asea Brown Boveri Ltd. is owned in equal parts by ASEA AB in Stockholm and BBC Boveri Ltd., Baden, Switzerland. ABB ASEA Brown Boveri Ltd., Zurich, is the holding company of the ABB ASEA Brown Boveri Group with approximately 1,300 companies around the world. While the shares of ABB are not publicly traded, the shares of the two parent companies are listed on various stock exchanges in Europe and the United States. ABB has deep roots in 140 countries, with 213,000 employees. (p. 1)

35. In related developments, the dairy industry converted its production from a handicraft to a factory process. The chemical industry developed in response to the industrialization process itself. Because of a lack of national resources, there was no heavy or inorganic chemical industry, but dyestuffs were produced in 1859 and 1860. Because the Swiss producers could not compete with German firms in supplying standard bulk dyes, a strategy was to specialize in exotic, high-priced items, in which Switzerland soon had a virtual world monopoly. "Before the end of the century they sold more than 90 percent of their production outside Switzerland" (Cameron, 1989, p. 250).

36. See Chapter One of *Nestlé, 125 years–1866-1991* (Heer, 1991) for developments in Switzerland in the context of world industrial development. The textile industry revived and even prospered after the Napoleonic period, using mechanized spinning from waterpower, and cheap labor by women and children. But handloom weavers, who were so prevalent in the eighteenth century, had disappeared. Production of high-quality fabrics continued after mechanization.

37. Besides the process of exports, there were not very considerable sums of foreign exchange available to pay for imports and stimulate industrial activity. A certain amount of foreign capital was needed for interest payments on working capital advanced by merchants in the iron industry, and Swedish shipping provided a definite, although not great, surplus. But on the whole, if foreign-trade figures are indicative of the general level of commerce, it is safe to conclude that the merchants and dealers of the Swedish towns in the 1820s did not carry on an amount of business that was much greater than before. This means that the economy was not expanding. There is no way to determine the volume of internal trade in its entirety, but foreign and internal trade were linked in many ways.

38. The long coasts and winter roads made it impossible to collect tolls. The Swedish coast is buffered by a series of archipelagoes where the main trading centers, Gothenburg and Stockholm, were located. Small vessels could evade tolls by slipping through a maze of sounds and straits. Heckscher (1954) believed that this mode of transportation was largely accountable for the absence of feudal disintegration in Sweden.

39. A small beginning in supplementing natural waterways was made in the early nineteenth century, but canals never became a very prominent feature in Sweden's economic history. Also, because the country is large and densely populated, great

distances of canal construction were apt to become rather expensive. S. E. Bring and others have investigated the history of canals. The Trollhätte Canal in 1838-1844 was financed by a merchant house, Schön and Company, in Stockholm. The fact that merchants were able to take on an enterprise of such magnitude as the canal located north of Gothenburg attests to their economic influence and status, which they held until the mid-nineteenth century.

40. Sweden had an advantage compared to more southerly climes in the form of winter roads, when snow and ice offered unique opportunities for transportation despite the extreme difficulties in constructing and maintaining ordinary highways. In winter, carts and wagons were exchanged for sleighs, which were able to carry greater loads than wheeled vehicles, and goods were transported on sledges across land and water without any ordinary roads. Nevertheless, the shortness of winter days precluded the growth of any large transport business over land. In some parts of northern Sweden, it is dark all day during the winter.

41. Nils Ericson remained in Sweden and changed his name from Ericsson to Ericson when he was titled for his public services (Heckscher, 1954).

42. Montgomery (1934) wrote,

> The State wishes to leave production free, and not intervene in these fields by supervising conditions for production and labor. No doubt the State has certain tasks to reform within these fields, e.g., in what concerns technical training, the supervision of security measures and so forth. (p. 115)

43. The legal apparatus made joint stock companies with limited liability a reality; thus, business was released from state control. In the comparative context, incorporation came about much later in Europe than in the United States. Around 1800 there were 300 private enterprises in America, whereas there were only about twenty modern-type corporations in France (Cochran, 1977).

44. Of all the large nations in Europe, Great Britain was the most dependent on both imports and exports for its material well being. Thus, the British commercial policies, especially tariffs, had important repercussions. This was particularly true for Sweden, as Britain was its most important trading partner in the mid-nineteenth century.

45. Although the French legislature was intent on retaining protectionist policies to shelter the French cotton textile industry at the behest of mill owners, the Napoleon II government, which came to power in a coup d'état in 1851, was intent on cementing ties of friendship with England. A strong current of economic liberalism favored the new climate.

46. Zollverein literally means "toll tariff union." The Prussian officials laid its foundations in 1818 by enacting a common tariff for all of Prussia. Several small states surrounding the Prussian territory joined the Prussian tariff system, and in 1833 a treaty with the larger states of South Germany, except Austria, resulted in the creation of the Zollverein itself (Cameron, 1989).

47. At the same time, it was considered society's duty to protect people against the most malign consequences of industrialization, to help the sick and needy.

48. Heckscher (1954) wrote that there has been no reliable study of "the impact of free trade on Swedish economic development," although laissez-faire policies almost always promote foreign trade, consequently promoting the continued industrialization of the country. Liberal trade policies must also have stimulated a rise of engineering industries in the early 1870s, thus promoting the country's general expansion.

49. Today, the Swedish sawmill industry is the largest in Western Europe, with 3 percent of the world production and 9 percent of the world exports. Typically, sawmills' production operations include sawing, planing, fingerjointing, and pressure impregnation. The fiberboard industry became more important to industry in the twentieth century (Porter et al., 1991).

50. Group consciousness is highly structured in agricultural and consumer cooperatives, trade unions, employer associations, political parties, and various popular movements.

CHAPTER III

ECONOMIC ORGANIZATION BEFORE THE RISE OF MODERN INDUSTRY: THE SWEDISH *BRUK*

Introduction: Foreign Demand and Local Raw Materials

Developments throughout the nineteenth century transformed Sweden from an agricultural country into a manufacturing nation, and an industrialized economy. However, as late as the 1860s, Sweden was still in a preindustrial stage, lacking some of the benefits that other industrialized countries had gained through technical advances.[1] This meant that Sweden had to overcome many obstacles to industrial reorganization during the transition to an industrialized economy.

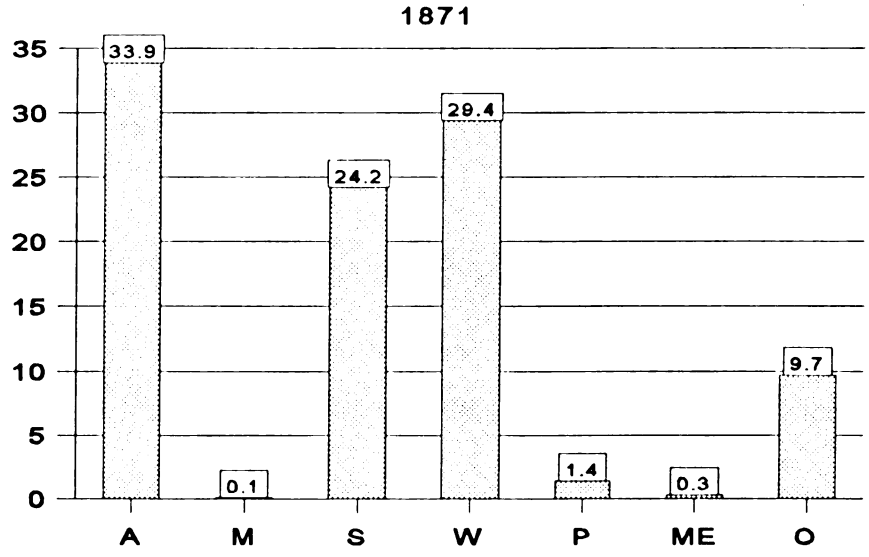
Beginning in 1870 and for the next forty years, major economic changes occurred in Sweden. The Swedish economy developed in two stages during this period of industrialization, one in the 1870s and the second from the middle of the 1890s onwards. The driving force in the industrialization process was foreign demand based on Sweden's local raw materials. Growth in industrial production along increasingly capitalistic lines all over the world, particularly in England, which had industrialized much earlier than Sweden's late industrialization in the 1870s, created a demand for capital goods--manufactured products that have a long life and are used in the production of other goods such as machinery and tools, hence iron and steel.

The shift from an old industrial structure to a modern economy was achieved primarily through technological advances, on which the large-scale production of lower cost iron was founded. This development seemed at first threatening to Sweden's iron-export industry, which did not have the advantage of technological innovations already established in other countries. However, in the early stages, these developments abroad actually resulted in an increase in the demand for Sweden's old high-quality iron, although this was only a small share of iron exports.

For centuries, Sweden exported both forestry products and iron, based on raw material resources of iron ore, forests, and water power. In 1871, these products, wood and iron, comprised more than half of the total exports (Figure 3.1). However, it was in the export of metal that Sweden's leadership was indisputable.

Iron was Sweden's first major export commodity, as well as a significant industry for the national economy. By the mid-eighteenth century, Sweden had emerged as the foremost iron manufacturer in the world, accounting for an estimated one-third of world trade. The high quality of Swedish ore, the abundance of forests, and fast-flowing rivers and streams were crucial factors in the success of Sweden's charcoal-based iron industry. The production of iron in Sweden was unique in the world, requiring techniques to overcome the difficulty of ironmaking without access to coal. As illustrated in the map of Europe (Figure 3.2), Sweden had no coal or oil.

Expertise originating outside of Sweden was also a vital component in Sweden's industrial development. In general, human resources from other countries were invaluable to the build-up of Swedish industry.[2] Immigrants, who made valuable contributions to industrial development, were most outstanding in the iron



Abbreviations:

A = Agriculture and forestry industry
M = Mining industry
S = Iron and steel industry
W = Wood industry, including furniture
P = Pulp and paper industry
ME = Mechanical-engineering industry, including electrical engineering
O = Other exports

Fig. 3.1: Distribution of Swedish exports in certain branches of industry as percentages of total exports (1871).

Source: Ohlsson (1969).

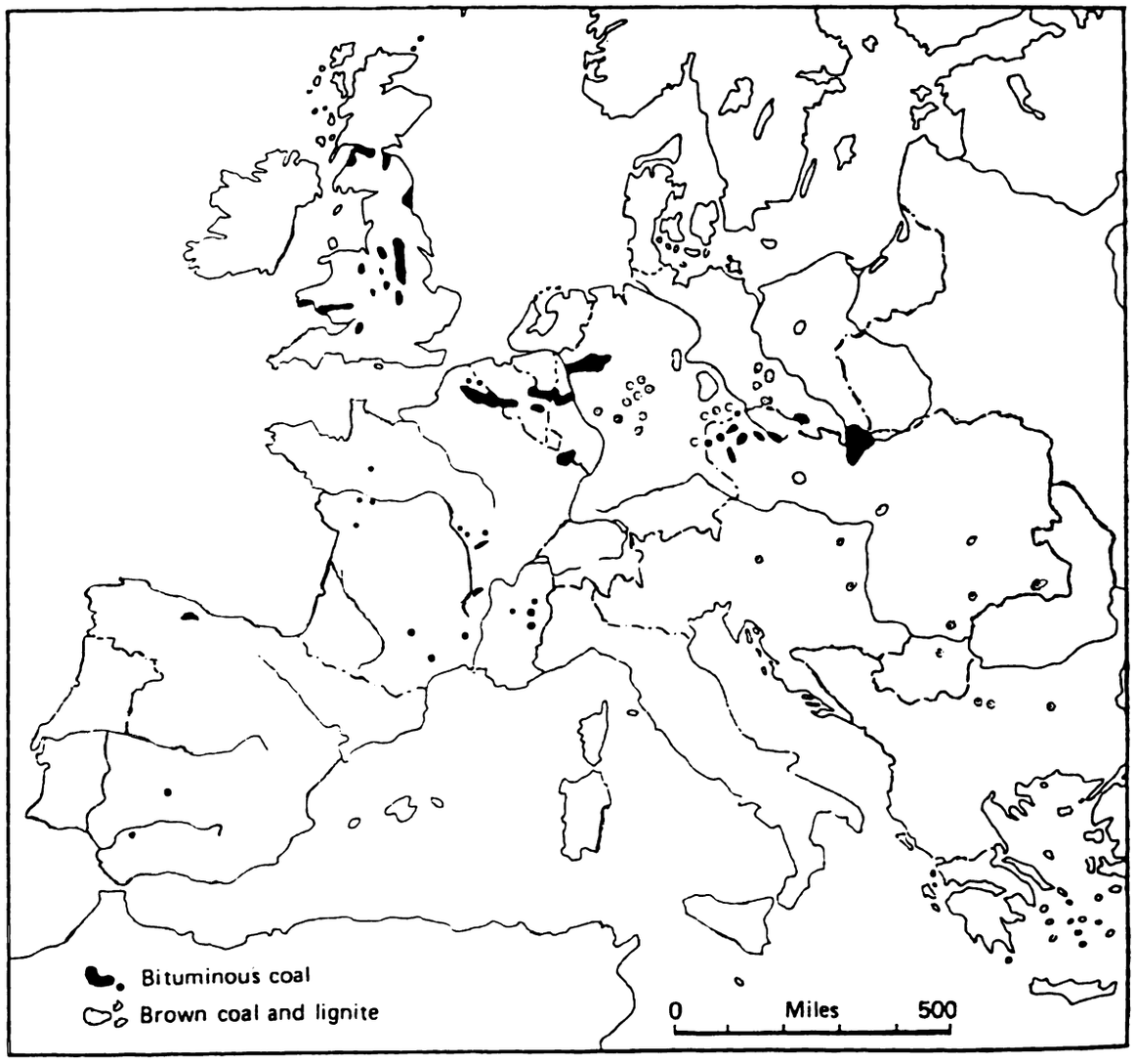


Fig. 3.2: Coalfields of Europe.

Source: Cameron (1989).

industry. Foremost among them was Louis De Geer, the "iron king," who settled in Sweden in the seventeenth century with a group of skilled and knowledgeable iron workers, the French-speaking Walloons who were from De Geer's birthplace, Liége. The Walloons played an important role in Sweden's economic history, and under De Geer's administration, Sweden's iron industry experienced an upswing as a result of the introduction of new techniques. Later, British innovations were imported to Sweden and adapted to the Swedish production process.

Preindustrial Activity in Sweden

In its earliest days, Sweden's iron industry was run by miners who were partners in a kind of iron-furnace cooperative. During the seventeenth, eighteenth, and nineteenth centuries, the classic family owned ironworks emerged under a number of masters, and from the seventeenth century onwards, the Swedish countryside was dotted with numerous ironworks.

Iron manufacturing took place in factory villages of a semi-feudal nature, known as *bruk,* where trained groups of skilled laborers were organized under the hierarchical leadership of the ironmaster, the *brukspatron.* These unique establishments were more or less self-contained agricultural/industrial establishments. They included farms, forests, mines, and hydro power; later, they often expanded from raw materials to processing, to produce wood pulp, paper, sawn lumber, finished copper or steel, and electric power.

Preindustrial activity took place close to raw materials and sources of energy in rural areas, scattered throughout the Swedish landscape. The ancient Swedish iron industry was founded on local raw materials--wood, iron ore, and water power.

The production of Swedish iron was based on charcoal, the historical fuel (source of energy) of both furnaces and forges, and the traditional production method was extremely wood consuming. In this respect, Sweden had an important advantage in the availability of abundant spruce forests.

On the other hand, because of a dependence on local raw materials and the lack of adequate transport before the advent of railroads in the 1860s and 1870s, the iron industry could not be concentrated into large production units. Often, iron masters displaced small producers by equipping the ironworks with blast furnaces or their own ironmaster furnaces, *brukspatronsugnar,* or French stone furnaces; but for the most part, iron production was small scale and dispersed (Montgomery, 1939).

An important aspect of the Swedish production of iron was centuries of experience, skill, and accumulated knowledge associated with the mining industry as a base for exports and revenue. Mining requires knowledge of metallurgy, chemistry, mechanics, and civil engineering--the convergence of many different branches of knowledge. The prosperity of the trade had a spill-over effect on other lines of industry, and the revenues it brought into the country provided a base for some expansion of markets for other goods. Therefore, even though the progress of the iron trade affected comparatively few people, the indirect influences were more far reaching.

In the 1870s, during the early stages of Swedish industrialization, Sweden appeared to be behind most other industrialized countries with regard to technological change. However, there was a potential for the traditions and the

inherited knowledge about metals and their processing to be transferred to the new engineering firms that started to develop later in that same decade.

The Iron Industry

The iron industry was the giant of the Swedish mining and metal industry. It was one of the main props of the Swedish economy, providing approximately 85 percent of total metals production. Two-thirds of that was in bar iron, which at times captured more than one-third of the world market.[3] Sweden's high-quality *stångjärn,* bar iron that was a malleable iron, was exported to more developed counties, where it could be worked into steel and finer products, during a time in the eighteenth century when few other countries exported iron. Based on records of the English customs authority just before 1720, the English market took 82.5 percent of Sweden's metal exports (Scrivenor, 1841, p. 325).

Before the inventions that made it possible to substitute coke for charcoal, this quantity was sufficient to secure for Sweden a leading position in the international market. England, in particular, was very much dependent on Swedish and Russian supplies of iron, as England's own iron industry was crippled by the scarcity of charcoal. As long as other countries used nothing but charcoal in manufacturing pig iron, Sweden's share in the production was considerable, even quantitatively. As late as the middle of the eighteenth century, Sweden's share in world production of pig iron was estimated at no less than 38 percent (*Sweden Year-Book*, 1938, p. 133).

Prosperity and the *Brukspatron*

A confluence of favorable circumstances in the eighteenth century had thus carried Sweden's iron industry to a high pitch of prosperity. In 1770, 60 percent of

the total value of Swedish exports consisted of iron. In fact, during the eighteenth century, Swedish iron faced little serious competition anywhere in the world (*Sweden Year-Book*, 1938, p. 133).

The international scope of the iron trade contributed to a certain broadness of outlook, and there grew up at the *bruk* a well-to-do class of ironmasters who took considerable interest in literature and science. *Brukspatron* (*bruk* masters or squires) constituted the first secular class outside the nobility to assume upper-class status. No occupational title had higher prestige than "ironmaster."

> The head of the *bruk* was the industrial leader in Sweden, much more than a banker or a merchant of any kind. These were country squires; they had their education in the School of Mines, basically, or in the Royal Institute in Stockholm, and definitely in the industrial society they were the leading people for a very long time. (Carlson, 1992)

As a result of their economic importance, ironmasters and iron merchants gained an influential position in Swedish social and political life, making an impression on the development of general culture. Some of the leading writers of Sweden, especially during the first half of the nineteenth century, were firmly rooted in the "*bruk* culture" (see Heckscher, 1954, p. 98). In *Gösta Berling's Saga*, which takes place in the western part of Bergslagen, Selma Lagerlöf (1918) tells how, in the spring, the winter's production of iron from Ekeby and other small mills in Värmland had to be shipped, first in small barges to Karlstad, the provincial capital, and then by large boats to Gothenburg on the west coast.

Competition From Abroad

Soon, new competitive circumstances in the international market indicated that the eighteenth century was the apex of earlier development, not the beginning

of a new era in the Swedish iron industry. Because of the government's efforts to control output, the industry was profitable, but it did not expand. In the meantime, England progressed in its attempts to decrease dependence on the import of Swedish iron.

About 1730, coke began to be used in British blast furnaces, and in 1785 a new process called "puddling" was invented; this meant that the "fining" of iron could be done with coal instead of charcoal, which was scarce in England (fining of pig iron produced wrought iron). Consequently, the fact that an ore was free from phosphorus (which the traditional Swedish ores were) was no longer so important, at least as far as ordinary iron was concerned. This change in conditions of manufacture meant that Sweden occupied an increasingly modest position among the pig-iron-producing countries.

Technique is an important aspect of the iron industry. Sweden does not have any substantial amounts of coal within its borders to use in ironmaking (see Figure 3.2). The British innovations compelled the Swedish ironmakers to turn out high-quality iron at competitive prices without resorting to mineral fuel. At that time, in the eighteenth century, the quality of Swedish iron was still ahead of that of other countries, and it could command a high price as long as the market was not crowded with products that were similar in quality at a lower cost.

Even though technical advances in England resulted in the production of a low-cost iron, there was a continued demand for the old high-quality iron that the Swedish iron industry could produce. For a time, Sweden maintained a strong position in the limited international market. But in the new competitive situation beginning with the end of the Napoleonic Wars (1815) and leading up to the mid-

nineteenth century, the situation had changed. Thereafter, the Swedish prospects did not look good. By the 1850s, the Swedish iron industry, tucked away in the forests of the countryside, was open to menacing competition. The Swedish charcoal-smelter iron could no longer compete in price with coke-smelter iron or Bessemer steel, produced in England.

Significance of Steel

Steel, the basis for mature industrialization, could not be produced and used in large quantities in Sweden. Although steel had been made in Sweden for centuries, because of its high cost it was produced in small quantities for highly valued products such as surgical instruments, sword blades, and fine cutlery. Steel is actually a variety of iron that contains less carbon than cast iron but more than wrought iron, making it less brittle than the former but harder and more durable than the latter (Cameron, 1991).

The production of steel, in comparison to bar iron, required an additional expensive process. To make steel, the carbon that had been removed in making bar iron was reintroduced into the soft iron. This production process was too expensive for Sweden to use in producing large quantities of steel in the early stages of industrialization.

By the latter half of the nineteenth century, the ancient iron industry was passing through a structural crisis. If the Swedish mills, *bruk,* which were using more and more expensive charcoal and high-priced phosphorus-free ores, were to survive, they had to change over to the production of special steel of such technical

superiority that it could demand higher prices than ordinary steel. Thus, the iron and steel industry was forced both to introduce new charcoal-saving methods and to change its product line (Carlson, 1979; see also Carlson, 1992). The Swedish industrial structure had to adapt to the realities of late industrialization and changing international markets at a time when the iron industry was passing through a structural crisis.

These developments demonstrate that the industrial processing of raw materials, in this case the iron industry, had a powerful influence on the process of industrialization in Sweden and hence the economic life and institutions of the country. Sweden's prominent position in the iron trade was based on (a) an immense fuel supply (charcoal) in rich forests; (b) the purity of Swedish ores, which produced a high-quality ore due to primitive production techniques; and finally (c) the entrepreneurial factor. According to the respected Swedish economist Sune Carlson, the unique characteristics of the early raw materials industries in Sweden shaped a special attitude about business, technology, and the organization of the industrial economy. He elaborated:

> Industrialization was not because of the home market but because we could sell abroad--all the time the international market was important and the Swedish companies sold the whole output from the steel mills and sawmills or paper mills to the merchant houses in Stockholm, Göteborg, and Gavle. So it was indirect export, and these merchant houses financed this industry by advances of the annual production, and that made it all right as long as we made ordinary iron, but when the Bessemer process came in the 1870s and you could make iron from phosphorus ores, Swedish industry could not compete anymore and a very large number of steel mills had to close down, and this is very characteristic of Sweden, you see. These steel mills and the sawmills and later the paper mills had to be in the wood districts and they had to have a certain distance from the next company because they were competing for the charcoal. That is where you have these tremendously decentralized, geographically decentralized, industries in Bergslagen, where

> according to Royal Statute there had to be a certain number of kilometers to the next mill in order not to compete for the wood. . . . If you look at an industrial map of Sweden, you will find a completely decentralized industry, entirely different from the Pittsburgh area, the Midlands (England), or the Ruhrgebeitor [Ruhr area] or Rouen in France, and that gives also a different mentality. (Carlson, 1992)

Sweden's iron producers commanded a virtual monopoly of the European market, which lasted until the end of the nineteenth century. Because of its wide influence and economic impact, the iron industry, which was built up in the Swedish *bruk,* is an important part of Swedish industrial history. Indeed, one of the most remarkable developments in the Swedish economy during the nineteenth century was that of the iron industry.

Steel and the Diffusion of Technology

The iron industry played a vital role in Sweden's long and distinguished industrial history. In the seventeenth century, technology had crystallized in the iron industry, and there were no new improvements until later in the nineteenth century. Although backwardness characterized technology in Sweden in the first half of the nineteenth century, advances during the second half of the century were momentous.

The most outstanding innovation affecting the iron industry was the manufacture of lower cost steel. The introduction of processes whereby molten pig iron was converted into steel ingots almost as easily as pig iron was produced from iron ore had the most far-reaching consequences. This advance in steelmaking marked the turning of a page in the development of industry in general, and also contributed to progressive strides in transportation.

In 1856, when Henry Bessemer patented a method for producing steel directly from melted iron, the output of Bessemer steel increased rapidly and displaced ordinary iron for a variety of uses. The expansion of the steel industry had a profound effect on related industries, those that supplied the steel industry and those that used steel. Steel lasts longer and is lighter and stronger than iron, so it could replace wood and iron, particularly in transportation and construction.

But the evolution of iron would continue past the momentous changes of the mid-nineteenth century. Although the new methods were developed outside of Sweden, mainly in England, the adaptation of new techniques was of critical importance to the competitive position of the Swedish iron industry in world markets.[4] But those technical adaptations and the diffusion of technology took time.

Immigration--Go West

Elaborate legislation and an absence of technical innovation threatened the progress of Swedish industrialization. Ancient regulations and the influence of the system of state interference had been particularly manifest in the limitation of iron output. The output of bar iron, the standard product of the trade, was strictly controlled, and "as long as iron output remained rather stationary, the progress of capitalism was slow and halting" (Montgomery, 1939, p. 141).

By 1850, there were no adequate new outlets for employment in the narrow labor market of either of the national industries, iron and timber. Recurrent agricultural crises, wage fluctuations in industry, and an expanding population generated pressure on management and authorities. The basic iron industry

remained stationary, whereas progress of the timber trade was slow and hesitant, depressing economic growth.

The traditional Swedish iron industry could not keep pace with a rapidly growing population. The iron industry could keep its own work force employed, but it was not expanding and could not absorb workers from agriculture as the population continued to increase and agricultural methods became more efficient. Fewer agricultural workers were needed once the reforms and scientific agricultural methods were applied. As a result, many people were displaced and were unable to find work in Sweden; therefore, they were forced to consider other alternatives for their livelihoods.

Because capitalism was not fully developed and agriculture was not able to support the rapidly growing agrarian population in the mid-nineteenth century, many Swedes chose to go West. A combination of competition for employment and conflict pushed successive waves of emigration abroad. By the end of the century, more than a million Swedes had left the country, the majority emigrating to the United States.

Sweden was second to Ireland in the percentage of the population who emigrated to the New World. The majority went to North America via Liverpool or Southampton, England, on the large Atlantic steamships *Lusitania, Teutonic, Olympic,* and *City of New York*; from Germany on the *Kaiser Wilhelm der Grosse* and *Deutschland*; and from Copenhagen on the Scandinavian American Line's *Geiser* and *Thingvelk* (Sjöhistoriska archives, 1996). About a million Swedes, or one out of five, emigrated to the United States between 1850 and 1890 (U.S. Department

of State, 1987). Most of these emigrants were rural peasants who sought a better life in America.

The exodus was based on the discrepancy between living standards in the Old and the New World and the opportunities in "America." However, some feared abandoning the Swedish soil, and "the drastic retort to the indignation about the defection of 'Swedish flesh and blood' was, 'What do you prefer, Swedish flesh and blood in America or Swedish skin and bones in Sweden?'" (Heckscher, 1954, p. 255).

Despite the massive flight to the New World, there was a continuing albeit small need for additional workers in the industrial sector. Nevertheless, the iron workers, because of the organization of work and the social structure in the Swedish *bruk,* enjoyed a more secure position than those who were totally dependent on agricultural or factory work. However, it soon became clear that their position in the Swedish economy was becoming more threatened as each decade of the nineteenth century wore on.

Merchants and Working Capital

Although Sweden had the comparative advantage of raw materials that were scarce in some other developed countries, it nevertheless had but little capital and technical/entrepreneurial knowledge, which were more abundant in countries that had industrialized earlier. The iron industry required a great deal of capital. For a long time, the iron trade was financed largely through Amsterdam and Hamburg, although England was the chief buyer of iron. It was only rather late that England entered the market as a large-scale lender.

The export industries had been financed by commercial capital on short-term borrowing for a number of centuries. In the 1700s, a well-functioning private credit market consisted of merchants, some bankers, including private bankers, bill brokers, and credit societies, most of which accepted deposits and arranged for credit for their clients (Lundström, 1991, p. 181).[5]

Great merchant firms played an important part in the iron trade because iron was exported indirectly, being handled by a middleman or an agent in the port cities. During the eighteenth century, Sweden was closely tied to the centers of international trade through trading houses, although little is known about them. They were originally established to organize sales and to finance the iron mills (Carlson, 1979, pp. 18-19).

The iron trade had an important influence in the field of financial organization. Traditionally, both the iron and steel industries, as well as the forestry industry, had relied on merchant houses for working capital and their business abroad. Merchants performed several functions. They were in charge of the sales of Swedish export products, they arranged credit until deliveries could be made, and they supplied long-term credit as well.[6]

English and other importers of Swedish iron had often financed exporters by extending credit to them in Swedish seaports, enabling them, in turn, to extend short-term credit to producers in a system of credit called *förlag* (in German, *Verlag)*, which embodied the classic elements of a merchant-employer structure. Thus, foreign importers made advances to exporting merchants in Goteborg and Stockholm and then, in turn, gave credit to the ironmasters, who, as the last link in the chain, made advances to their workers. Most of the foreign credit extended to

the Swedish industry was of a seasonal nature (Carlson, 1979). In the late autumn or during the winter, the merchants supplied the ironmasters with fresh credit. Considerable outlay was required at that time of the year because many of the raw materials--charcoal, pig iron, or iron ore--had to be paid for at that time. The credit that had been supplied by the merchant houses, which the iron industry depended on for business abroad, was gradually repaid during the export season. Some foreign capital was more permanently invested in the trade, once debts were settled. Therefore, all parties were bound to creditors. It was a precarious and peculiar system.

Commercial Information Channels

The merchants in Gothenburg and Stockholm and a few entrepôt towns held a dominant position in commerce and foreign trade through their contacts with the outside world. The Swedish ironworks and sawmills produced export goods, but they themselves were scarcely exporters, and "they had very little knowledge of foreign markets and of how to do business with foreigners" (Carlson, 1979, p. 13).

By importing grain for the workers in the *bruk,* the ironmills in the countryside, the merchants acquired knowledge about other countries and activities in leading markets and individual firms. Often they spoke different languages and understood other cultures and varied methods of doing business because many of them were immigrants themselves. This was the case in 1798, in fifteen of the twenty trading houses in Stockholm. These immigrant merchants offered an advantage to their clients because of their international view and contacts; thus, they were critical

channels of information about the demands of the market. As intermediary agents, they provided a link between the producers and the market place. Above all, the powerful merchants had money.

The merchants managed the flourishing export business and supplied various commodities, both foreign and home produced, that were in demand in the *bruk* communities. The merchants who were active in the export of iron were also intermediaries between the capital markets in Sweden and abroad. Commercial banks did not begin to trade in export and import bills of exchange until a period of expansion in banking, between 1860 and 1875. Several of the large merchants had good connections on the continent and in Britain.

Merchants handled exports for their industrial clients, whom they knew intimately, and supplied capital as long as the industrial expansion was ongoing; however, during the 1870s and 1880s, growth slowed down. At that time, several merchant houses were among the founders of new industries. This did not occur so much in the iron and steel industries because they were going through a period of mergers and shutdowns, but in the forestry industry the merchants had a fairly dominant position. Many of the new plants, at first sawmills and later on pulp and paper mills, were founded by merchant families. Also, merchants were among the pioneers in the mechanical engineering industry, particularly in the early period, although later on they were succeeded by craftsmen, technicians, and inventors. However, it is important to note that, despite the merchants' vigorous efforts, provision of capital was a chronic problem for the iron industry. In addition, it was

often problematic for both ironmasters and manufacturers to find an agent to fulfill the intermediary role.

Transition to a Modern Capital Market

Although merchants played an important role in the development of export industries, particularly the iron industry, there was less need for their services in their traditional role as Sweden moved toward modernization and a more industrial economy. The experienced merchants and trading houses transferred their knowledge and experience to business in the early stages of industrialization, when the capital-goods firms were being built up. In this context, Sweden's long history of the iron industry and the nation's international trade contacts were important.

During the last decades of the nineteenth century, the high costs of raw materials, development costs, and the provision of financing, all part of the dramatic changes in the capital-goods industries, were problems for the emerging capital-goods producers. As industrial production became more capital intensive in the nineteenth century, the provision of capital became a central problem of entrepreneurship. Gradually, the banking system took over the role of financier of the new export industries (Carlson, 1979).

Therefore, during the nineteenth century, the merchants' position in commerce and foreign trade declined somewhat. Several of them disappeared, but others replaced them. In Gothenburg, Sweden's window to the West, the firms of Dickson, Gibson, Saern, and Wijk were all founded by British merchants (Carlson, 1979). Eventually, the banks took over the bill-of-exchange business, and Swedish

export firms began to get their agents abroad, thus displacing the merchants as middlemen.

The Metals Industry--Iron and Copper

Ever since the Middle Ages, Sweden had a significant mining sector, with iron and, in the sixteenth and seventeenth centuries, copper as staple products that helped to finance wars (Ruth, 1985). Mining activities began in the thirteenth century at the well-known copper mine at Stora Kopparberget (translated as big copper mountain) near the town of Falun in the region of Dalarna. In 1360, when production was in full stride at Koppararberget, Magnus Eriksson proclaimed Sweden's first laws prescribing how the work should be organized, with detailed rules and regulations for the mining people--all in Latin (Lindqvist, 1994). The mines were located in Falun, in the area known as Bergslagen, which had an abundance of ore and covered three provinces, Västmanland, Dalarna, and Värmland, a hilly and mountainous region in the middle of Sweden (see Figure 3.3).

Stora Kopparberg Bergslags AB, the most notable ancient industrial concern of Sweden, the oldest industrial undertaking in Sweden and certainly one of the oldest now existing in the world, evolved from the mines. The huge Stora business concern goes back to the copper mining company that existed as early as 1288 (see Rydberg, 1988). The activities of the region and the company were economically intertwined. The Falu mines and the town of Falun became Sweden's first industrial center. More than 5,000 people lived and worked in the area during the peak production years.

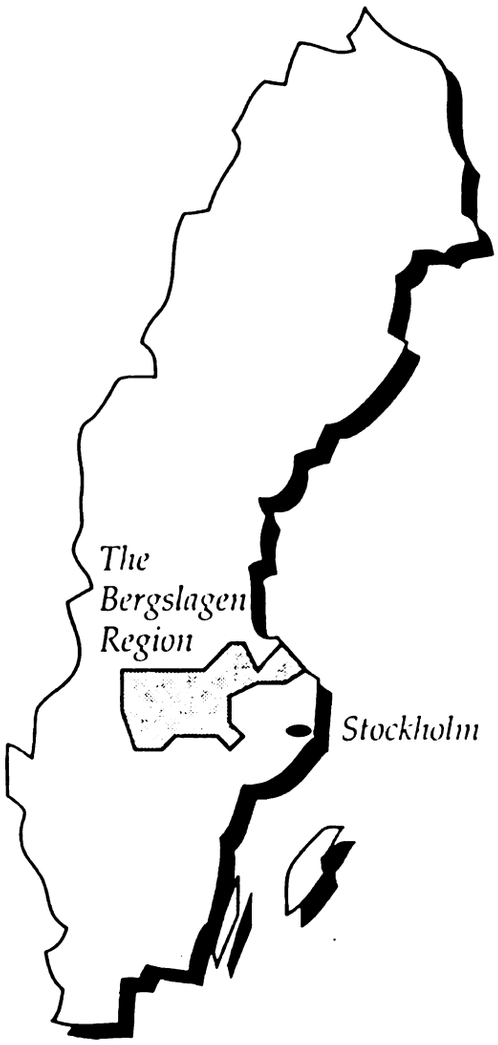


Fig. 3.3: Map showing Bergslagen region. Bergslagen, the traditional industrial heart of Sweden, is an area that cuts across regional borders, covering seven counties.

Source: Ministry of Industry and Commerce (1990/91).

In the fourteenth century, prominent Hansard merchants, particularly those from Lübeck, the center for the Hanseatic League, were co-owners of the mine; they organized the iron export trade and invested in new foundries and mines. German experts had gone to Bergslagen as far back as the thirteenth century, as indicated by such place names as Saxhyttan, referring to the Saxons. Other names like Garphyttan and Garpenberg imply that the German immigrants were perhaps not very popular (the word *garp* meant a German braggart or bully in Sweden during the Middle Ages; *berg* = mountain, *hytta* = foundry). Nevertheless, the Germans were the first foreign influence of significance for Sweden's economic development (Heckscher, 1954).

The Falu mines were the heart of Sweden during the great power era,[7] which lasted as long as the mines continued to function and Sweden remained the world's largest cooper exporter. For a long time, the region's output of copper was the largest in the world. The riches of this mine, the mineral wealth of iron and copper, supplied the financial basis for Sweden's expansion into the Baltic area during the seventeenth century, when Sweden was a warrior nation.

There was a great demand for copper in the building trade throughout Europe. Baroque palaces and churches were roofed in copper, and copper was used in distillery equipment, in pots and pans, and in the production of brass. Moreover, in the seventeenth century, Falu copper and iron provided 80 percent of Sweden's export revenue. They also supplied the iron used in making cannons, at a time when Sweden was a leading manufacturer in the armaments industry (Lindqvist, 1994).

During the seventeenth century, a thousand people were employed in the mines. The production process was labor intensive and demanding. The mineworkers dug into the mine through narrow tunnels, with the illumination of tar torches, and built fires against the rock face so that the ore could be cracked and split; thus, the ore was broken by fire. The work was heavy and hazardous, and the workers were subjected to constant danger. Ore and men alike were transported in big wooden tubs.

However, the mines were overworked and they failed, with regard to large output, around midsummer 1687, a few decades before the end of the great power era. In the meantime, though, copper had taken on added importance.

In 1625, the copper currency was introduced in Sweden to make it sought after in the home market as well as abroad. The copper standard understandably provided a serious inconvenience for the transport of money in the form of coins, as well as adding an unwieldy and awkward dimension to business transactions. When Dutchman Palmstruch founded Sweden's first bank, the Stockholm Banco, in 1668, the bank issued Europe's first paper money. Still, the copper currency had a lasting effect on the Swedish monetary system for 150 years, until currency reform in 1776.

By the nineteenth century, the output of the Falu mines gradually diminished, and the activities for the company were changed to the present spheres.[8] Thus, the world's oldest corporation grew from a copper mining company to a classic *bruk*.

Brukspatron Louis De Geer–The Iron King

The techniques used in Sweden's oldest industry, iron, were brought to Sweden by people who immigrated sometimes centuries before Sweden's late industrialization in the latter part of the nineteenth century. It was foreign capitalists and experts with new techniques and ideas who undertook the large-scale production of copper and iron in Falun and other places. Specialists from Germany and Austria, including Rademacher, de Besche, and Geijer, improved the iron-producing methods and established new foundries and industries. Some foreign specialists and financiers remained in Sweden. They took out Swedish nationality and obtained letters of nobility, which means that they had total freedom of maneuver, unlike the majority of the population at the time.

Although Germany had been an influence in Sweden in some trading areas, the entrepreneurs and investors came from Holland. At that time, Sweden and Holland[9] were the major Protestant powers on the European mainland and had kept in touch politically, especially during the expansion of the Dutch in the seventeenth century. Shipping and the waters of the Baltic had been monopolized by Hanseatic ships, followed by Holland in the sixteenth century. This meant that the capitalists of Amsterdam had a firm grip on trade in the area.

Of the early business leaders to immigrate to Sweden, the most prominent by far was Louis De Geer, "the iron king," a descendant of an old Liége family who had settled in Amsterdam (Braudel, 1985). De Geer's commercial realm was extensive, and he became Sweden's richest man. He was an entrepreneur, a "jack of all trades"; no area of preindustrial economic activity seems to have escaped his huge grasp, making him responsible for one of the most interesting and impressive

chapters of Sweden's early economic development. According to Heckscher (1954), "he was the greatest ironmaster of the country and a pioneer in the modernization of the Swedish iron industry" (p. 103).

De Geer brought more than a hundred families of Walloons to Sweden from his birthplace, the bishopric of Liége. They introduced great brick blast furnaces and laid the foundation for the upswing in the Swedish iron industry. At that time the Walloons were the most skilled of craftsmen in forge work and iron production.

Model industries were built up by the Walloons, who introduced the first great blast furnaces in Bergslag, not far from the capital and the shores of Lake Mälaren. The Walloons settled around De Geer's various ironworks, or *bruk,* at Finspång and other areas. They brought with them their own clergy schools and social systems.

Since the seventeenth century, the technique used in iron production has been based on the Walloon method. During that period, the Swedish iron industry assumed a form of organization that would continue until the late nineteenth century. Many of the technical terms associated with the Swedish iron-making process came from the old Walloon process, a system of using different forges for fining and for beating the iron into bars, consuming a good deal of fuel (charcoal).

The Walloons' language left an enduring mark in Sweden. Apart from the Walloon forge, the French-speaking Walloons used a masoned blast furnace known as a "French" furnace. Those stone furnaces were sometimes called ironmaster furnaces (*brukspatronsugnar).* The company settlements surrounding Stockholm, where De Geer's main office was located, often had French names rather than Swedish ones--Leufsta rather than Lövsta, for example (Heckscher, 1954).

At that time, outside of the main trading center, Stockholm, the other areas were remote and primitive. The Dalälven valley was regarded as a crucial dividing line. According to an old Swedish saying, "Oaks, crayfish, and noblemen are not found north of the river." Braudel (1985) proposed that Stockholm as a trading center was not free from controls from abroad until an economic area took shape around a political area, and that is the case for other national economies, but the obvious reasons that this development was slow in Sweden included poor communications, a small population, and the facts that the waters of the Baltic were not under Swedish control and that the merchant marine was mediocre; therefore, Stockholm was "a turntable of foreign trade passing everything on to first Hansa and then Amsterdam" (Braudel, 1985, p. 250).

The Walloons assimilated, unlike many of the Germans who settled in Sweden as traders (Moch, 1992). At that time, the seventeenth century, the Swedish government pursued an ambitious and deliberate policy aimed at absorbing immigrants. Many of the Walloons were the forefathers of the well-known Alard, Wahl, Lamberts, Gauffin, and Sporrong families. Two of the estates of the realm--the clergy and peasants--were almost exclusively Swedish, but the burghers and nobles were often of foreign birth. Today, almost half (42.5 percent) of the families belonging to Sweden's House of Lords (Riddarhuset) are of foreign origin.

De Geer and the Walloons from Belgium (part of the Netherlands at that time) played an important role in Sweden's economic history. They arrived in the seventeenth century when Sweden's warrior kings needed their skills to produce and smelt cannons, musket balls, and muskets for their military adventures, including the

Thirty Years War. De Geer built up the export trade and secured a Swedish monopoly for the manufacture of cannons and muskets at a time when Sweden was considered the "armory of Europe." During the Danish war in 1644-45, De Geer succeeded in leasing a fleet of Dutch vessels, which he put at the disposal of the Swedish crown (Dahlgren, 1923).

During his time in Sweden, De Geer set up systems of banks to facilitate payments between distant places and maneuvered in various field of economic activity. He was a shipper and a shipbuilder, as well as the leading exporter of Swedish copper. In addition, he produced a wide range of manufactured goods including brass, steel, and tin, and procured government revenue for the State through the armaments industry. As the manager of the government's arms manufactories, De Geer was the leading producer of guns and ordnance.[10]

De Geer's help was constantly needed, both as a creditor and as a councilor in economic affairs. In return, the Crown rewarded him with large estates; thus, he became a landowner. He was active with a pen, and even though he never learned to write in Swedish, he produced a copious collection of correspondence in Dutch, German, and French to the Royalty and Council in Stockholm (Heckscher, 1954).[11]

When the enterprising and multifaceted De Geer died in Amsterdam in 1654, there was no one of similar stature to succeed him. For a number of centuries, the techniques the Walloons introduced in the iron industry did not change. Some Walloon ironworkers were still staffing the ironworks in Uppland in the eighteenth century.

However, although immigrants such as the Germans and Walloons were important in introducing new techniques, it should not be overlooked that the majority of the ironworks were, in fact, owned and run by Swedes. The forging specialists like the Walloons and financiers like De Geer became successful investors and headed the biggest concerns; thus, they were the most prominent and well known.

Sweden's Ancient Iron-Export Industry

The iron fields in the middle of Sweden afforded the mineral basis of the trade. Although iron had been produced in many parts of the country, the abundance of ore was in Bergslagen, where iron production had begun in the twelfth century before the Germans made their appearance. The ore in the ground was the property of the Crown, but peasants who owned the land set up their own iron and copper cooperatives, jointly owning and operating their own mines, foundries, or blast furnaces. They were partners in a kind of iron-furnace cooperative. They worked seasonally, farming the land and mining the ore.

By 1600, ironmaking consisted of fining pig iron into malleable iron. This new product, which displaced Osmund iron, was called bar iron, and it became one of Sweden's most famous staple products. There were some small-scale ironworks at that time and some efforts to form a capitalistic system; however, this movement was usually resisted by the Crown, favoring copper instead. Thus, the preoccupation with copper created resistance to reforming the iron industry, resulting in ironworks that were usually on too large a scale to be efficient, although there

were many small, private ironworks. These developments led to regulation of the iron industry and the trade, rather than competitive policies.

An essential feature for the mines to function properly was a large supply of manpower. The miners worked underground in the mines, and peasants from the vicinity of Bergslagen worked in the forests, felling trees to feed the furnaces and supplying timber for the mines and charcoal for the foundries. The peasants also supplied grain, butter and cheese, oxen, and salt fish from various areas in Sweden. Others had to operate the waterwheels and tend the furnaces to process the white-hot metal. In the early centuries, felons were granted some form of pardon in Bergslagen if they agreed to work in the mines (Lindqvist, 1994).

However, because there was a demand for more labor than could be obtained voluntarily, vagrants and any other homeless individuals often were rounded up and forced to work in the mines. This policy resulted in a constant turnover of a rough group of workers who were not tied to farming. Thus, the mines and the foundries of Bergslagen were the only places where there was a form of industrial proletariat. The settled mining people were granted the right to carry weapons, in order to protect themselves in that special environment. Bergslagen had its own laws, its own system of justice, and its own courts.

The Iron Industry and the Swedish Technique

Until the time of increased industrialization in the 1860s, iron remained preeminently an export trade. Several factors contributed to Sweden's prominence in the international market and the high regard held abroad for Swedish ironmaking.

Meticulous precision characterized Swedish ironmaking, and "it has been said to be managed with the care of a laboratory experiment" (Heckscher, 1954, p. 95). According to Heckscher, Swedish high-quality iron and steel in the twentieth century is a heritage from the seventeenth century, and the precise Swedish method, a handicraft, "was clearly not conducive to large-scale production" (p. 95). The quality of Swedish iron was determinedly maintained, and this feature proved to have a long-term effect on the international competitive situation during the industrial era in the late nineteenth century in Sweden.

Going back a number of centuries, a key competitive factor for the Swedish iron industry was the attention paid to high quality. This competitive advantage resulted from the fact that the rather primitive production methods placed a premium on the purity of Swedish ore, and substantial efforts were made to upgrade the export product, mostly in the form of bar iron or *stångjärn.* The Swedish system of quality control, *järnvrakeri,* for iron and bar iron meant that the *vräkare* inspected all outgoing iron goods before they were exported, rejecting substandard products (Heckscher, 1954). As early as the sixteenth century, an iron stamp was used with the individual iron producer's mark, which created ownership for the work completed. This form of control stimulated competition among producers to ensure high quality, and it resulted in buttressing Sweden's international market position and reputation.

In addition, the production of high-quality iron exports also had the effect of pushing other countries to upgrade their technology and seek innovative efforts to overcome the disability of working with ores that were not as pure as the Swedish ores. Advances in technology in countries that also had some mineral resources

could lead to a diminished dependence on the import of Swedish iron, and this was the case with developments in England.

However, in terms of metallurgical and technical advances, Sweden was somewhat of a pioneer in the iron-making process. The traditional Swedish technique involved hammering the pig iron by hand at forges until it was reduced to a doughlike consistency. The craft tradition had been passed on from generation to generation in the historic iron-producing area, Bergslagen, in the middle of Sweden.

Technologically speaking, the excellence of Swedish iron was the result of a number of innovations introduced by the Walloons in the early seventeenth century. The Walloon process consisted of using different forges for the fining of the material and beating the iron bars. The Walloon forge consisted of two hearths, instead of one. The first forge was used to reduce the carbon content in pig iron to make it malleable, and the second forge was used to beat the pig iron into bars.

Walloon iron turned out to be superior for the purpose of steel production. In those days, steel--that is to say, hard iron--was produced by further processing of malleable iron, at an additional cost. Higher-grade iron, based on the high-quality Walloon iron, could be converted into steel in other countries. However, at that time in the history of the iron trade and in the context of the world economy, the world consumption of steel was extremely insignificant, compared to the demand for malleable iron. An illustration of this development is that, during the eighteenth century, Walloon iron made up from 10 to 12 percent of the total exports of Swedish iron (Heckscher, 1935).

At the same time, other advances in technique were made in the process. A technological change in forge technology resulted from a German forge that accounted for the production of all malleable iron, with the exception of Walloon iron. Also, no less important than forge technology were changes in the production of pig iron, the crude iron that comes from the blast furnace. In this regard, an important innovation was the introduction by the French-speaking Walloons of the French furnace--a blast furnace made of stone rather than the old form of timber and earth, called *mulltimmershyttor* (Heckscher, 1954).

Taken together, all of these technological changes laid the foundation for the Swedish iron industry, which would carry over to the nineteenth century. The iron in the north of Sweden had a higher phosphoric content, which meant that it would break under the hammer, and the ore was not accessible until the railroad system was extended, toward the end of the nineteenth century. Thus, the technology of the Swedish iron industry had crystallized in the seventeenth century, resulting from a combination of the old Swedish technique, the Walloon process, and others. After that, there were just minor improvements in the process for two centuries.

Swedish *Bruk*: A Profile and Preconditions

The antecedents of Swedish industrialization can be found in the preindustrial structure and organization of industry and labor. In the Swedish *bruk,* the small-scale villages and ironworks were paternalistic, dispersed, and rural in nature. Most of the *bruk* were located in the midpart of Sweden, the historic industrial seat and the most active center of the iron industry. The mills were located in Bergslagen, i.e.,

the chief mining districts in central Sweden where there were about 600 mills of one type or another by the nineteenth century. The area encompassed a broad belt--Northern Uppland, Västmanland, and part of Dalecarlia to Värmland. These districts were influential in the industry and well suited to the manufacture of high-grade products (see map of Sweden, Figure 3.4). Although not characterized by large rivers, those areas had brooks and streams for turning water wheels.

The areas' pine and spruce forests were well suited to charring purposes. Therefore, two factors contributed to the Swedish ironmasters' production of high-quality Swedish iron: (a) an abundance of good, pure ores and (b) an ample supply of charcoal used in the production of pig iron. The mills could not be concentrated into large production units, mainly because they were tied to the mines and the forests in the immediate area for their raw materials, which could not be sent over long distances. At that time the national transport system was underdeveloped.

The work environment and organization of production included simple working conditions. The ironworkers, working together in groups, wore white shirts to protect themselves from the intense heat. In his travel accounts, Linnaeus, the Swedish botanist, Carl von Linné (1707-1778), who is responsible for the systematic classification of plants, animals, and minerals presented in *Systema naturae,* wrote about "the shirted servants of Vulcan," referring to the fact that the hammermen would wear only a long, coarse white shirt to protect themselves against the heat from the hearth (Heckscher, 1954, p. 217). The white shirts were still worn in the nineteenth century, during the time of the introduction of the Lancashire process, which was used sporadically starting in the 1820s and later became the prevalent

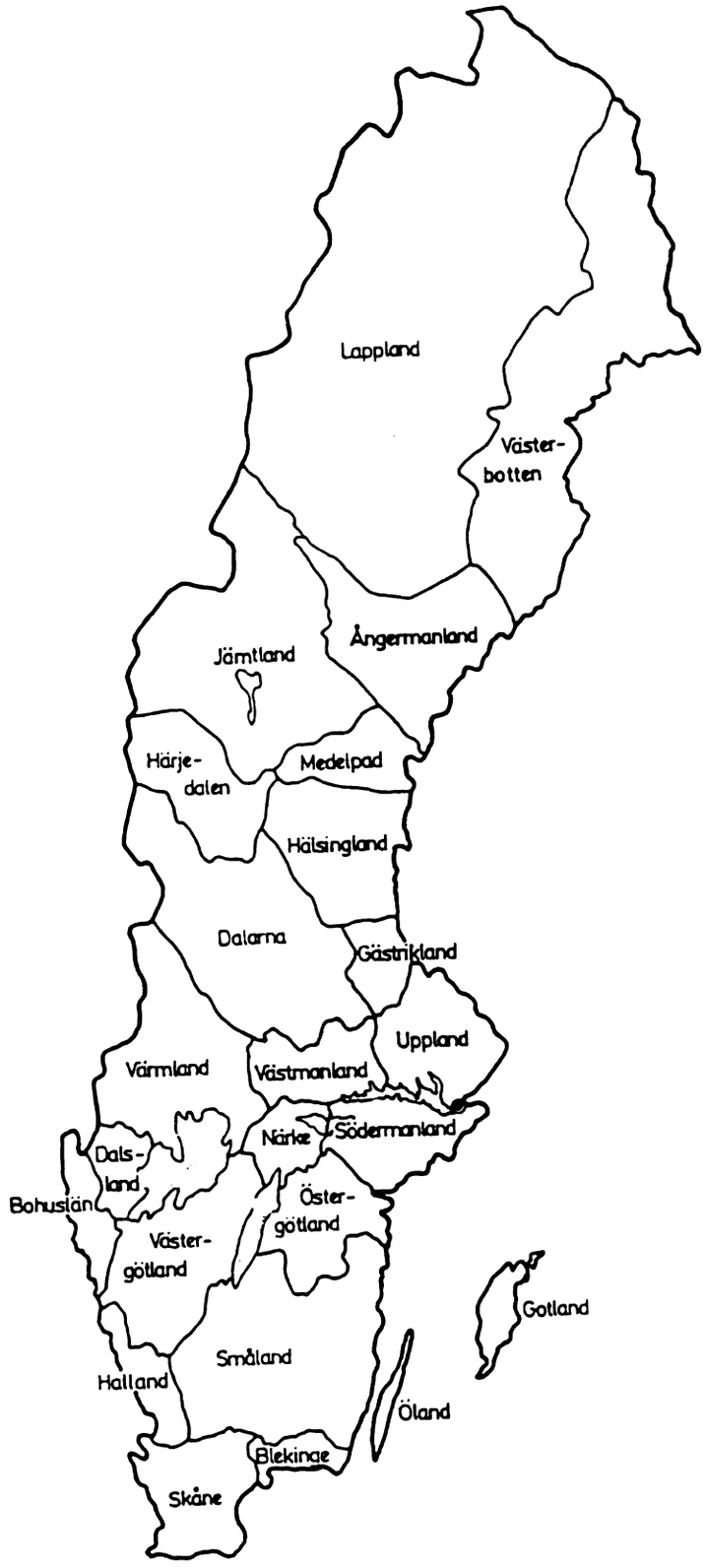


Fig. 3.4: Map of Sweden.

Source: Rinblom and Norman (1976), p. 15.

method. To a layman, the nineteenth century Lancashire process did not appear to be much different from what Linnaeus had observed a century before.

Organization of Iron Production and the Work Environment--Engelsberg *Bruk*

At the Engelsberg *Bruk,*[12] located in the Norberg mining district, three generations of the Timm family owned the works for nearly 100 years until it was purchased by industrialist Axel Johnson, the owner of Avesta ironworks, in 1916.

The rhythm of the iron industry was seasonal. In the autumn the timber from the forests about the *bruk* was burned to charcoal used in the smelting process for the conversion to pig iron. With winter came the mining season, and during the spring, when the water levels in the streams were high, the work of the blast furnace got under way because it was water power that drove the operations of the smelting houses.

Winter was a busy time in the Swedish forests. The rough forest tracks as well as the highroads were, as a rule, covered with snow and ice. Bogs and marshes, not easily accessible at other seasons, were then safely bridged by ice. Bar iron had to be carried to some river or lake to be shipped later to export harbors.

The transport situation was just as bad with respect to the finished iron. From the mine at Norberg, some twenty kilometers away, the ore was transported by horse and cart through the forest, with great difficulty. In the winter, the raw material was conveyed on sledges on silvery ice that criss-crossed the boggy soil in that part of Sweden.

Then the ore arrived at Engelsberg *bruk,* it was weighed and, after sorting, transported to the roasting furnace. Before being subjected to the blast furnace, it was heated up or "roasted," which meant that extraneous substances such as water, carbonic acid, arsenic, and sulphur were removed from the iron ore. Roasting made it easier to crush the ore and reduce it in the blast furnace.

The roasting furnace at Engelsberg dating from the 1800s, an impressive piece called a "Westman," was built of blue and green gleaming slag stone, with the phosphorous and copper content providing the color. The roasting furnace consisted of three walls of slate dug into a slope, with the fourth side providing an opening through which the furnace was filled with wood and topped with several layers of small coal and iron ore. Then the wood was ignited, and, through the heating of the burning and carbonized wood, the iron became roasted. Air was pumped into the furnace through a hole in the furnace wall. The iron never became liquid; rather, it collected into a doughy lump that formed slag, which sank to the bottom of the furnace. Through iron apertures encircling the furnace, iron workers were able to introduce crowbars to detach the red-hot mass from the walls. This whole procedure created a great deal of coal dust.

The iron underwent further treatment in the rolling crusher in the furnace located above the stream. As early as the sixteenth century, there was a blast furnace on site called a mull timber furnace, which had interior walls of fire-resistant tile, and on the outside a shell of slag stone was kept in place with an iron band. The blast furnace remaining at Engelsberg dates from 1748, one of the few of its type still preserved--an industrial monument.

Inside the blast furnace, the iron ore was placed in layers with limestone and charcoal. Apprentices carried the charcoal to the rim of the blast furnace, the "red hot jaws." Smelting was done at a temperature of 1000 degrees Celsius, resulting in pig iron and slag. The plant was equipped with bellows and an apparatus to heat up the blown air. In addition, there was a hammer-type crusher. All of these devices were driven by water power.

Before the iron was rolled, it had to be oxidized or "puddled"; this process took place in forges, fired with charcoal during blasting. The first hammer forge at Engelsberg had been erected in 1624. The existing forge acquired its present appearance in 1845. At the master forge, pig iron was cast into puddle bars that were then forged to make iron bars, and it was this product that was so important to the Swedish export market. This process was known as the Lancashire method, which employed a water-powered lifting hammer and blower, all in wood. The Lancashire technique was imported and adapted for Swedish production after the 1820s.

Producing iron at the *bruk* was demanding, dangerous, and hazardous to the workers' health. In 1820, twenty men worked at the furnace, with production running at two to three tons a day. There were eighty round-the-clock days of production with an output of 224 tons a year, which required 17 cubic meters of coal (charcoal). Every batch setting produced 400 kilograms of iron ore (1 kilo = 2.2 pounds). The average blast furnace worker seldom lived more than forty to forty-five years. The arsenic in the ore, which was released during the roasting process, caused potentially fatal diseases.

Small-Scale Production

Peasants and agricultural workers supplemented their incomes on a seasonal basis with intermittent work in the *bruk.* The numerous charcoal burners, forest workers, and carriers usually were not included in the official employment figures. Therefore, it is not clear how many people actually were working in iron production as the work was seasonal.

By 1850, about 75 percent of Sweden's 3.5 million inhabitants depended on agriculture for their livelihood. However, it has been estimated that iron producers, including charcoal burners and carters, made up about 10 percent of the total population (see Montgomery, 1939, pp. 15-16). In busy times, many more workers would have been involved in transport. There was an adequate labor supply because of underemployment in agriculture.

Due to the small-scale production and limited technical improvements, no large new investments of capital were needed, and even though the number of ironworks declined in the nineteenth century, there was no tendency toward concentration. Transport conditions remained unsatisfactory as late as the 1850s and 1860s, and most ironworks had to rely on a rather "narrow neighborhood" for the supply of charcoal because carting fuel over long distances by road was costly and became increasingly prohibitive. Thus, carriage of pig iron and ore was confined to relatively short distances (Montgomery, 1939).

Social and Cultural Patterns of Work Organization at the *Bruk*

Most likely, the cultural patterns associated with *bruk* tradition were highly influential in clearing the way for Swedish industrialization. More research is required about the actual process, although some stabilizing forces are evident. Despite a basic pattern of subjugation, the work force was provided with decent housing, medicine, and even schools, amenities that were still lacking for most of the society at large.

The Statute of Hammermen, enacted in 1766, made the *brukspatron* responsible for health and unemployment contributions. The *brukspatron* supplied employment benefits such as a pension, cancellation of debt for purchases in the company store, and housing. By the nineteenth century, the paternalistic structure of the *bruk* provided rudimentary forms of "social welfare," such as care of the sick, the elderly, and the widowed.

A striking feature of the iron communities was that they retained their small, rural nature. The workers' dwellings were clustered along the *bruksgata,* the main street; these communities were seldom large enough to form the appearance of a small community or town (Montgomery, 1939).

The *bruk* often were owned by a single family and structured in a hierarchical manner (Scase, 1977). The workers were rather isolated, tied to the *bruk* and the company store for credit. The iron-works environment included a farmyard, an office, a storehouse, and dwellings for workers, and usually a manor house for the *brukspatron* and his family.

The social organization of the *bruk* revealed its patriarchal ancestry in many respects. Socially, the ironmasters, or *brukspatron,* and the producers of pig iron belonged to different classes. The latter were largely peasants, *bergsmän,*[13] belonging to the lower stratum, whereas the ironmasters belonged to the gentry. It was the *brukspatron* who became the first secular group outside the nobility to assume the status of an upper class (Munktell, 1934).

The traditional small ironmakers, *bergsmän,* were confined to mining and pig iron production. They often received financial support from ironmasters in anticipation of sales contracts. Some ironmasters began to displace the small producers by equipping their works with blast furnaces of their own; the French stone furnaces were sometimes called ironmaster furnaces, or *brukspatronsugnar* in Swedish (Heckscher, 1954).

The hierarchical system provided employment for peasants, who were involved in the industrial process as suppliers of charcoal for iron manufacturing. The subsidiary occupations of carter or charcoal burner offered the peasants employment opportunities that were important to their livelihoods. The charcoal kilns, with their distinct smoky and resinous smell, became indeed a characteristic feature in various parts of the Swedish countryside.

The *bergsmän* were distinguished from the peasants in different ways. They were not allowed to divert their forests' yield of wood or charcoal from the chief purpose of carrying on the production of pig iron (Montgomery, 1939). Different *bergsmän* formed groups to maintain a blast furnace for smelting operations, but these were small-scale operations. As new techniques were developed in the iron

industry, the *bergsmän* had difficulty keeping up with technical progress and had to rely increasingly on the expert knowledge of specialized blast-furnace workers and the "masters."

Work Traditions and Skills

Decentralization was a striking feature of the traditional Swedish iron industry and *bruk,* more in evidence during the eighteenth century, largely due to dependence on charcoal and lack of adequate transport facilities. However, the dispersed structure of the *bruk,* essentially mining villages within the rural context, and small operations continued until well into the latter half of the nineteenth century, when there were about 600 iron mills in Bergslagen. Thus, the sizes of the works were adjusted to the limited supply of charcoal. Because the works were mostly on a very moderate scale, concentration into large production units was impossible.

The *brukspatron* had a good deal of leverage with the work force. The workers were supplied by his stores, lived in his houses, and even could be evicted in the event of a strike. Moreover, workers had few alternatives. According to Swedish law, everyone capable of work and dependent on work for his livelihood had to be employed in a lawful occupation or risk prosecution. The rural location tended to accentuate the ironworkers' dependence on their employers. However, the *bruk* dynamics reveal that the *patron* and ironworkers were dependent on one another.

At the end of the nineteenth century, the workers at the *bruk* still retained an organization in which craft-guild elements were wedded to some of the craft-guild

rules, which usually governed the relations of masters and servants, the traditional method of formulating a verbal employment contract. Consequently, it was up to the *brukspatron* and the ironworkers themselves to decide on compensation and conditions of work. Most matters regulating work were concluded by individual agreement, which was the case in most of the rest of Europe in the nineteenth century. Of course, there must have been discussions about wages, although for a long time the workers were paid in kind.[14]

Meticulous precision characterized Swedish ironmaking, work associated with metallurgy and knowledge about how to apply a handicraft to the industrial processing of raw materials. These special characteristics clearly were not conducive to large-scale production. Much of the work at the *bruk* called for considerable skill, and the laborers had acquired a greater measure of independence than the agricultural workers. Skill in dealing with iron and steel was, to a large extent, built upon experience; indeed, even today, the judgment to interrupt a process is built on observing the color of the steel. The Swedish iron-production process was thus based on skill and experience, and was highly secretive.

The guildlike organization and pride in workmanship were further stabilizing factors. The traditional bond that existed between the employer and employees was not present in the manufacturing industries of the times. Patterns of work relationships only gradually change and manifest themselves; this is the pattern that existed in the *bruk* for centuries.

Technical Aspects of the *Bruk* and Competition From Abroad

Sweden's share of world production of iron was estimated at 35 percent (Heckscher, 1935) during the last half of the eighteenth century; often, as much as 75 percent of British imports of iron came from Sweden.[15] However, conditions soon changed dramatically for the Swedish iron industry. The period between 1830 and 1870 was one of intense technical reform.

In the years leading up to the mid-nineteenth century, the first steps were taken to begin developing the processes of ironmaking, including adaptation of those already proven, which would make it possible to produce high-quality iron at competitive prices without using mineral fuel. After 1820, the first in a line of technical advances was the Lancashire process, imported from England but adapted to Swedish conditions, the process used at Engelsberg *Bruk* (see Scobbie, 1972, p. 79, for more about this development).

The new process did not appear to be much different from its predecessors. It included the hammering process to reduce the pig iron at forges after it had been reduced to a doughy consistency, as the Walloon process had done in beating the iron into bars. However, the new process was superior to the Walloon process because it provided high-quality iron with lower fuel consumption. The Lancashire process was the most important and lasting development in iron processing, creating a new position for the Swedish iron industry and the output of Lancashire iron. Consequently, the output of Lancashire iron continued to grow until the 1890s.

Decline in Swedish Iron Production

As a result of increased international competition fostered by the substitution of coal for charcoal, a technique developed in England, the production of Swedish iron declined and the prominence of the *bruk* was eroded (Scase, 1977). The British produced a high-quality product with lower fuel consumption, resulting in a cost savings. British ironmasters achieved economies of scale by integrating all of the iron production into one place, usually near the site of coal production.

By the end of the nineteenth century, Britain was a net exporter of iron. For the Swedish iron industry to survive as an active export trader it had to (a) adjust itself to the new conditions, (b) effect a technical reorganization, (c) abolish the regulations from the halcyon days of international monopoly, and (d) reduce prices as much as possible in order to meet the British competition.

Because Sweden was destitute of coal resources (there were only small traces of indigenous coal in Skåne), basing the trade on imported coal was not a policy that held out any prospect of success. Neither was it a practicable proposition to give up the export business altogether and direct activities to supplying the home market because the home market was too narrow (Montgomery, 1939). The Swedish iron industry had to remain chiefly an export trade--specifically, an export trade based on charcoal.

Innovations made in other countries, mainly England, rapidly broadened the market for inexpensive iron, so Swedish producers had to center their efforts on the manufacture of high-grade iron. It took a while to see the need to change, but

economic reform gradually remodeled the technical as well as the administrative and legal bases of the industry, as will be seen.

The Swedish Iron Industry and Developments in England

Historically, England was the most important market for Swedish iron, and it was also the center for new techniques. The fuel shortage in England had worsened over time, and attempts made there to substitute coal and coke for charcoal in iron smelting continued without success. Then, early in the eighteenth century, Abraham Darby and his son began experimenting with substituting coke (made from coal) for charcoal (from wood) in reducing iron ore. However, this process was kept secret for some time. It takes time to diffuse new technologies, especially when old methods are ensconced. So, although Darby's technical advances freed England's iron industry from a reliance on charcoal, it was not until 1775 that charcoal burning was abandoned altogether.

Later, in 1760, John Smeaton improved on the Darby process by adding a water-power-driven air blast, which improved the quality and yield of coke. In 1783-84, Henry Cort discovered a new "puddling" and "rolling" process, for purifying pig iron made with coke. "From this time forward, coal and iron went hand in hand with steam as the foundation of industrialization" (Littlefield, 1963, p. 75).

At first, the coke pig iron was inferior and could not be converted successfully into malleable iron. Its only use was iron founding. Moreover, Sweden had never exported anything but a malleable iron, so the introduction of coke in iron did not affect Swedish exports adversely. It took some time before wares, such as knives

and scissors, that had always been produced from wrought iron and could not profitably be manufactured otherwise, were made by casting. Therefore, as long as England's economy expanded, the demand for imported malleable iron continued to grow. Thus, the Swedish export-market situation remained favorable, even after Darby's success.[16]

A Wider Competitive Field: Russia

Because of Sweden's continued iron exports to England, the perceived threat to the Swedish iron-export industry was not based on developments and technological advances in England. Instead, the Nordic Swedes perceived that challenges to Sweden's leading position in the international market emanated from the East, from Russia, and this neighbor caused some apprehension in Sweden.

Russia, with its vast forests, was another supplier for England's demand of malleable iron. The iron industry had been founded under Peter the Great, and after his death in 1725, iron exports continued to grow. At that time, four-fifths of the English iron imports were from Sweden. From the mid-eighteenth century onward, Sweden never faced any but temporary difficulties placing its iron in England on favorable terms.

Swedish Competitive Policy: Monopoly

The official Swedish policy regarding competition was ruthless, but it was also profitable in the short run. A system of State interference had been imposed on the trade, particularly in Bergslagen, with the express object of preventing a concentration deemed prejudicial to the national economy. The purpose of the

government's conservation policy was to spread the industry evenly over the forested areas. It was feared that the two major national industries, forestry and iron, would compete for material from the forests.

These apprehensions prompted elaborate legislation. Government authorization was required for starting new works to ensure that no new works were established without an adequate wood supply. In any case, it was thought that localization of this kind might produce a rise in charcoal prices and seriously weaken the competitive power of the trade.

The different parts of the iron trade were not allowed to settle at liberty in the vicinity of the mining fields. Forests of mining districts were in first place to be reserved for mining and smelting operations. On the other hand, the conversion of pig iron to malleable iron was preferably to be carried on at forges that drew their charcoal supply from forests outside Bergslagen.

At that time, the vast forests of Norrland, the larger part of the wooded area of the country outside the area of the iron industry, were of no use to the iron trade due to the difficulty of transporting raw materials before the railroads were built in the latter part of the nineteenth century. In addition, there was no Swedish technique to work the ore, which had a high phosphorous content and would break under the hammer, the traditional Swedish method.

The legal restrictions were a way to conserve forests and at the same time manipulate prices. The influence of the system of state interference was particularly manifest in the limitation of iron output, and production was adjusted to international conditions to secure remunerative selling prices for the exporters. The production

of bar iron, *stångjärn,* the standard product of the trade, was put under strict control, and expansion was prohibited, except to make up deficiencies of the preceding year.

In addition, the export of pig iron and ore was prohibited, and the internal pig-iron trade was regulated to prevent active competition and keep prices at a fair level to get the best selling price for export. Consequently, the iron industry in the latter half of the eighteenth century remained stationary, meaning not expanding, and the annual production of pig iron was only 15 percent higher than it had been forty years before (Montgomery, 1939).

The fixed limits of output at each mill were aimed at conserving forest resources, but in effect they tended to amount to rigorous monopolization of the Swedish iron industry. Europe was in a phase of vigorous industrial expansion at the time, and demand for iron was high. Sweden was strong on the supply side as it first stood alone, only later to be joined by Russia, which also restricted production. The benefits of curtailing production and exports were considerable, raising the price and increasing the returns due to high demand. Based on accounts from the Iron Bureau (Jernkontoret), about 85 to 90 percent of the output was destined for the export market. Therefore, Sweden could be steadfast.

The Swedish policy of monopoly would have been even more profitable if the less efficient mills had been shut down. Supervision was thorough, and production quotas imposed on each mill resulted in a cartel[17] arrangement that prevented full use of the monopolistic possibilities. "But more drastic monopolization would have been quite incompatible with the economic views of the time, with the high regard for the social position of the ironmasters, and especially, of course, with the official justification of the policy" (Heckscher, 1954, p. 179).[18]

The control of mining and pig-iron production restricted the industry at its base. The establishment of new mills was discouraged, and applications for larger quotas for the existing mills were rejected. Finally, in a last-ditch effort to improve productivity, the authorities carefully checked transfers of quotas from less efficient or closed-down mills for discrepancies.

If the official policy had been consistently applied, there would have been an absolute decline in production because some mills close down through the natural course of affairs. "Though this was not allowed to happen, the regulations were eventually sharpened to the point where applications for additional quotas or transfer of quotas were made a criminal offense" (Heckscher, 1954, p. 179). The authorities kept detailed accounts, especially those covering iron for export (perhaps only to the delight of historians). The lesson taught was the futility of being progressive in a controlled environment.

No iron could be exported without passing through the iron wharves in the shipping towns, where it was weighed and checked off against the producers' quotas. Similarly, books were kept on the iron shipped to the manufactories for further processing. Only iron that stayed within the country could evade control (Heckscher, 1954).

Quality Control

Quality control, which had always been one of the main features of the Swedish iron industry, was continued under the restrictive new system. An intense concern about potential foreign competition, and the existence of Russian iron

exports, prevented complacency. Quality control was furthered by the Iron Bureau, Jernkontoret, founded in 1747, which appointed technical directors and inspectors.

At that time, there was a growing interest in metallurgy and efficiency measures. The Mining Board (Bergskollegium) reported in 1773 that they had been able to consume less coal per ton of bar iron, a reduction of 40 percent; thereby, the Swedish iron industry avoided the ever-present danger facing a monopoly: quality deterioration (Heckscher, 1954, p. 180). Despite these substantial efforts, however, there was a change in Swedish attitudes about the threat of competition toward the end of the century.

Complacency and Menacing Circumstances

During the eighteenth century, years of booming industry had created an illusion of security and dulled awareness of the real threat to Sweden's leading position in international markets; this factor contributed to elements of complacency in Sweden. Because of Sweden's dominant position, the total international market was not vigilantly monitored due to a focus on the build-up of Russian exports. The menace of new technology did not come from the East and Russia; the greatest peril was the transition to mineral fuel or coke to produce bar iron in England, Sweden's largest export market.

Swedish mining authorities had been informed of experiments with coke pig iron, in England, at the initial stage early in the eighteenth century, even though there was secrecy about the actual events. It was impossible to locate any Swedish reports about the English iron industry, from the time when the new methods were introduced until the later introduction of the puddling process[19] in the early 1780s,

a critical time when the new methods of production matured. The British puddled iron was of inferior quality, but it was serviceable for many purposes for which better grades of iron had previously been used; above all, it was less costly to produce.

The higher grades of Swedish iron, which were used for conversion into steel, were not seriously threatened, but this was only a small part of the Swedish exports. The bulk of Swedish iron was thus fully exposed to the pressures of new competition. Yet it was 20 years before the British technical innovations had an impact on the Swedish iron industry. The British technical innovations did not arouse attention abroad until Thomas Svedenstjerna, one of Sweden's most gifted metallurgists, visited England in 1802 and 1803. He was both "baffled" and "terrified" by advances made by the English and Scottish ironworks, apparently as yet unknown in Sweden. Upon his return, he expounded on the menace of the new processes, which could reduce England's dependence on Swedish iron (Heckscher, 1935).

England had succeeded in making cheap iron. Nevertheless, despite the new English threat, prices for the Swedish iron export climbed to a new high. This unexpected event was a result of two factors related to the Napoleonic wars:

1. Swedish iron continued to be attractive on the English market for use where England's cheap puddled iron was not adequate.

2. Operations of continental ironworks were seriously obstructed; thus, war created a high level of demand.

Russia was unable to maintain its exports because the difference in the quality of Russian iron was not great enough to find a niche in the English market. After a few decades of decline, Swedish exports recovered to better than previous

performance, exceeding the limits that had been set in the period of monopolistic curtailment (Heckscher, 1954). Therefore, at that time, profits accumulated at a rewarding pace. Consequently, Svedenstjerna regarded the two decades leading up to the peace of 1815 as the most prosperous in Sweden's long history of iron exports. But the Napoleonic-wars era was not one of unmitigated prosperity. Peace in 1815 opened up a whole new period for Sweden's oldest industry, including (a) a considerable increase in English tariffs on iron (before the Cobden-Chevalier Treaty) and (b) the industry's loss of an important domestic advantage.

The iron industry lost an important national advantage when inflation, which had been ongoing throughout the eighteenth century, came to a halt. The price of charcoal kept pace, and the price of pig iron rose faster than that of bar iron, but one important cost factor, labor, lagged behind. Throughout the period, the industry had derived part of its profits because wages were more stable than prices. Production costs rose, but wages lagged behind.

The wages for workers in the Swedish iron industry, though fixed in money, were paid in kind. Wage sluggishness led to workers' demand for fixed prices to be charged for grain, the commodity for most of their wages. Many mills had to accede as they were dependent on the workers' skills. The price for bar iron in Sweden declined while England's tariff increased; hence, the Swedish iron producers were squeezed between rising wages and falling prices.

Even though there was great anxiety about the search for new iron technology abroad, this domestic episode probably brought home the need for reform in the Swedish iron industry before competition from the puddling process

made itself felt. The economic impact of both events led to stagnation and decline in the iron industry and the export market.

Lack of institutional reform meant that legal restraints were a hindrance, and there was not enough flexibility to adjust to international market conditions due to the economic structure of the domestic market. Restrictions on the export of pig iron were followed by an export duty until 1864, as was the case for iron ore (*Sweden Year-Book*, 1938). However, by the 1870s, the iron trade was free from tariffs in Sweden and England. The jungle of restrictions from the *ancien regime* had been dismantled. In the meantime, though, Sweden had lost its leading position in international markets.[20]

Reflections on Technological Progress

At the same time that advances were made in liberalizing the iron industry, technical advances were ongoing, although the traditional Swedish charcoal-based technique hung on tenaciously for a rather long time. The diffusion of technology takes time, and techniques that were imported had to be adapted to Swedish conditions--the traditional methods and tools used in making steel. A summary of innovations leading to a dramatic global expansion in steel production follows.[21]

The Bessemer Process

The first of the new inventions, the oldest method of ingot manufacture (i.e., the Bessemer process), was employed early in Sweden. Sir Henry Bessemer carried out early experiments in Sweden in the 1830s, at the Sandvik mills north of Stockholm, with the assistance of G. F. Göransson, a Swedish merchant. The Bessemer converter could refine iron less expensively with an air blast than with an

injection of other fuel, essentially producing steel without fuel. The British process was not immediately adopted, and then it was used only on a very small scale.

The advantage of the Bessemer process was that it used less costly fuel and produced steel in quantity at the required quality. Special Bessemer steel was well suited for making the edge and hammer tools and rock drills produced at Sandviken, an important application of the specialized steel. Bessemer steel displaced ordinary iron for a variety of uses in construction and transportation. However, it could not be used in the north of Sweden, where phosphorus ores remained untapped.

The Siemens Martin Process

The second new technique, adopted in 1868, was the Siemens Martin process, the work of a French father-and-son team and two German-born brothers. No extra refining was required to remove impurities; therefore, the end product was of superior quality. The drawback of this process was that it used a good deal of fuel and was inefficient due to the open-hearth process; therefore, it was not well suited to Swedish conditions. However, some coal was important for use with this process. By the era of rapid industrialization, the 1890s, the Siemens Martin process was used more extensively than the Bessemer process in Sweden. This process was slower and more costly than other methods, but it resulted in a higher grade product.

The Thomas Gilchrist Process--The Basic Process

The third advance in iron and steel manufacture was the Thomas Gilchrist process, patented by two English cousins in 1878. Often called the basic process, it met the need for a technique that could use phosphoric ores by lining the furnaces with a basic limestone material that united chemically with phosphorus; the slag

could then be used as fertilizer. The basic process could be applied to Bessemer converters, as well as to the open-hearth furnaces. This was regarded as the real turning point in steelmaking. One advantage for Sweden was that the Gilchrist method could use iron ore of high phosphoric content, which opened up iron mining around Kiruna, beyond the Arctic Circle, the "land of the midnight sun" (Scobbie, 1972).

This technical advance, the Thomas Gilchrist method, seemed the final shattering blow to the Swedish iron industry. According to Professor Richard Åkerman at the Royal Institute of Technology in Stockholm, one of the foremost metallurgists of the time, this was "the last nail in the coffin" for the dominance of the Swedish iron industry in world markets (Sahlin, 1940). Nevertheless, "prophecies of final surrender of the Swedish iron industry have so far been refuted by the ability of the industry to adapt" (Heckscher, 1954, p. 219).

Structural Crisis

Sweden had to find a new way to compete in international markets or get out of the race. If they were to survive, the decentralized Swedish mills in the countryside, which used more expensive charcoal and high-priced, phosphorus-free ores, had to accomplish two things:

1. Change over the production to special steel of technical superiority to get higher prices than for ordinary steel.

2. Differentiate the product line and adapt to the special needs of individual customers.

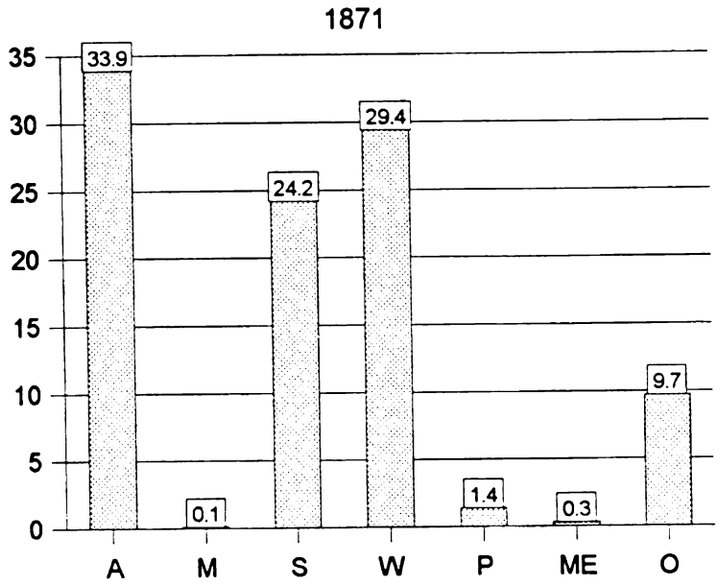
In the large task of shifting production to a higher grade of steel with cost-efficient measures, products had to be adapted to the special needs of individual customers, which also required different selling methods than those used earlier in selling bar iron and the traditional merchant/middleman arrangement. Thus, the iron and steel industry was forced to introduce new charcoal-saving production methods, change its product line, and change its business and management structure as Sweden faced the decades of industrialization, 1870 to 1910.

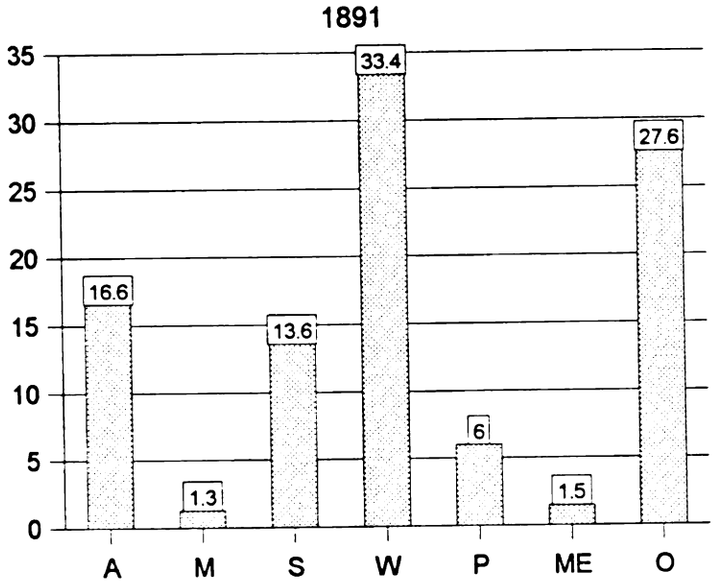
Decline--Shutdowns and Mergers

The iron and steel industry was going through a structural crisis as Sweden was becoming more industrialized in the 1870s. Even though, at times, Sweden had supplied almost half of England's demand for iron, timber was the largest source of export income in the late nineteenth century. Toward the turn of the century, there was a decline in timber and an upswing in pulp due to an increase in published technical journals.

Whereas the timber (sawmills) industry increased its share of total exports after 1871, the share of the iron and steel industry decreased (see Figure 3.5). During an era of structural change, the small charcoal-fired industries made valiant efforts to survive in their traditional form, but by the 1860s the *bruk* ceased to exist as a significant element of Swedish industrialization. Moreover, from the 1860s to the 1910s, most of the *bruk* of the traditional community type vanished.

The iron industry passed through a structural crisis in the latter part of the nineteenth century and was forced into shutdowns and multiple mergers. Because





Abbreviations:
A = Agriculture and forestry industry
M = Mining industry
S = Iron and steel industry
W = Wood industry, including furniture
P = Pulp and paper industry
ME = Mechanical-engineering industry, including electrical engineering
O = Other exports

Fig. 3.5: Distribution of Swedish exports in certain branches of industry as percentages of total exports (1871 and 1891).

Source: Ohlsson (1969).

Sweden was late to industrialize and restructure the iron industry, it was necessary to identify a particular niche in the export market for iron and steel.

Technical Skills and Big Business

As some of the *bruk* went bankrupt, they were bought up and rationalized as larger units by the banks. Although a few of the *bruk* developed into steel towns, such as Kiruna, the new operations were on too large a scale for the traditional iron masters.

> Big business finally got hold of the iron trade, when a large number of old *bruk* ceased operations and fell back on the exploitation of their forest land, sometimes after amalgamation with other undertakings; the remaining ironworks, on the other hand, enlarged their scale of working and adopted new methods of production. The Bessemer and the open hearth processes which now invaded the Swedish industry could not, like the Lancashire process, be adapted to the traditional small-scale organization but required a capital investment which was altogether beyond the reach of the mass of small work. The intensification of competition also contributed to raise the standard of technical attainment that was indispensable for achieving business success, and on this point also, the small works were handicapped by lack of financial resources. (Montgomery, 1939, p. 168)

Nevertheless, it is important to keep in mind that even with the introduction of new processes the average productive unit was smaller in the Swedish iron industry than in the larger iron-producing countries. Sweden had a disadvantage in a limited domestic market, especially in the early stages of industrialization when domestic capital was not available to build the infrastructure and finance new businesses, and the iron industry was not expanding. Moreover, the sizes of the establishments that supplied the high-grade charcoal iron for the international markets remained small.

Of the approximately 600 iron mills in the Bergslagen area in the mid-nineteenth century, the iron exports and the number of *bruk* decreased by one-half.

The number of ironworks engaged in the various branches of production gives a general picture of this downsizing (see Table 3.1).

Table 3.1

Number of Ironworks Engaged in Different Branches of Production, 1876 and 1912

Number of *bruk* engaged in the production of:	1876	1912
Pig iron	207	86
Bessemer iron	17	9
Martin iron	3	49
Weld iron *(valljärn)*[a]	327	49
Total	554	193

[a]The traditional type of Swedish iron.

Source: Adapted from Statens Offentliga Utredningar (SOU, 1922), p. 52.

Concentration of the Iron Industry

Roughly half of the blast furnaces in Sweden disappeared by the end of the nineteenth century. Closures of iron foundries affected entire regions. Many of the *bruk* amalgamated or ceased production. The Domnarvet Ironworks, founded in the 1870s, replaced nineteen *bruk* that were spread throughout the province of Dalarna in the interior of Sweden (Scobbie, 1972). The new techniques resulted in a shift toward few work sites in the Swedish mining industry and concentration of the industry, which previously had been impossible.

As a result of technical advances and restructuring, striking changes occurred in the Swedish iron industry. In pig iron production, the most striking change was a concentration of ironworks. The increase in the size of blast furnaces was also

noteworthy, although in a comparative context the increase was not as pronounced in Sweden as in other industrialized countries. This is because the character of Swedish iron was not adapted to furnaces of a size that could be used for low-quality iron. Along with increased capacity of the furnaces, there was an enormous scaling down in the number of furnaces. Overall, the international tendency and characterization of steelmaking has been an increase in concentration. The figures in Table 3.2 tell part of the story.

Table 3.2

Comparison of the Swedish Iron Industry, 1861 and 1915

	1861	1915
Days worked in the year	122	297
Annual output per furnace (metric tons)	751	6,339
Daily output per furnace (metric tons)	6.15	21.34

Source: Adapted from Heckscher (1954), p. 221.

By the 1880s, the decline of *bruk,* due to the new methods, became more apparent. In the meantime, new techniques rapidly transformed the industry. In addition, there was a considerable relative decline in the number of workers as compared to the volume of production. In subsidiary occupations, such as charcoal burners or carters, the decline was even more striking. The new railways[22] and the concentration of industry lessened the need for carters. Also, the charcoal burners were affected by progress in fuel economy and in the technique of charcoal burning. As a consequence, there was no great increase in the total number of workers in the iron industry between the 1800s and the prewar years.

The transformation of the industry could not fail to inflict serious hardship on some groups of the population, especially at those *bruk* that ceased operations. The younger workers of those *bruk* went away to earn a living elsewhere, whereas the old people stayed on and maintained themselves on a small pension or in agricultural or forest work. Thus, the patriarchal labor system of the iron industry was dissolved, and "many an old worker fell a victim to that process of rationalization that has been a salient feature of business history all through the era of industrialization" (Montgomery, 1939, p. 171).

The decline of the traditional mining communities meant that the most pressing problem preceding the "take-off" of industrialization and iron exports in the last decades of the nineteenth century (mainly to German) was the future of the paternalistic economic units, tucked away in the forests (Dahmén, 1970). However, with close links to the mining industry, Sweden developed a modern iron and steel industry. The process took time and a great deal of application of skill and learning about international markets and free competition. Thus, the Swedish iron industry was able to recover. Nevertheless, its international position at the head of the race was lost.

Well-Developed Channels of Communication

Sweden was late to industrialize, which meant that technical developments and acquisition of market knowledge were necessary to remain competitive. In this context of catching up, imports of foreign British technology and prior related knowledge were important to Swedish economic development.

The Swedes were able to use prior knowledge and international contacts that had been established for commercial purposes in the iron industry to gain knowledge about special needs in the international market, learn about new techniques to save fuels, and adapt innovations developed abroad to the traditional Swedish methods of producing high-quality iron and later steel. The well-established channels of communication for commercial purposes also were used to search for new technology and to broaden the base of channels of information about the external market. Swedes sought innovative techniques outside of Sweden–first in Britain, where trade contacts had been established over centuries, and later in America in the latter part of the nineteenth century.

Sandviken

In this context, well-developed channels of communication for commerce were critical. The experience of Sandviken Ironworks is a good example of how a traditional ironworks modernized and internationalized its business at a critical time. (Sandviken, translated as "the sand cove" or inlet, is the name of the town or location; Sandvik is the name of the company.)

Sir Henry Bessemer had tried out his process first in Sweden in the 1830s, with the use of four experienced and trained blast furnace masters, who led the work and eventually succeeded in its implementation. The reason it was implemented in Sweden and not in the United States or England was that the metallurgical skill and knowledge necessary for implementing the process existed in Sweden as a result of long experience in the trade. Göransson bought the patent in 1858, as the Bessemer process obviously suited Swedish requirements. As a result of owning

the patent, and successful implementation, he was able to establish the Sandvik company at Sandviken, north of Stockholm.

The most significant example of the development of a modern Swedish iron industry was at Sandviken Ironworks, one of the most important Swedish ironmills, a *bruk*. Its recognized founder, Göran Göransson, a merchant, was the first to make the Bessemer process a practical success.

However, owning the Bessemer patent was but a small step in establishing a modern, internationally competitive iron mill. Technologies became outdated, and the plant later had to change to the Siemens Martin process and constantly make technical improvements to gain a market share. As with many Swedish firms at that early stage, capital was always a problem as development costs were high (Hedin, 1937). In fact, Sandviken ran into financial difficulties, as did some other Swedish firms, and the firm had to be reconstituted.

Once Göransson bought and implemented the patent he could mobilize, with the help of the Swedish Iron Bureau (Jernkontoret), accumulated Swedish knowledge--both knowledge based on experience and that built on scientific work--and in this case collected at the Technical School for Mining (Bergsskolan) in Falun (Lundgren, 1995). The new technology changed both employment and production processes.

The well-established trade contacts with the British market meant that most of the iron trade went to the English market for information about new techniques and business opportunities. But to improve productivity and production techniques, new channels of information had to be exploited, such as the American market. In

this case, Jernkontoret acted as an important institution in the introduction and diffusion of new technology, part of the industrial learning process.

Ångstrom believed that the Swedish producers had to learn from the American way of manufacturing rather than the English. In 1866, he and Richard Åkerman, at the behest of Jernkontoret, visited the United States to observe the engineering industry. They needed to find a way to achieve a specialization; otherwise, the iron industry could not continue to compete, which could mean socialization. To test other leading markets, iron traders went abroad to observe something new that was being developed in American iron manufacturing. These travels and investigations demonstrated a shift of interest. Swedish entrepreneurs and businessmen were motivated to study American iron and steel manufacturing.[23]

In 1876, Åkerman observed that the Bessemer mills in the United States had produced a total of 550,000 tons, whereas in Sweden 18 Bessemer mills had produced only 20,000 tons (Gårdlund, 1942). He proposed that it was necessary to develop a specialization but that division of labor should be practiced through the use of different machines and not by socialization of handicrafts.

It was important to maintain and broaden channels of communication and to use prior accumulated industrial knowledge for commercial purposes and for the transfer of technology and business ideas. Close commercial contacts led the Swedish search for knowledge to Britain due to its long traditional trading relations with Sweden; the search later extended to the United States and other countries.

A Break With Tradition

The connections among merchants and trading houses and the first entrepreneurs, which were later to become large Swedish international firms, were also apparent in this era. Sandvik was the first firm to break with the tradition of relying on trading houses for business abroad. Sandvik was also the first company in the world to produce Bessemer steel on an industrial scale. Its founder, G. F. Göransson, was a merchant himself and not a technician.

As a partner in a merchant house in Gävle, the nearby *entrepôt* town on the Baltic, Göransson was used to having direct contact abroad and understood the disadvantage to a steel mill of selling standard goods through middlemen. Consequently, he decided that his company, founded in 1862, should specialize in products that were adapted to the individual needs of the customers, and that to identify those special needs and what customers were willing to pay, he would have to have direct contacts with the markets. Three years after Sandviken was established, it had its first agency abroad. Sune Carlson recalled the events:

> At the end of the 1860s, a merchant from Gävle by the name of Göransson decided to start a small company in Sandviken, outside of Gävle, but he went broke and could not continue and stay on as the head of the company because in those days in Sweden you did not do that–he was in the background, while his son, Henrik Göransson, got a "typical merchant education." He was sent to Germany, Switzerland, and England to learn languages and get business contacts, and when he came back he became the head of Sandvik, which was one of the first international companies, and probably because his father was there [in Sandviken] he went abroad to establish a network around Europe. Sandvik was really the first Swedish company which really built up an international business. . . . Sandvik started to get sales companies around the world, and that pattern was copied by the steel industry and later by the mechanical engineering industry. (Carlson, 1992)

As Carlson noted, it was the founder's son and successor, the young Henrik Göransson, who traveled in quest of foreign outlets for products. He built up the company's international sales organization as a traveling salesman; he wanted to visit as many foreign customers as possible. Later, he took over the firm. By 1870, Sandvik had a network of agencies covering its main European markets.

Actual sales were handled by agents, but the pricing was reserved for headquarters, where all the invoicing was done. Göransson even signed each cover letter himself when he was in Sweden. According to Axel Wahlberg, one of the previous directors of the Swedish Ironmakers' Association, his peers regarded this as a sign of backwardness, and they could not understand how a manager of a large company could find the time to take care of "details." But in due time, Sandvik's ideas of international selling were adopted by other steel mills and later on by the forestry industry (Wahlberg, 1937).

According to Professor Carlson (1992), "What characterized Swedish industrial leadership very early was its international contacts, direct international contacts; you must know foreign languages and you should have studied abroad." The pioneer in setting up an international sales organization and in establishing more direct contacts to determine the needs of clients was Sandvik, even though it did not establish a subsidiary until 1909.

As industrialization progressed, the mining industry became an important customer of a growing range of supplying and related industries, and a major user of inputs such as explosives. Most notably, mining machinery such as rock-drilling equipment was in strong demand. In these types of drilling products and systems, Sweden developed a number of international competitive suppliers; among them,

Sandvik was a pioneering company in the field. In the 1860s, pneumatic rock-drilling machinery and diamond rock drills were introduced in Sweden; Sandvik's production of drill steel dates back to that time, drawing strength from high-grade Bessemer steel. Difficult mining conditions pressured Swedish firms to improve rock-drilling techniques, and several early innovations were introduced by Swedish drill steel and drilling equipment manufacturers (Porter, 1991). In 1907, Sandvik introduced the hollow, hexagonal drill steels to meet the demands of new pneumatic rock-drilling machines, and by the 1920s, Sandvik had developed into the world's largest manufacturer of drill steel.

Sandvik is an example of how merchants and trading houses developed a broad spectrum of skills, including managerial capabilities. The step from financing trade to giving loans and taking ownership responsibility most likely was not that large. However, from the 1870s to the 1880s, the shift had a significant effect on developing international companies.

Sandvik was the pioneer in establishing an international sales network that was important for its product line concentrated on specialty steel and tools and drills for mining. Direct contact with customers, rather than through a middleman, was a necessary ingredient for business success, and soon Sandvik experienced an upswing in sales. The pattern was adopted by the large firms in Sweden, especially those in the engineering industry.

Indeed, a vehicle for more direct contacts with customers through an international sales organization seemed to be more important for the mechanical engineering industry than for the steel mills in the early stages. The large companies such as L. M. Ericsson, SKF, and Alfa Laval had considerable

software[24] contents in their products, which meant that they had to be adapted to the requirements of individual users. In this context, Sandvik acted as a bridge between the old form of business organization and practices and the modern model, which guided Sweden's original multinational enterprises.

Evolution of the Iron Industry

Some companies based on the ironworks have a history of several hundred years. Stora dates from the thirteenth century; Bofors, which introduced the first rolling steel mill in Sweden in 1867, dates back to a blacksmith in 1646; and Uddeholm was founded in 1688. Developments in the iron industry at the *bruk* required an integration of technology, local raw materials, and local skills, as well as an awareness of activities in international markets.

The social and technical aspects of the organization of work at the *bruk* highlight some unique features of Swedish iron production, as well as a special mentality about working with raw materials. The whole structure of the *bruk* also emphasized the important role of tradition in the organization of work and the vital role of technical training. The iron industry fostered an active interest in metallurgical technology that greatly influenced industrial techniques in Sweden, facilitating adjustments to the technical requirements of the industrial revolution.

That the Swedish steel industry actually succeeded in adjusting to the new competitive situation as a basis for companies such as Sandvik was important not only for the steel firms themselves, but also for firms in the mechanical engineering industry during the era of mature industrialization at the turn of the century. Following the decline of the *bruk,* the iron industry, in a more rationalized form, led

to the growth of the machine and shipbuilding industries, and in the 1890s a supply of indigenous iron and steel was used in the manufacture of electrical goods. As illustrated in Figure 3.5, this industry was gradually to become the leading export industry of the country. The international reputation of Swedish high-quality steel was a great help in the export of engineering products. "In that sense, the growth of the mechanical engineering industry may also be said to have been dependent on local raw materials" (Carlson, 1979, p. 15).

Orrefors Glasbruk

The *bruk,* a unique Swedish institution, is not extinct today. In Småland, the Swedish glass industry was built up from the *bruk,* which often started as ironworks (Elstrob, 1979). Kosta, the oldest glassworks, founded in 1742 by Koskull and Stael von Holstein, was soon followed by Orrefors and Boda.

The Orrefors story began with iron and forests. Back in 1726, Lars John Silfversparre was granted a charter to erect a blast furnace and forge on a "beautiful streme that floweth from Lake Orranaes." The ironworks was given the name Orrefors. As the years passed, the production of iron became less profitable, and in 1898 a bottle works was built.

In 1913, Johan Ekman took over the works. He was one of the first industrialists to realize the value of artistic talent in business, and in 1916-17 he took on the two artists who eventually were to develop the small glassworks in Småland into one of the world's best-known names in glassmaking: (a) Simon Gate, portrait and landscape painter, who had the solid good nature of a John Bauer troll, and a

year later, (b) Edward Hald, a modernistic art pupil of Johan Rohde and Henri Matisse.

At exhibitions around the country, Orrefors achieved triumph after triumph, culminating in its Grand Prix at the 1925 Paris Exhibition, which truly established its international reputation. "There is nothing quite like it" was the unanimous international response.

One factor contributing to Orrefors' success was that the artists made a radical break with prevailing glassmaking traditions. They returned to the basic forms that are dictated by the glassblower's pipe, marvers, scissors, ladles, and boards--the same primitive tools that first had been used in Tyrus 3,000 years earlier. This brilliant and bold pioneering step inspired a renaissance in Swedish glassmaking. Orrefors became the hub of experimentation in design and technique, which led to an artistic method of using the inner power of glass to catch and refract light. Today, Orrefors glassworks is highly acclaimed throughout the world, and there is worldwide demand for Orrefors crystal (Orrefors Glasbruk, 1994).

Conclusion

Immigrants played a vital role in forming the unique aspects of iron production in Sweden. Along with Louis De Geer, Walloonian blacksmiths and miners immigrated to Sweden and contributed to making Sweden the leading supplier of iron in the world, sometimes dominating as much as 40 percent of world trade. There was parallel development of iron and steelmaking in other countries, and most inventions actually were brought to Sweden from England, Germany, and France.

In the preindustrial structure of the iron industry before the modern era, one can detect a division of labor within the rural community. The *brukspatron* was bound by statute to provide some benefits for the ironworkers, but the traditions associated with rural life also were important. The patriarchal authority of the master was by no means solely a creation of legislation. Apart from the clergy, nobility, and gentry, rural society consisted of peasants and servants. The labor contract was based on oral agreements and the concept of the master and the servant. Subjection of the servant to the master was a matter of course in ancient times. The greatest amount of security existed when a worker was boarded and lodged by the master; thus, workers were subjected to his patriarchal authority.

In addition to this type of work relationship, the traditional Swedish iron technique and method of production was a hierarchical system pivoting on the *brukspatron,* the ironmasters, at the top of the pyramid, followed by skilled workers, and then the *bergsmän* supporting the most skilled workers in the industry. At the base were the peasants and some agricultural workers, who performed the most labor-intensive work, serving as carters in the mines, gathering timber for mine shafts, and performing the charring process. Although these workers were not skilled, they were an integral part of the production process.

Because of their subsidiary employment within the iron industry, the peasants were not totally dependent on harvest results. Thus, the iron industry offered an alternative source of compensation on a seasonal basis, which was tied to Sweden's prominence in the external market. The isolated and decentralized structure of the *bruk* system in the rural areas prevented any group action by workers, such as

strikes or open protests. In this context, the iron industry was an important source of economic and social stability.

The traditional craftsmanship of the ironworkers in Bergslagen emphasized the real importance of local skills in industrial history. Even though, next to land, labor is regarded as the least mobile of all factors of production, the materials moved to the ironworkers who were dependent for supplies on the hilly region of Bergslagen. Localization was also a result of lack of adequate transportation before the era of railroad construction, starting in the 1850s, as well as the government's policy of conservation. A combination of these factors prevented a concentration of the iron industry and achievement of economies of scale.

At the *bruk,* the production process involved working in teams, and a sense of camaraderie must have developed, as well as a sense of pride associated with the skills necessary to turn a natural resource into a commercial product. However, the teams were part of a hierarchy, and the ironworkers were dependent on the master and those most skilled for an essential part of the iron-production process. Although in the modern sense the technology was not advanced, experience was an important factor, and the craftsmanship and knowledge that had been acquired were passed down over centuries and generations. This production process thus involved people from different levels of society: the *brukspatron* representing the gentry or nobility, such as Louis De Geer, strategic advisor to the crown; and peasants, who often owned land and provided food for most of the population. In contrast to the stable peasant class, farm laborers were viewed with some suspicion by the authorities.

However, even though the socially prominent *brukspatron* were influential men, their entrepreneurial skills were restrained by the monopolistic restrictions imposed by the governmental authorities. Even though the iron industry was profitable in the eighteenth century, it did not expand; thus, the *brukspatron* were discouraged from being in the vanguard of new techniques and increasing productivity. However, despite this constrained business environment, the iron industry still flourished in the short run because close attention was paid to maintaining and increasing quality, resulting in a favorable reputation for Swedish iron abroad. Thus, in addition to the advantage of an abundant source of pure ore due to the low phosphoric content, continuous high quality created a competitive advantage for Sweden in the international market. This advantage was critical to the new conditions associated with industrialization in Sweden following the mid-nineteenth century.

The iron industry and the *bruk* made a significant impact on the process of industrialization in Sweden. The tranquil nature of the ironworks associated with the *bruk* tradition, which developed within the context of the rural economy, was influential in clearing the way for relatively nonviolent industrialization in Sweden, avoiding some of the social conflicts found in the few densely populated areas.

However, the mystique sometimes associated with the *bruk* somehow clouds the reality facing workers for centuries before industrialization. The ironworkers seldom had a life expectancy beyond 40 or 45 years, and the work environment was dirty and hot and required long hours. In the 1850s, a motion was made in the Parliament (Riksdag) to reduce the work day to twelve hours, but it was rejected.

A long work day was permitted in certain areas if it meant a significant economic gain.

Although many of the ironworkers were skilled, there were not many other employment alternatives because the economy was not diversified before industrialization set in. The legal system mandated that everyone in the country must be gainfully employed, and only the nobility could move around freely.

The entire preindustrial structure of the iron trade exemplifies characteristics of interdependence. The *brukspatron* was not only dependent on skilled workers and farmers, but he also relied on merchants at the major trading houses in Stockholm and Gothenburg for working capital and information about the export market. Thus, he was actually involved in international trade through indirect transport. This meant that all creditors were tied to one another, and once one cog in the wheel started to deteriorate, the rest would soon follow. All parties involved in the iron industry--the patron, the workers, and the merchants located in the seaports, Stockholm and Gothenburg--were linked to each other in a pattern that was fraught with rigidity.

On the other hand, the mutual dependence of the *brukspatron* and the ironworkers offered an opportunity for cooperation, not only in the production process, but also in living together and in shaping unique cultural patterns. When industrialization did arrive in Sweden, the traditions and cultural patterns regarding the labor contract were firmly established, through the appearance in the 1890s of a strong labor movement and the origination of large Swedish firms based on inventions. The relationships and methods of production at the *bruk* in the raw

materials industry would have a lasting effect on attitudes about the organization of work and management techniques in Sweden.

The development of the iron industry points to the roots of Sweden's export industries and the dependence on natural resources. Sweden never had a large and secure domestic market, and the Swedish market for high-grade iron was too narrow to admit of large sales. During the seventeenth century, Sweden held a monopoly position in the copper trade, and during the eighteenth century Sweden had a leading position in the export of iron in Europe. Thus, the metals industry contributed to financing wars and building up the national treasury. However, by the eighteenth century, intensification of competition in the international market soon eroded Sweden's monopoly.

At the same time that Sweden was being transformed from an agrarian to an industrial economy in the mid-nineteenth century, many Swedes were forced to abandon their homes and emigrate to pursue a more optimistic future outside of Sweden. These events point to the vital role of timing in business development, as well as to the importance of a diversified economy, the need for competitive trade policies, and the necessity for continual research and development.

In the late eighteenth century and the nineteenth century, growth of industrialization abroad meant that natural resources became a chief factor in national wealth and well being. But on many sides the exploitation required an increased development of technical inventiveness and industrial enterprise. This was true, for instance, to a high degree in the iron-related industries.

The development of new techniques and liberalization of trade came too late for Sweden to maintain its leading position in the European market in the iron trade.

Industrialists in Sweden had to play catch-up to what was already happening elsewhere, primarily in England, the leading industrial power that also had a strong purchasing power. Centuries of accumulated prior knowledge in the iron industry were critical to a revitalization of the iron industry and a competitive position in a modern international market. The iron industry fostered an active interest in metallurgical technology and influenced the development of industrial techniques in Sweden.

In addition to Swedish efforts, the transfer of technology from outside of Sweden was important. In the nineteenth century, Great Britain was not only a main outlet for Swedish exports but also the chief initiator of new industrial techniques. British influence had been preponderant for a long time as Great Britain was a long-time buyer of Swedish produce, and British ideas found their way into Sweden by various means.

With increased industrialization, particularly in other countries where the process had occurred before it did in Sweden, came increased demand for iron and steel. Before the nineteenth century, output had been modest by modern standards. In that sense, the iron trade was influential in adjusting to new developments because of its long experience in the Swedish iron-export industry. Well-established trade contacts with British markets meant that Swedish iron producers were both aware of the new British technologies and willing to pay according to the different qualities of the steel.

The traditional relationship with merchants at the Stockholm and Gothenburg trading houses provided important links to the international market for the small *bruk* society. The traders also were present in the American markets in the nineteenth

century. The channels of communication for commercial purposes were vital to establishing new channels of information for new technology, particularly in the American market, because soon the United States took over the lead in industrial development from England.

During the process of industrialization, new institutions evolved, which in their turn would promote the process of internationalization at large firms; this can be detected in the shift in financial organization related to the iron industry. Powerful merchants had assumed the role of professional middlemen, and the transactions of the iron industry took place in Sweden's port cities, which meant that the iron trade was a passive or indirect trade.

However, with the new competitive conditions and new demand for iron and steel associated with industrialization outside of Sweden, merchants could not adequately represent industrial products, such as specialty steel, for niche markets. Relationships between producers and demanding, competent clients required a modern business structure. Producers lacked the specialized knowledge and ability to represent a narrow product line to clients abroad. Although the merchants were replaced by banks and a modern credit market, they provided a bridge during the early stages of industrialization by starting some of the sawmilling companies and later investing in the pulp and paper industry, as well as organizing and advising new banks.

Connections between merchants and trading houses and the first entrepreneurs in the firms that were later to become large Swedish international firms are apparent in Sandvik, the Swedish iron mill, and the achievements of obtaining the Bessemer patent and, more important, adapting the patent to Swedish

resources. These achievements formed the basis for manufacturing high-quality Swedish steel for specialized industrial products. Prior related knowledge and metallurgical skills necessary for implementing the Bessemer process existed in Sweden as a result of long experience within the trade.

Göran Göransson, the originator of Sandvik, and Henrik Göransson, his son and successor, broke the pattern of relying on the merchants and trading houses for business abroad. They created an international sales force and adopted new managerial methods, thereby establishing a direct and more active export market. These activities led to an integration of the economy when producers and consumers were brought closer together, bypassing the middleman.

Nevertheless, the iron industry and Swedish industry in general continued to depend on international markets and international capital for expansion and economic growth. Therefore, the importation of British technology, such as the Bessemer patent, was important for Swedish development and an expansion into steel production on a much larger scale, as it hastened the industrialization process and modernization of the business structure. These developments are similar to what had occurred centuries before, under the influence of the Walloons and Louis De Geer, which resulted in an upswing in export markets for the iron industry, similar to the Goranssons' business development.

However, adoption of new techniques meant the dissolution of the decentralized *bruk* for a number of reasons. The large-scale trade during industrialization was different from the iron trade of a bygone era. As Sweden entered the early stages of industrialization in the 1860s and 1870s, the productive unit in the Swedish iron industry was smaller than in the larger scale iron-producing

countries, England and the United States. This is mainly because, before industrialization, Sweden reacted to a rather limited market.

The Bessemer and open-hearth processes, which invaded the Swedish iron industry, could not, like the Lancashire process, be adapted to the traditional small-scale organization but required a capital investment that was altogether beyond the reach of the mass of small ironworkers. The intensification of competition continued to raise the standard of technical adjustment needed to achieve business success, but there were inadequate financial resources to support the necessary research and development at the *bruk.* Therefore, because new processes required an amount of concentration and capital investment that many of the *bruk* could not supply, the *bruk* surrendered to a series of mergers and close-downs. In the manufacture of high-grade charcoal iron, which supplied the international markets, the establishments remained smaller than in other countries.

In the evolution and decay of the *bruk,* the Swedish iron industry lost some of the distinctive traits associated with small-scale operations and a decentralized structure. The major trends of consolidation in the industrial era affected the small-scale organization in the smelting branch of the industry, the *bergsmän* tradition, which had survived for centuries only to give in to larger units of production. Even though the *bergsmän* benefited less from export than did the master, they did realize some gain from the export of high-grade iron.

In addition, pig-iron production was faced with increasing concentration, the number of furnaces was being scaled down, and the size of blast furnaces increased. These trends occurred in the iron and steel industries in other countries as well. However, in Sweden, the industry stayed close to the source of the ore

even after the small-scale ironworks amalgamated. Many of Sweden's modern steel firms are located in the industrial heart of Sweden, Bergslagen, including Fagersta, which consolidated a number of Swedish iron and steelworks with a long industry tradition; Avesta Jernverk, the company that had taken over Engelsberg *bruk;* and Hofors, acquired by SKF in 1916 (Glete, 1987).

In the context of late industrialization, the *bruk* played an important role in bridging the gap between slow and rapid industrialized growth. It also linked the old traditional iron industry to a new, specialized steel industry by exhibiting an ability to adapt to a new competitive international market, thus bridging the old and new technologies at a critical time to remain a player in the international market in the nineteenth century. The social and technical aspects were passed on to the new steel industry.

Restructuring of Sweden's oldest industry was the end of a way of life for many craftsmen. However, the skills developed at the *bruk* provided a basis for further advances in technique based on the skills and knowledge associated with metallurgy. Small-scale production surrendered to a transition to steel production at plants that eventually represented Sweden's form of big business.

However, from the 1860s until 1910, most of the traditional community-type *bruk* vanished and thus ceased to be a significant element of Swedish industrialization. Nevertheless, their long-term influence was undoubtedly significant to the success of the Swedish iron industry in the twentieth century. In a long and fairly successful fight against overpowering odds, the *bruk* and the Swedish iron traditions contributed greatly to stimulating an interest in industrial techniques, and in this way had a far-reaching influence on Sweden's economic history. The

inventive spirit fostered during the long and eventful history of the Swedish iron industry was a vital component of Sweden's future industrial expansion.

Finally, one cannot ignore the essential role played by the Swedish export trade in the country's industrial revolution. Efforts were made to preserve a monopoly position and protect Swedish iron exports, but they were not successful. The fact that the Swedish iron trade was exposed to international competition might have been an important reason it proved difficult to establish obstacles to competition and adoption of modern technologies in the iron and steel trades. In this context, the iron industry had a powerful influence on the process of industrialization and economic development in Sweden, effecting change in institutions.

All of these factors combined to form a special mentality in business and industry, and the experiences of the Swedish *bruk* greatly influenced the process of industrialization in Sweden and the development of international companies based on raw materials. Without question, the *bruk* epoch was an important one in Sweden's industrial history.

Endnotes

1. According to Simon Kuznets (1966), Nobel Prize winner in economics, without continuous technological change the phenomenon of diminishing returns sets in, leading to decline until other innovations increase productivity and open up new resources. He regarded the period we live in as the "modern economic epoch," which began in the late 1700s, and he saw industrial innovation as being associated with the application of science to the problems of economic production. Following the 1870s, scientific theories and inventions greatly influenced technical developments in metallurgy, power production and transmission, and agriculture, among others. These factors were all present in Sweden in the last decades of the nineteenth century, as was the build-up of large industrial enterprises producing capital goods for the international market that were based on Sweden's raw-materials industries.

2. According to Heckscher (1954), "Almost every innovation in the Swedish economy had its origin in the initiatives of immigrants" (p. 103).

3. In the middle of the eighteenth century, the Swedish output of malleable iron amounted to at least 30 percent, possibly even somewhat more, of the European production. According to Arthur Montgomery (1939), who was Professor Heckscher's student and colleague in Stockholm, this figure was based on Heckscher's estimates, made from scattered records.

4. Processes developed outside of Sweden, primarily in England, had to be adapted to the Swedish conditions. Cameron (1989) defined the diffusion of technology as

> the process by which an innovation spreads, within a given industry, between industries and internationally across geographical frontiers. Diffusion is by no means an automatic process of replicating the initial innovation; because of the different requirements of different industries, different factor proportions in different environments, and cultural differences among nations, it may face problems similar to those connected with introducing an original innovation. (p. 196)

5. According to Carlson (1979), little is known about the private credit market.

6. Samuelsson (1951) described the trading houses in Stockholm and Gothenburg as the most dynamic factor in the eighteenth and early nineteenth centuries.

7. The rise and fall of the Swedish empire spans from 1523 to 1718. Sweden became a European military power during the seventeenth century, known as the Age of Greatness.

8. The last load of ore was mined in Falun in 1993, but the company, in recent years, has concentrated on its strongest area, pulp and paper. Today, STORA is one of Europe's largest forest-products companies, with facilities in the United States, Canada, and Brazil; its operations include forestry, hydroelectric-power production, and the manufacture of sawn timber, converted wood products, pulp, paper, and chemicals. Other than STORA, many of the large, internationally known Swedish companies located in Bergslagen, the heart of Swedish industry, have long histories--Sandvik, ASEA, Ovako, and Avesta, for example.

9. According to Heckscher (1954), the economic expansion of the Dutch in the seventeenth century is considered to be one of the "great miracles of economic history" (p. 104). The Netherlands had been a small and powerless country engaged in a hopeless struggle with Spain, Europe's strongest power, just a few decades earlier. Then the Dutch mastered Europe's mercantile and military navigation and its colonial trade, and controlled colonial territories.

10. According to Braudel (1985), the armaments industry in Sweden was built up with the aid of the Dutch and such major actors as De Geer at a time in the 1600s when Sweden was a peripheral zone in Europe. Sweden was precocious in the

sense that the Swedish political unit had developed early in the eleventh century around Uppsala, but economically backward in the sense that by the thirteenth century the merchants of Lübeck were settled in Stockholm and controlled the narrow passage between the Baltic and Stockholm of Lake Mälaren, and the Germans stayed on until the fifteenth century. The larger economies were all ready to fight for the domination of the Baltic region. A hundred years after De Geer, by the 1760s, all states of Europe were queuing up in the offices of the Dutch moneylenders, including the king of Sweden. Amsterdam was the heart of a great network in Europe, and Braudel described Amsterdam as the "central control tower" for a financial network (p. 248).

11. According to Heckscher (1954), "Although [De Geer] became the founder of one of the most renowned families of the Swedish nobility, it is doubtful whether he ever felt himself to be a Swede. Evidently there was no need as due to a legacy of medieval universalism, 'foreigners' had doors wide open to them and were not under pressure to acquire any external Swedish characteristics as the age of nationalism was still to come" (p. 103).

12. Very little is known about the *bruk,* although recently the Engelsberg *Bruk* was selected for UNESCO's world heritage list, *Patrimoine Mondiale.* There is some documentation about Engelsberg in Västmanland, a fully preserved ironworks environment from the 1700s, which is regarded as an important epoch in European industrial history. Some of the material in this section is based on documentation in a 1994 UNESCO report.

13. In Swedish, *män* is the plural form of man.

14. The fundamental legal prerequisite of collective bargaining was in place in England before the Swedish labor movement got under way in the late 1880s. This was after the number of *bruk* had decreased dramatically.

15. Heckscher's (1935) estimate of 35 percent was on the high side. It was difficult to make quantitative estimates of Sweden's share of the market because the information available in Sweden was so scanty.

16. After the 1730s, coke-smelted iron made a gain due to a decrease in the price of coal. At that time an increased demand for ferrous metal pushed up the price of charcoal, which constituted half the price of pig-iron production. The time lapse is accounted for by the fact that, in a high-demand market, the coke smelters did not drop their prices enough to eliminate competitors for some decades. Swedish high-quality iron was always expensive in England due to tariffs, but the pure Swedish iron was still in demand.

17. A cartel is an association of producers to regulate prices by restricting output and competition. Cartels are illegal in the United States but were promoted by governments to achieve "rationalization"--in Germany in the 1930s, for example.

Cartels are unstable because a single member can profit by undercutting the others, while price fixing stimulates the development of substitutes. Today, the most prominent example of an international cartel is the Organization of Petroleum Exporting Countries (OPEC).

18. According to Heckscher (1954), attempts were made to circumvent restriction. Entrepreneurs acquired inferior mills, which were closed, and then production quotas were filled by more efficient mills. There also were incessant applications for additional quotas. But the policy was enforced with an efficiency that was rare in those days.

19. Heckscher (1954) wrote:

> This innovation [the puddling process] was the harbinger of one of the most momentous technical revolutions in history. Not only pig, but also malleable, iron could now be made with mineral fuel. This was the beginning of the end for the Swedish and the Russian hegemony on the iron market, even though the puddled iron was inferior to the Swedish, especially in the beginning. (p. 181)

20. State regulations prohibited the mining of ores in the vast forested regions of Norrland in Sweden (Carlson, 1992), although this was not a critical point before the railroads were built and extended to those regions by the end of the nineteenth century. It was only in 1888 that exports began to make headway. The export boom corresponded to a new industrial technique called the basic method, which made it possible to use highly phosphoric ores.

21. This section is based on data from the University of Stockholm, Department of History, and Montgomery (1939).

22. The Swedish Railway Act was passed in 1853-54, and the first railroads were constructed in 1856.

23. Among them was Jonas Wenström, a young engineer, who visited America on a study tour and later played an important role in Sweden's industrial history as one of the founders of ASEA (Gårdlund, 1942).

24. Software is defined as maintenance or instructions for particular functions that support the customer in using the product or, in other words, material that accompanies the hardware, the physical apparatus. Software requires more interaction between the supplier and the client, more service, and technical expertise to meet special needs. This was particularly important to Swedish manufacturers, who established a niche in the world market, where some other industrialized countries had already been active.

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THE INTERNATIONALIZATION OF BUSINESS: THE SWEDISH CASE

VOLUME II

By

Elaine Benoit Robinson

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Department of History

1998

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CHAPTER IV

MATURE INDUSTRIALIZATION--PRE-WORLD WAR I

Characteristics of Industrialization and Mature Industrialization

As established in previous chapters, there was an availability of endogenous raw material and a growing demand from abroad for goods Sweden was capable of producing. This chapter concerns the development of a modern capital market, the feasibility of importing capital from abroad, the monetary system and the gold standard, the international distribution network and the role of prior industrial knowledge, education and the supply of literate and skilled labor, as well as market integration and the special features of the Swedish railroad system. Special attention is given to entrepreneurs and managers with international experience because Swedish industry always has been highly dependent on foreign markets.

Capital Resources in Sweden in the Nineteenth Century and Industrialization

During the first few decades of the nineteenth century, transportation did not demand capital. Building could make heavy demands for capital, but Stockholm was in a stagnant condition. Country towns provided no great scope for building activity either, as most people lived in wooden dwellings, which were not that expensive. If mortgages were needed, they were provided by business friends or an

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Even with Sweden's history of innovative and significant, far-reaching methods in banking, a tentative organization of the credit market emerged quite late, toward the end of the nineteenth century. A transition from the old system had to take place. Once it did, Sweden's late industrialization was guided by a few powerful banks and industrialists or financiers (see Glete, 1987, for an overview). Capital hastened the transition to economic and technical reorganization, one of the prerequisites for industrialization.

Rapid Economic Growth

An economic concentration of lumber and forest products, mining and metal working, and electrical engineering led to rapid industrialization until the First World War. The relative importance of the agricultural sector declined, to make room for the rapidly expanding industrial sector. The 1870s and their both extensive and intensive development of industry and expansion of railway communications marked a turning point in industrialization and the possibility of Sweden's borrowing from abroad to finance the infrastructure that sparked the country's rapid development. There were two boom periods during the pre-World War I era--in the early 1870s and in the latter part of the 1890s--as well as downturns in the developing and internationally linked Swedish economy.

In the early stages of industrialization in Sweden, there were economic booms in the 1850s and 1860s related to the timber industry and in the 1870s linked to the excessive growth of railroads. These were similar to developments in other places,

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particularly the United States. The boom was noticeable in increased demand for wood, but it was even more apparent in iron and steel exports, occasioned by the Franco-German War in 1870-1871. Even though wood exports continued unabated after the war had ended, the boom in iron and steel was for only a short duration.

Toward the end of the century, when the production of lumber products stagnated, the manufacture of wood pulp increased. Iron seemed to be revitalized after mergers and shutdowns occurred in the rural areas and iron ore began to be exported. The demand for iron and steel came from the mechanical engineering industry, which was becoming an important business, particularly for the build-up of the basic infrastructure and for export markets.

Because of a chronic shortage of capital, Sweden's industrial expansion was partially financed by capital from abroad. Industry in Sweden needed investment capital and its international network to expand and develop big business. In this context, the adoption of the gold standard in 1873 was significant for economic stability and access to international funds. Beginning in the mid-nineteenth century, capital imports contributed to employment of more workers in transport, service, and maintenance, vis-à-vis the building up of the basic Swedish infrastructure, including railroads, telegraph and telephone lines, harbors, schools, gas works, and water-power plants.

The transition from a preindustrial stage was facilitated by capital imports until Sweden became an exporter of capital in the twentieth century. During the fifty years between 1860 and 1910, the basic characteristics of development in the period included the "international orientation" of the modern Swedish economy, essentially the "economic internationalism" (the important factors of international

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economic relations during the nineteenth century), and the "international migration of capital." The Swedish economy became even more closely linked with international economic trade cycles. However, it was not peculiar for Swedish fluctuations to be reflections of general European cycles, because of Sweden's historical dependence on external markets and a tendency to react to the world market situation. Swedish ties with foreign markets were strong, and this affected monetary stability.

Another dominant feature of this period was the extensive building of new railways, which was one of the chief prerequisites of industrialization. The building of the railways was probably one of the most dominant factors influencing the Swedish economy during that period. In general, the 1880s represented a period of strong industrial expansion. Large investments in industry resulted in increased production, and the occupational structure reflected a shift from the dominant position of agriculture.

A fundamental change was the tremendous increase in the international exchange of scientific and technical information. There was a huge increase in industrial research and technical literature in periodicals. Therefore, the "veil of secrecy" about new techniques and processes was lifted. No longer could a country expect to preserve a technical monopoly.

Exports moved toward more processed products--for example, pulp and paper, rather than sawn goods. Above all, there was a breakthrough in the engineering industry, the basis for Sweden's development in international markets and also the foundation of its multinational firms. Based on these changes, the

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Swedish economy entered a stage of rapid and sustained industrial advances in the mid-1890s. As Olsson (1993) explained,

> A large number of new products, often domestic innovations, were developed and manufactured on a large scale in highly specialized factories. Swedish telephones, ball bearings, etc., could be sold on foreign markets, which soon came to dominate the sales of these companies. Many of the manufacturing industries secured their markets abroad not only through creating sales organizations themselves, but also by building up their own factories. (p. 10)

"Genius" Industries

Between 1880 and the outbreak of World War I, Sweden underwent rapid industrialization and the build-up of industry based on indigenous inventions or refinements of other products. The Swedish inventions included dynamite, the ball bearing, the cream separator, the acetylene lighthouse beacon, the three-phase motor, and the heat exchanger, among others. These inventions were the foundation for early economic growth and the basis of more than a score of Swedish multinational companies.

A new phase in the industrialization process, preceded by remarkable agricultural modernization, was characterized by the emergence of specialized engineering firms with international ambitions, often built on technological innovations. The engineering industry became more specialized, and the so-called genius industries were started. The inventions and innovations were "crucial to Swedish industrial development" and the capital good sector (Senghaas, 1985, p. 85).

Most Swedish industry abroad originated in a few large international companies, enterprises that were started as early as the 1870s and around the turn

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of the century. Lars Lidén (1991), Managing Director of Esselte, summarized the developments that are the focus of this chapter in an interview with the writer:

> There were not any special business strategies for international markets, but the main driving force was that the countries such as Sweden and Holland were too small to build up a diverse industry, so sooner or later the domestic market is not big enough. Our [Sweden's] traditional international companies were started in two fields. [The first is] basic raw materials, dealing with wood, paper, iron ore, [and] pulp, basic products that we started early to export and we are still able to export because we still have raw material. But for practical reasons some have been forced to form subsidiaries abroad, or due to political reasons, to avoid duties, and so on. It is the same for the second category, those traditional exporters which are inventing companies dealing with ingenious products, such as the safety match, ball bearing, telephones; they have gradually built up abroad. SKF developed a big head office in Göteborg dealing with patents and the development of products. SKF built up production in the United States, Britain, and Germany and all over the world. These are the two types of classical Swedish international companies.

Technology and the Capital Goods Sector

One of the reasons for Sweden's successful development was the availability of well-trained engineers and skilled workmen in Sweden, rather than drawing on technicians and techniques from abroad, which had been the pattern up to the formation of the large Swedish companies, some as early as the 1870s. Previously, technology had been imported and immigrants played an essential role. "In the nineteenth century, however, ideas seemed to have legs of their own. Immigrants played a relatively insignificant part" (Heckscher, 1954, p. 210).[1]

The consumer goods industries employed fewer workers in 1870, but there was high productivity in the consumer goods sector. For example, the output of the malt beverage industry alone, which had 6,000 workers, was almost exactly the size of the iron-mining industry with its 10,000 workers (Dahlgren et al., 1937, p. 326). However, there were more dramatic changes in the capital goods sector. (Capital

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goods require a great deal of capital in comparison to labor. Therefore, capital-intensive industry refers to traditional basic industries such as pulp, paper, mining, steel, and heavy chemical industries.) The capital goods sector is capital intensive due to the high costs of raw materials, development costs, and so on. The provision of capital was a problem for the emerging capital goods producers, all part of the dramatic changes in the capital goods industries.

A striking feature of Swedish industrial development is that, at the beginning of the period of rapid industrial development, the capital goods sector was as great as the consumer goods sector. In contrast, in most other European countries, the consumer goods sector became the basis for further industrial expansion (see, for example, Jörberg, 1961). In the 1870s, capital goods accounted for 46 percent of total manufacturing, comprising the iron and timber industries.

The Shift to Mature Industrialization

There was a vast increase in mechanized equipment and transmission of water, gas, and electricity. Consumer goods were reduced to a far smaller share of total output when there was a shift to more capitalistic methods of production. From the 1880s to 1905, the home market showed the greatest increase in GDP per capita (Lundström, 1991). During the comparatively protectionist and state interventionist period, 1890 to 1914, the home market dominated the development and growth of the national economy. Imports exceeded exports during that period and had to be financed short term. However, the imports were sold to customers in Sweden, which meant large profits for importers and a good source for needed bank deposits. These deposits provided a source of loan capital to industrialists through

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commercial banks rather than the traditional system of merchant financing. When focusing on banks and capital for investments, profits and savings were probably larger in the consumer goods sector, sheltered as that sector was by tariff barriers from the early 1890s.

A critical component in the build-up of industry was that investment rose as a proportion of GNP, a vital element in the entire process.

> The ratio went from 7.7 percent in the early 1870s to 9.5 percent in the late 1880s, to 13.6 percent in the late 1890s, and above 15 percent after 1900. During the first five years of the 1870s, agriculture, transport and building and construction each accounted for 25 percent, manufacturing for 18 percent. Investments in manufacturing did not surpass those in agriculture until toward the end of the 1880s. Only after 1905 did industrial investments surpass those in the transport sector. (Lundström, 1991, p. 176)

The merchant/creditor was displaced during the first half of the nineteenth century, and eventually a modern capital market emerged. Gradually, the role of financier of new export industries and a large part of the merchants' business were taken over by well-organized banks under the leadership of directors like A. O. Wallenberg. However, according to Swedish international economist Sune Carlson (1979),

> The banks did not, as on the Continent, take part in the actual founding of new industries. Some of the bankers did so privately, but the banks themselves were forbidden by law to buy shares. The fact that, much later, some of the banks became owners of several important companies in export industry was another matter. It was due to circumstances that they had to take over shares which had been used as collateral for frozen credits. (p. 18)

The contribution (value added) to GDP of the industrial sector surpassed that of the commercial sector around 1901 and that of agriculture by about 1905 (see Table 4.1).

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Contribution of Various Sectors to Sweden's GDP
1871 to 1915 (in millions of Swedish crowns)

Period	Agriculture	Manufacturing & Mining	Commerce	Total GDP
1871-1875	460	158	246	1,295
1901-1905	599	570	523	2,395
1906-1910	770	838	679	3,130
1911-1915	935	1,128	898	4,039

Source: Johansson (1967), p. 15.

In 1912, capital goods accounted for 52 percent of total manufacturing output; this can be attributed to developments in new industries in the engineering sector (Lundström, 1991, p. 175). During the transition to "mature industrialization" and the development of major multinational companies based mainly on science and inventions, a constellation of circumstances changed the direction of Sweden's industrial history. As we shall see later in this chapter, this shift required an integration of natural, human, and capital resources. In a sense, the economic policy played a subordinate role, with the exception of the monetary policy.

To understand this transition, it is useful to look at the capital market in transition and the development of a modern financial market, as well as the development of the genius industries and the motivations and actors behind them. Swedish inventions played a role in technical development, but they needed capital to commercialize, and most firms based on technological sophistication of innovations faced financial or other problems during development. Providing capital was a problem for all of the emerging capital goods producers, a sector that is

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capital intensive due to the high costs of raw materials, development costs, and so on. The development into successful, internationally competitive firms required not only the mobilization of technical skills but of managerial[2] and financial capabilities as well, in order to engage in research and product development, establish a niche in international markets, and propel the internationalization process of the business.

Toward a Modern Capital Market and the Development of Big Business in Sweden

Entrepreneurs and Capital Markets

For those involved in the crucial stages of developing big business and the engineering export firms in Sweden, large amounts of capital investment were required for product development, which ran over long cycles. Capital was needed for the industrialization and internationalization processes, but Sweden lacked capital due to its comparatively late industrialization. The late development of an internal capital market required stronger deposits and better organization.

Hence, leading up to the turn of the century, entrepreneurs in Swedish industry needed to borrow on terms that would give them adequate time to realize a return in order to pay off their debts. That is, longer terms were required for borrowing for industrial expansion, rather than the short-term nature of the merchant-creditor relationship, which slowly disappeared. The provision of capital came to be regarded as one of the central problems of entrepreneurship (Heckscher, 1954). In this tenuous environment, there was speculation and a fair number of financial failures that plagued entrepreneurs and financiers; even banks collapsed.

Because of these developments, capital as a means of production since the beginning of the nineteenth century was distinguished by a rather low degree of

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capitalism. The need for new capital investment had hitherto been easily satisfied in customary ways, by means of shipping partnerships and the like. The investment of savings was arranged without the aid of special credit institutions or recourse to an organized capital market.

In the early stages of industrialization during the mid-nineteenth century, Swedish entrepreneurs were operating in a transitional period. The agrarian society was slowly beginning to dissolve, to be replaced by a modern industrial society in an environment of old and new ideas. Many entrepreneurs regarded the partnership as the ideal company structure; they viewed the joint-stock company as a solution only when the firm's own capital was insufficient.[3]

Entrepreneurs often were passive about expanding in international markets because they had no direct contact with the market. The need to compete in the export industry prompted many Swedish entrepreneurs to form cartels, or in some cases to demand tariff protection from the government (see Norrland, 1992, pp. 89-94). Many entrepreneurs did not see innovation as an opportunity for the firm to expand, and some of them showed little interest in technology. Also, entrepreneurs exhibited a paternalistic attitude toward labor.

Moreover, great merchant firms that were influential in both trades handled sales and also raised capital through their international network. They passed it on to entrepreneurs and industrialists to finance industry, thereby providing working capital. This relationship continued after industrialization was on its way, in the 1870s and 1880s. In the mid-nineteenth century, these funds from abroad surpassed those the underdeveloped banking system could provide.

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Before the development of a modern credit market and a more mature banking system at the close of the nineteenth century, the export industries of iron and, far behind it, timber were to a degree financed by the iron masters and sawmill owners themselves through a reinvestment of profits. At that time, the distribution of capital was haphazard, chaotic, and short term. Profits were reinvested and provided the principal source of capital for expansion. Industrialists operated in an environment in which there was no such thing as a free credit market.

Similar to other rapidly developing countries, Sweden lacked financial capital. As industrial production moved from raw materials to become more capital intensive in the latter decades of the nineteenth century, financing for industry became even more of a problem (Heckscher, 1954). Expansion of Swedish industry depended on capital and the creative use of its international network to progress to a period of big business toward the end of the nineteenth century.

Taking into consideration the aforementioned attitudes of many entrepreneurs and the lack of capital for industrial expansion, these characteristics of the Swedish economy leading up to the 1870s raise an interesting question: How was Sweden able to develop industries to compete in the international markets in manufacturing with such management and business attitudes and narrow financial conditions?

Swedish Capital Markets and the Historic Swedish Banking System

The banking system in Sweden has a long history, which is essentially that of the State Central Bank, the Bank of Sweden. The oldest bank in Europe, it was founded in 1668, twenty-three years before England's central bank. The Bank of Sweden[4] originated in 1656, when Johan Palmstruch was granted royal permission

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to start a bank. Five years after forming the bank, Palmstruch decided to issue paper money. This innovation might have been based on a method used by the mining association at Stora Kopparberg at Falun, the south part of Dalarna, part of the central industrial area of Sweden. The miners at Stora were paid in so-called copper bills.[5]

The bank notes issued by Palmstruch's Bank of Stockholm were promises to pay; they were circulated for the making of payments. The notes were printed by the bank, standardized, and issued in various denominations. This was useful and convenient in Stockholm, where coins and copper were heavy; i.e., the equivalent of ten dollars weighed forty-three pounds, and more common coins weighed seven pounds. After an initial panic, the new system gained confidence and allowed for expansion, or contraction, of the money supply according to the needs of the business community. The copper-backed bills at Stora and Palmstruch's innovation made Swedish paper money the first in Europe.

> But [the bank notes] had a greater significance than being convenient, as they permitted the Bank of Stockholm to issue more money than was on deposit--that is, to extend credit or create money. In fact, the issue of bank notes was one of the major inventions of Modern Times. (Shepard, 1968, p. 200)

Following the eventual failure of Palmstruch's bank, its function was taken over by the Bank of the Estates of the Realm (Riksens ständers bank) in 1668, and remained in its hands. This bank is now known as the Riksbank. During its long and eventful history, the central bank has been active in various lines of business.

During the industrial era, the Riksbank extended the volume of credit beyond capacity and expanded money, but it neglected the deposit side. The Riksbank's contribution to commercial credit was too narrow, being limited by the rate structure

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fixed by Parliament. Also, the rate could not be altered between sessions, and the volume of credit had a ceiling. Repeated attempts were made to affiliate commercial credit institutions of various sorts with the Riksbank, the *diskonter* and later *filial-banker,* but the former collapsed in the early nineteenth century and the latter never showed much vitality (Heckscher, 1954).

The government was more capable of dealing with foreign finances than were individual, independent businessmen. Private borrowing abroad remained completely insignificant compared to government flotations, with the exception of the Grängesberg mining company and private railroads. Overwhelming long-term bond issues were transacted by the Swedish government in connection with railroad construction.

On the other hand, the experience and skills represented in the Bureau of National Debt (Riksgäldkontoret), the government agency entrusted with managing the debt, were inferior to those in business circles; consequently, Sweden did not always get the most favorable terms abroad. The fact that the government undertook foreign borrowing for the infrastructure prevented any considerable foreign influence of the Swedish economy.

It was necessary to develop a modern financial sector that would allow both industrial investments and consumption to expand. There was no need to build up whole financial systems because a skeleton was already there, based on the Riksbank. However, it was less instrumental in procuring capital than were the merchant houses and other private lenders. Therefore, before the Riksbank was reorganized in 1897, "private credit was infinitely more important" (Heckscher, 1954, p. 249).

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Traditional Financial Support and the Acquisition of Capital for Investment

Until the crucial period around the 1870s, industrialization was financed by commercial capital, as discussed in the preceding chapter. The well-organized open market, in which merchants and brokers acted as intermediaries, was the traditional source of financing. The government, municipalities, and mortgage societies met their capital needs mainly through long-term borrowing abroad, often in currencies that were greatly depreciated before the loans had to be paid back. However, long-term borrowing was not usual among firms.

Entrepreneurs depended on the private credit market and the traditional role of merchants at the large trading houses in Stockholm and Gothenburg. These merchants borrowed abroad through their international network, supplying their industrial clients with working capital. Leading Swedish trading companies with a history in trading forest and paper products,

> such as Dickson, Ekman and Elof Hansson (today Ekman Liebig, owned by Catena which is controlled by Volvo) all located in Gothenburg, the major shipping port on the Swedish west coast, constituted the linchpin between European demand (especially England) and Swedish industry. (Porter et al., 1991, p. 61)

As a result of an international boom, which began in the 1860s, the higher demand for Swedish exports necessitated an infusion of capital for investments in manufacturing, transportation, and communications. Because the growth of the timber and iron trades strained the resources of the market, credit extended by the merchant firms proved less than adequate for the investment demands of the new manufacturing industries that were emerging. Larger amounts of capital were needed as the technological revolution progressed.

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Toward the mid-nineteenth century, the advent of the railroad era, which almost immediately turned land transport into a significant factor in the capital market, signified that a modern capital market was necessary for further expansion of the Swedish economy and industry. Business was rapidly outgrowing its ancient forms of financial organization.

The traditional well-organized open market of merchants and brokers as intermediaries providing working capital for entrepreneurs began to exhibit signs of inadequacy in meeting the investment needs of the emerging engineering industries. This started in the 1870s, during a period of industrial expansion. Towns were increasing in size, and the building trade and railroad building as part of the expansion of transportation and communications systems necessitated a new financial organization.

The Tentative Reorganization of the Banking System

After 1820, the Riksbank was no longer the sole note-issuing institution in the country. In 1831, there was a tentative organization of the Swedish credit market and an emergence of private banks, the first of which was the private Bank of Scania (Skånska Privatbanken, later Skånes Enskilda Bank, which was finally absorbed by Skandinaviska Banken) (Montgomery, 1939). The first modern Swedish private banks, dating from the 1830s, were directly copied from Scottish banks. Note issues constituted their chief means of existence, enabling them to extend the volume of working credit beyond the capacity of the Riksbank.

However, for quite some time, the Bank of Scania did not make a bid for deposits. In 1850, the aggregate lending of private banks amounted to merely 15

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million kronor, whereas the Riksbank's lending was about 33 million kronor (Montgomery, 1939, p. 99). Thus, although the private banks issued notes, neglect on the deposit side restricted the flow of money. In addition, when the Riksbank could exceed the former maximum of 6 percent interest, it continued to maintain a policy of cheap money[6] for some time. By the end of the 1860s, the Riksbank still remained primarily a commercial bank.

Small, private banks could not offer interest rates that compared favorably with open-market rates; therefore, they were not attractive to would-be depositors. The private banks were less instrumental in procuring capital than were merchant houses and other private lenders. In time, a growing local capital market would be placed at the industrial companies' disposal (Carlson, 1979).

As in other countries, the development of a modern credit market in Sweden was hampered by inadequacies in the joint stock legislation. It was not clear whether companies with limited liability could be formed without special permission from the court for some time. The legal position was not settled until the Joint Stock Company Act of 1895, which then made the corporate type of organization in business significantly more desirable.

Gradually, the power of the open market to provide a remunerative investment for capital was reduced. In 1864, as part of the bank reform, the rate of interest became practically free in the short term, and later in long-term lending as well. This added appreciably to the competitive strength of the banks. These developments meant that the organization of the credit market and capital formation for industry through the banks as the principal source of working capital in Sweden did not occur until quite late, toward the end of the nineteenth century.

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Rivalry and the Bank Reform of 1864

By 1870, the privileges and regulations associated with the "old society" had been abandoned in Sweden. In many cases, this change reflected what was already in practice, linked to the vast changes of industrialization and modernization. In other instances, it was due to the liberal policy implemented by members of Parliament and other influential Swedes. The bank reform of 1864 contained both of these elements.

> The ban on interest rates above 6 percent was abolished, but it had earlier been circumvented by banks charging commissions of various kinds and dealing in bills of exchange as sales and purchases instead of lending. The other part of this reform, which greatly facilitated the founding of note-issuing banks with unlimited liability, was a final result of a long political struggle concerning banks that dated from the early 1820s. (Lundgren, 1991, p. 174)

The banking system had developed along two different lines because of differences of opinions among the government, the king in council, and Parliament. Ever since 1668, Parliament had controlled the Riksbank, which originally held a monopoly on note issuing (Lundström, 1991). To counterbalance this power, the government advocated imitating the Scottish banking system and gave charters to *enskilda* banks, banks with unlimited liability that were able to issue their own notes. The Riksbank responded by giving subsidized loans to so-called filial banks, affiliates of the Riksbank. These banks were founded by influential inhabitants of several provincial towns, and they were nominally independent enterprises. At that time, Scania (Skåne), in the south of Sweden, was the country's most developed and prosperous region.

The rivalry was partially solved in the early 1860s, with a withdrawal of subsidies and a royal (i.e., governmental) decree in 1864, facilitating the founding

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of note-issuing joint-stock banks with unlimited liability (a bank note is issued by a bank undertaking to pay the bearer the face value of the note on demand). At the same time, the 6 percent ceiling on interest rates was abolished. In 1864 and 1865, twelve new unlimited banks were founded, thus doubling their number. Thereafter, obtaining a charter became merely a formality (Lundström, 1991).

The Riksdag's more liberal attitude manifested itself in several ways, easing old regulations in trade and industry. This soon paved the way for the possibility of another type of bank, the joint-stock bank with limited liability, but without note-issuing rights. The limited banks were chartered under the 1848 Company Act for ordinary joint-stock companies *(aktiebolag,* AB), and in 1864, three such banks were opened. (Other forms of business organizations include limited and unlimited partnerships.)

Significantly, unlike the banks with unlimited liability, these joint-stock banks could own shares in companies. In fact, that was the purpose of these banks, or credit companies, as some of them were named. They were modeled on the Crédit Mobilier. Moreover, until 1886, there were no other laws regulating the business of limited banks.

Investment banking was little known at that time, and those that tried, as banks of the Crédit Mobilier type or as mixed banks investing in bonds or granting large proportions of share loans, got burned at an early stage. The experiences of the early investment bankers usually discouraged other banks from trying that approach for quite some time (Lundström, 1991). "Banks of the Crédit Mobilier type were premature, however, considering the state of development of the Swedish economy" (Lundström, 1991, p. 177).

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The largest of the limited banks was the English and Swedish Bank, an English firm with offices both in Gothenburg on the west coast and in Stockholm; this bank went into liquidation as early as 1870. The English and Swedish Bank had invested sizable amounts of money in Swedish ironworks and railroads, which did not yield immediate profits. When the mistakes of the English and Swedish Bank became obvious after only a year of operation, the negative experience provided a lesson for other limited joint-stock banks. Thereafter, the Swedish banks concentrated on a cautious policy of more regular bank business than the premature Crédit Mobilier.

Commercial Banks

A necessary adjunct to mature industrialization and expansion abroad was an efficient and reliable banking system. In the second half of the nineteenth century, the important Swedish banks were formed: Stockholm's Enskilda Bank in 1856, Skandinaviksa Banken in 1863 (these two banks merged in 1971), and Stockholm's Handelsbank (now Svenska Handelsbanken) in 1871. The Riksbank, the National Bank, was given the exclusive right to issue paper money in 1897, at which time it ceased doing commercial business and assumed the role of a central clearing bank.

There was a more extensive banking system with the appearance of joint stock company banks, *Aktiebanker* and *kreditaktiebolag,* based on their own capital and the public's deposits rather than on note issue. The first of those banks, Skandinaviska Kreditaktiebolaget (later Skandinaviska Banken), was founded in 1863. It originally was intended as an all-Scandinavian institution, a plan supported

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by C. F. Tietgen, the leading Danish financier and industrialist of the time (Heckscher, 1954). This project collapsed, though, and the bank became an exclusively Swedish enterprise. It opened its office in Gothenburg in 1864, and a branch office in Stockholm the following year. Rather soon, partly because the mistakes of the English and Swedish Bank became apparent after only a short time of operation, Skandinaviska Kreditaktiebolaget concentrated on more regular bank business, although it had a larger portion of long-term lending than did other banks at the time (Lundström, 1991).

Stockholm's Handelsbank, founded in 1871 by dissenters from Wallenberg's Stockholm's Enskilda Bank, upheld a very cautious policy from the start. It was these two banks that would become, toward 1920, the two largest banks in Sweden after having merged with several other banks.[7] In due time, the joint-stock company banks displaced the note-issuing banks.

Although it is difficult to determine the exact number of banks that existed in 1870, Lundström (1991) estimated that in 1864 there were twenty-four *enskilda,* or unlimited joint-stock banks with the right to issue their own notes, and twenty-two filial banks. As the filial bank charters lapsed, they either discontinued their business or they turned into or were merged with *enskilda* banks. There were also four limited joint-stock banks (Lundström, 1991). When regular bank statistics began to be recorded, in 1874, they listed thirty-five banks, twenty-seven unlimited and eight limited joint-stock concerns. These were called commercial banks and are so designated herein.

In view of its stage of development in 1870, Sweden had an exceptionally advanced and diversified banking system, more so than other countries. The banks

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were sophisticated but premature because (a) the iron industry was not demanding much capital in the 1860s as it was not expanding, (b) the infrastructure was just in the early stages of being built out, and (c) the distinctions between the Riksbank and commercial banks had not been delineated.

Mortgage Institutions

In the early 1870s, there were more than 300 savings banks and more than forty mortgage institutes.[8] The first institutions to enter the foreign-capital market were the mortgage associations. After the 1830s, some institutions of mortgage credit were started, which granted long-term loans to agriculture and to a small extent to the iron industry as well. The number of mortgage associations increased in the 1840s, when there was a pressing need for mortgage credit. At that time, the law giving equal rights of inheritance to both daughters and sons was extended to embrace the estates of the nobility and the farmers.

Capital needs were largely raised abroad. Then, after an interval of some length, Swedish bonds were reintroduced on foreign markets, at first mainly in Germany. Borrowing became centralized in a new institution founded in 1861, Sveriges Allmänna Hypoteksbank. Later, that institution became an important channel of capital import from abroad, and its bonds, guaranteed by the government, were to a large degree issued abroad (Montgomery, 1939). At first, the German market was most important, but then the French took over. Loans, at that time, were negotiated either directly or by private bankers. Private bankers continued to negotiate loans for both mortgage banks and cities during the years leading up to the First World War.

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Year	Riksba (Nat'l B
1870	43
1880	65
1890	89
1899	130
1910	191

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In the 1870s, new mortgage associations were founded, especially in towns and municipalities as more people migrated from the countryside. Close cooperation between local communities and credit institutions contributed to financing housing during a period of increased urbanization. Table 4.2 indicates that mortgage institutions held the lead in lending until the beginning of the 1880s; then the banks took over.

Table 4.2

Lending by Swedish Credit Institutions, 1870 to 1910
(in millions of Swedish crowns)

Year	Riksbank (Nat'l Bank)	Commercial Banks	Savings Banks	Mortgage Institutions	Other Institutions	Total
1870	43	121	57	156	38	415
1880	66	287	121	289	64	827
1890	89	457	241	361	107	1,255
1899	130	1,046	382	353	192	2,103
1910	191	2,093	728	507	319	3,838

Source: Nygren (1985), p. 140.

Expansion of the Banking Industry, 1860 to 1875–A. O. Wallenberg

"The period from 1860 to 1875 is considered one of the most expansive and crucial in Swedish banking" (Lundström, 1991, p. 178). In addition to the introduction of joint-stock banking, the innovative role of A. O. Wallenberg and Stockholm's Enskilda Bank merits attention. Although in due time the joint-stock company banks displaced the note-issuing banks, a private bank of the earlier type assumed the leadership in the development of modern banking in Sweden.

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The most prestigious of Sweden's merchant banks in the nineteenth century was Stockholm's Enskilda Bank. The bank was founded in 1856 by André Oscar Wallenberg, who pioneered the way for a modern and innovative banking structure in capital markets (Elstrob, 1979). In the early stages of industrialization, Wallenberg had played a leading role in financing the Swedish timber industry. Wallenberg's bank was a note-issuing bank with unlimited liability (it could not own company shares). Stockholm's Enskilda Bank pulled through the economic crisis of 1857, but the 1878-1879 crisis caused a greater strain and plagued the bank for many years.

The main office of Wallenberg's bank was in Stockholm, the center for commerce, where there were many merchants; all banks had representatives there. The *enskilda* banks had to keep a reserve of legal tender, Riksbank notes, for exchange on demand. Usually merchants provided for the exchange business, but the drawback was that the system of capital transport in Sweden was slow at that time. Wallenberg established forty such banks in provincial towns around Sweden and attracted a sizable number of short-term deposits by paying interest on funds deposited by merchants.

In addition, Wallenberg's bank was the first to introduce a bank money order, which was a great success in Sweden; money orders were not subject to a stamp tax, as they were in England and Denmark. Stressing the role of the money order in making money more efficient, Wallenberg realized that complacency on the deposit side and the reliance on note issuing that the unlimited banks had exhibited resulted in large unused reserves. He wanted to increase longer term deposits and offered higher interest rates.

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Wallenberg also proposed increasing the velocity of money. His dream was that people eventually would regard banks much as they did bakeries, and go to them with the same frequency, on a daily basis (Lundström, 1991).[9] His banking policy also stressed short-term lending, and in the early stages of the bank's development, particularly, he catered to the business of drafts and bills of exchange.

In essence, Wallenberg introduced a completely different outlook on banking, based on his conclusion that banking was a business and that turnover should be fast; he stressed that high liquidity was essential. These innovations resulted in Stockholm's Enskilda Bank's receiving a sizable number of short-term deposits from its inception. No doubt, this all had a credit-multiplying effect, especially because the system of Swedish capital transport was still so slow.

Wallenberg's innovations and his ideas about managing and expanding capital resources and shorter term lending meant greater velocity of money for banks. Undoubtedly, the Swedish banking system benefited from this change in attitude, and through circulation of comparatively little money it could expand with higher turnover as velocity increased. Wallenberg's policy was, on the whole, adopted by other commercial banks.

As new attitudes and procedures were developed, the Swedish credit system became more standardized and offered a broader range of services to customers. Before the 1860s and 1870s, firms had to have designated loan managers to seek out credits and arrange sales and purchases for bills of exchange, but the banks were able to provide some of those services. The banks appeared to be more efficient from the borrowers' point of view, in contrast to the antiquated arms'-length system.

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Over time, there came to be better communication between banks and cooperation between the commercial banks and other credit institutions--savings banks, mortgage banks, and insurance associations--and different ideas about banking, which meant a faster turnover of money. Shorter term lending and increased cooperation contributed to lowering transaction costs for borrowers of money. Cooperation between banks also gave greater elasticity to the banking system.

These factors indicate that the **idea** of deposit and commercial banking was a prime mover in the Swedish economy and in the development of a banking system. The development of the economy and of industry followed, although that development was rather independent of the existing banking system.

Disintegration of the Traditional Role of the Trading Houses and Merchants

A change in financial organization became noticeable by the 1860s, when rapid growth of joint-stock banking coincided with the speeding up of industrialization; the two movements were largely interrelated. The growth of industry and the profitable exploitation of natural resources, particularly timber, which previously had offered only a meager return, signified a rapid rise in the national income.

Toward the end of the 1860s, a business recession occurred simultaneously with a sequence of bad harvests, but the recession was of a somewhat mild nature. There was a vigorous revival of exports and economic growth in the 1870s, which evolved into the greatest boom of the century. Part of the additional savings fed the

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banks' deposit accounts, while at the same time there was increasing demand for working capital and for money to be invested in new buildings and industrial plants.

A major reason for the increase in bank deposits was the fact that there had been several large bankruptcies in merchant circles during the 1860s, and the banks were now considered safer. That greater safety from lenders' point of view played a vital role in the breakthrough of commercial banks. Joining together in a bank, even one with unlimited liability, meant spreading the risks of lending. Thus, the banks were in a more advantageous position than in the past to take part in developing a modern capital market based on local and available expertise--merchants who had knowledge about foreign markets and international capital networks as part of their role in trading. In addition, there was an increase in deposits at commercial banks.

Consequently, the traditional, specialized system of banking disappeared, and commercial banks eventually came to dominate the credit market. It is difficult to say exactly why or when the merchant-creditor form of financing was displaced and faded away, "but eventually the modern capital market emerged, with the creation of independent solvent banks and with the introduction of bond and stock issues in order to raise long-term capital from the public" (Heckscher, 1954, p. 246). Banks took over trading-house functions by the time of mature industrialization in Sweden.

It is not surprising, considering their vast experience, that many merchants became members of the boards of many newly formed banks. "Merchant houses, merchants, and private lenders were among the largest shareholders in the banks in the 1860s and 1870s. Banks became a new form for organizing their lending, as joint-stock companies became the new form of organization of other business"

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1906-1910	1

Source: Dahlgren e

[a]Capital expo

[b]Capital expo

(Lundström, 1991, p. 181). The economic boom of the first half of the 1870s and the railway mania of those years involved some of the leading banks in large-scale industrial financing.

Gradually, the role of financier of the new export industries was taken over by the banking system. The banks did not take part in the actual funding of the new industries because they were prohibited by law to buy shares. However, after a substantial increase in manufacturing and banking from 1870 to 1875, the next twenty years were rather dull. Investments in manufacturing also were at a standstill until the mid-1890s.[10] (See Table 4.3.)

Table 4.3

Gross Swedish Investments, Bank Lending, and Capital Imports
1871 to 1910 (in millions of Swedish crowns)

Period	Gross Domestic Investments	All Credit Institutions	Commercial Banks		Capital Improvements During Period
			Total	Loans	
1871-1875	588	284	143	--	120
1876-1880	741	128	23	15	184
1881-1885	644	279	130	54	305
1886-1890	667	149	40	40	304
1891-1895	666	142	103	64	92[a]
1896-1900	1,242	707	486	195	246[b]
1901-1905	1,496	680	411	268	437
1906-1910	1,844	1,024	606	299	386

Source: Dahlgren et al. (1937), p. 573.

[a]Capital exports, 8 million crowns.

[b]Capital exports, 23 million crowns.

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Even with progressive measures and innovative and far-sighted bankers and financiers, the times were fraught with several forms of instability. Because of investing in railway bonds offered in the railroad boom of 1870, several banks, especially Stockholm's Enskilda Bank, were stuck with large numbers of railroad bonds. The banks had acquired these bonds with the intention of selling, when they were hit by the economic crisis of 1878. Because some banks were under great stress, Parliament decided to help Swedish banking by granting loans from the railroad fund. "Thanks to a loan from the Swedish government and another loan from its correspondent bank in Britain, the Union Bank, Stockholm's Enskilda Bank barely escaped bankruptcy" (Lundström, 1991, p. 181).

This chaotic experience was evidently spoken about for many years--as late as 1920 at the Wallenberg bank. The traumatic experience forced the bank to maintain a high liquidity and larger reserves thereafter.

Expansion and Modernization of Commercial Banks

For a time, the Swedish commercial banking system remained as it had been formed during the transitional period of the 1860s to the 1870s. No great changes occurred in the commercial banking system until the 1890s, and the number of banks remained virtually constant. The situation changed in the 1890s, when the *enskilda* banks expanded and opened numerous branch offices, mostly in the surrounding provinces and regions, as well as several in Stockholm (Lundström, 1991).

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There was little competition among the three largest commercial banks in Stockholm or between commercial banks and other credit institutions such as regional networks consisting of various credit institutions, insurance companies, and local authorities. One example of such a regional network is in the province of Skåne, at that time one of the richest and best developed parts of Sweden in terms of both agriculture and manufacturing. During the period leading up to World War I, Skånes Enskilda Bank, founded in 1830, was the largest note-issuing bank, and for most of that time it was the largest commercial bank in Sweden.

The government's foreign banking was in the hands of private banks.

> In 1885, it had a dozen members on its board. Five of these were at the same time directors, some even chairmen, of savings banks in the area; five were on the board of mortgage institutions, five served on the board of local railroad companies, one was on the board of two insurance companies, five were members of Parliament, five were members of local or country representation, one was a mayor, etc. These were not the same people; there were only two of the board members who did not hold any such position, and one of them was the bank's vice-president. The bank had fifteen branch offices, each with its own small board of directors consisting of similar groups of people. (Lundström, 1991, p. 179)

This model was repeated by practically all other banks.

The picture of calm--and stagnation--started to change in the 1890s. By 1895, there was more rapid expansion of both industry and banking, during another boom era; at the time, banks also concentrated on consolidation. Deposits, lending, and total assets of commercial banks increased sharply. The number of banks increased to forty-five in 1895, sixty-four in 1900, and eighty-three in 1908 (Lundström, 1991, p. 179). All of the new banks were joint-stock banks with limited liability.

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From 1900, the number of *enskilda* (unlimited) banks with limited liability started to decline. "In 1900 the total assets of *enskilda* banks were still 50 percent larger than those of limited banks. In 1908, the figures were reversed" (Lundström, 1991, p. 180). The number of banks peaked in 1909. Then there were many mergers, which included the largest banks. These mergers resulted in banks with a countrywide network of branches. This meant that seasonal and regional differences in demand for and supply of credit were leveled out within the banks, thereby providing greater financial stability.

Banks and Corporate Shares

According to the legislation in force at the end of the nineteenth century, banks were not allowed to acquire stocks and shares on their own account. But indirectly, they exerted a strong influence on the market for stocks and shares by granting credits against securities of this kind (Montgomery, 1939, p. 128). As time went on, however, the banks were increasingly influenced by the gradual but belated growth of the securities markets.

In the 1870s, only a few banks gave share loans. The Stockholm Enskilda Bank accounted for about 25% of such loans (Lundström, 1991, p. 183). Later, Wallenberg's bank acquired an important position in several Swedish companies, including Stora Kopparberg, L. M. Ericsson, and ASEA (now ABB).[11]

In both booms--in the early 1880s and the late 1890s--banks made share loans. During that time, large banks in Stockholm, Gothenburg, or Malmö loaned against shares, then much more a share market.[12]

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Two factors contributed to the increase in banks' lending against shares. One was that many mergers took place from the turn of the century onward, and there was a sizable amount of both vertical and horizontal integration. Because of this, firms frequently borrowed, using shares of acquired companies as collateral (Lundström, 1991, p. 185). The second factor was that several banks, or directors of banks, now took a more active part in issuing shares.[13] A consortium usually was formed, and its members promised loans against the share issues. Banks themselves were not allowed to own shares until 1909, and even thereafter the amount allowed was very small.

At the turn of the century, wider circles of people became interested in buying shares, when Grängesberg mining shares were introduced on the stock exchange. The stock exchange was reorganized on a more comprehensive basis, and banks were admitted as brokers and as members of the stock exchange in 1907.

Commercial Banks and International Relations

Private banks of the earlier type, such as Stockholm's Enskilda Bank, which assumed the leadership in the development of Sweden's modern banking system, became the government's principal agent when foreign borrowing was put in the hands of the private banks. Private banks assumed the role of a quasi-central bank, a role the Swedish Central Bank, until 1897, refused to play. However, it competed for a long time in this capacity with Stockholm's Handelsbank (now Svensk Handelsbanken), which was founded in 1871. Soon afterward, it came under the management of German-born Louis Fraenckel (1851-1911), one of the most successful negotiators in the German market (Heckscher, 1954, p. 250). Fraenckel

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had extremely close cooperation with Warburg and Company in Hamburg, and Stockholm's Handelsbank headed the first Swedish consortium for issuing loans for Sweden, which produced sizeable profits for banks. Competition among the various consortia was keen (Lundström, 1991). Until 1890, the German and British capital markets were approached alternatively.

K. A. Wallenberg, son of the founder of Stockholm's Enskilda Bank, served an apprenticeship in the Crédit Lyonnais and managed to get into the French consortium. Crédit Lyonnais did not act without Wallenberg's approval when approached by other banks. At that time, the German and British capital markets had other interests, but when large loans were issued in the 1890s and up to 1910, practically all were placed on the French capital market. The bank received commissions and short-term deposits. K. A. Wallenberg was married to a Norwegian, and the bank also came to dominate the Norwegian foreign loan market, perhaps because Crédit Lyonnais was the best contact to have in international markets in those days.

Commercial Banks and Industry

In the latter part of the nineteenth century, as banks established more efficient capital markets, they became more powerful and more involved in industrial expansion in the evolutionary stages of big business. New markets and more processed products opened the door for banks to change their role in regard to providing capital for industry. They began to assist Swedish industry in a more direct way in developing big business--that is to say, in creating potential international markets during a build-up of the engineering industry.

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During that period, when the banks gradually took over the bill-of-exchange business, "the whole export structure of Sweden also changed" (see Carlson, 1971). The importance of the old iron industry declined, even stagnated in absolute terms, followed by a stagnation of lumber products. These two market areas were the ones that merchant houses had known best and were best linked internationally, especially with the British market; the new markets were less familiar to them. Thus, some Swedish export firms, such as Sandvik, began to get their own agents abroad.

Capital was imported in the 1890s, which gave banks short-term deposits. If they loaned to the sphere of permanent customers, they could lend on the long term, which was what the research-intensive engineering industries required. Thus, the importance of the banks as intermediaries between producers and markets grew in several ways. However, if the commercial banks wanted to keep their customers, they had to acquire better knowledge of both products and credit markets (Lundström, 1991, p. 181).

Swedish banks functioned as intermediaries between Sweden and foreign markets. This was a necessary component of their more active role as market-makers for Swedish industry as it expanded abroad with the build-up of large engineering firms, some of which had been founded as early as the 1870s. To take part in large international industrial projects was risky and demanded large resources. For this reason, international banks often cooperated with each other; that was still the case in the early 1900s.

When the commercial banks began to trade in export and import bills of exchange, they had to open accounts with banks abroad. This led to their participation in and acquisition of knowledge about the international financial

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markets. Through these international contacts, the banks got information about foreign markets and thus could be market-makers for the Swedish companies. In this regard, the banks became more powerful and more important to industrial expansion and foreign markets, taking over the traditional role of the merchant houses, which had been the middlemen in earlier times.

"It was important for the Swedish firms that wanted to go abroad that the Swedish banks belonged to a brotherhood of bankers" (Lundström, 1991, p. 186). The banks used their international network to obtain orders for "their" companies and to establish networks around the firms in the international arena. In 1890, a consortium led by Stockholm's Enskilda Bank won concessions for telephone operations in Moscow and Warsaw (Lundström, Teichova, Levy-Leboyer, & Nussbaum, 1986). This type of relationship between banks and firms in Sweden probably facilitated or rather strengthened the tendencies toward internationalization of Swedish industry.

The Riksbank

The modernization and reorganization of the modern banking system also depended on the establishment of a clear distinction between the functions of the central bank and those of the commercial banks. During the 1880s and 1890s, there was an extensive revision of previous banking methods. The changes were due to the intervention, not of the Riksdag, but of the Board of Directors of the Riksbank. Most of the credit for internal rebuilding of the Bank of Sweden is attributed to a single member of the board, J. W. Arnberg, who for twenty years, until his death in 1900, "was everything save in name the governor of the Bank" (Montgomery, 1939,

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p. 133). There was considerable improvement in the management of the Riksbank under Arnberg's direction.

An act passed in 1897 made the issuing of notes a monopoly (exclusive rights of note issue) of the Riksbank. All private issues had to be discontinued after 1903. It was also legislated that the Riksbank would serve as the true national bank and as a lender of last resort. Because private banks were deprived of their right to issue notes, in 1904, they were forced to borrow from the public. The Riksbank adopted the English policy of flexible discount rates and developed into a real central bank, while the commercial banks grew to unexpected power.

International Capital Markets, Foreign Trade, and Monetary Instability

One of the most important factors in international economic relations was the international migration of capital. The unparalleled expansion of European economies from 1815 to 1914 was due in part to the fact that the monetary system achieved an unprecedented degree of organization and stability (Heckscher, 1954). The expansion of European economies depended on the organization and stability of capital stock to support rapid industrialization in a time of accelerated change. After the gold standard was adopted, links with an international monetary system, led by Britain, eventually resulted in monetary stability for most of Europe. There were peaceful monetary conditions until World War I, and then the monetary structure was brought down. The ensuing confusion was enormous.

As in most countries with small populations, Sweden was influenced by fluctuations in the international economy. Beginning in the 1850s, Sweden regularly reflected the international business cycles, and business fluctuations began to be

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transmitted to Sweden from the rest of the world. Most of Sweden's leading exports consisting of raw materials--timber and wood products, as well as iron and iron manufactures used for industrial products--were subject to more violent fluctuations than consumer goods and were particularly sensitive to foreign disturbances. Recurring currency crises had serious repercussions for all branches of the economy.[1] Between 1834 and 1873, Sweden was on the silver standard, which meant that a rise in the exchange rate caused silver to pour out of the country.

Adoption of the Gold Standard in Sweden

The Swedish silver currency was replaced by the gold standard. This fixed the exchange rates between currencies so that all international debts were settled in gold (Montgomery, 1939). The transition from silver was easier in Sweden than in other countries because, contrary to practice elsewhere at that time, circulation of currency was not a large factor; bank notes were the medium of exchange. Also, Sweden disposed of silver before its price declined.

Like Denmark and Norway, Sweden went onto the gold standard in 1873. It continued to operate under the gold standard until the outbreak of the First World War. In 1914, Sweden left the gold standard, but returned to it in spring 1924. It remained on a gold basis until the international financial crisis in autumn 1931. The adoption of the gold standard[2] meant that gold was the overarching frame for the nation's economic policy and that the money stock was determined by the demand for money.

Sweden was a small, open economy operating under fixed exchange rates, rather than those established by the Riksbank.[3] The gold standard made Swedish

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economic trade cycles extremely sensitive to international developments, if only because most of their trading partners were, or would be, linked with gold. One of the system's advantages was that it could even out disturbances in the balance of payments, but this also meant that the central banks of the participating countries had to have an active monetary policy. The gold standard's guiding principle assumed the existence of a simple connection between the quantity of money and price levels.

Throughout the pre-1914 era, Sweden imported considerable quantities of capital. The import of capital increased the money supply during boom periods, helped keep down the interest rate, hastened economic growth by augmenting investment capacity, and eased the country's balance-of-payments problems. The state and various private institutions, such as mortgage companies, made loans to finance domestic investment, mainly to build railways. A strained balance of payments would have forced Sweden to export gold and follow a deflationary monetary policy. However, the opposite happened; capital was imported and the economic policy became expansive.

At that time, the central banks needed only a rather small flow of gold in order to extend or reduce their economic activity. The gold standard seems to have functioned satisfactorily, not so much because the central banks obeyed the rules of the game, but because they were operating in a situation in which the markets were united by the flow of commodities, of which gold was only one. In fact, as soon as serious disturbances did occur within the system, the gold standard collapsed. But in the interim, Sweden experienced the benefits of importing capital from abroad due to the flow of money across national borders.

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Stockholm's Enskilda Bank was the first Swedish bank to trade in foreign bills; Skandinaviska Kredit followed. Both of these institutions started doing arbitrage[17] business, apparently having learned from the Danish Privatbanken and its director C. F. Tietgen, the leading Danish industrialist and financier of his time and supposedly the master in the business, benefiting also from closer contacts and proximity to the Continent. Arbitrage serves to level out prices and interest rates between one country and another.

Because Sweden operated under the gold standard from 1873 until the outbreak of the First World War, and its economy was well integrated with the international economy, arbitrage should have established a close relationship between Swedish and international price levels. At that time, the United Kingdom was Sweden's most important foreign trading partner, so prices in Sweden should have been strongly correlated with those in the United Kingdom through international trade in the latter part of the nineteenth century (see Gerlach, 1993, pp. 155-171).

In the international context, the link of arbitrage was important because it could provide a channel through which external economic disturbances could be transmitted. The effect of the gold standard was the possibility of economic stability rather than acute and violent macroeconomic swings, which for a small country like Sweden that is dependent on exports could produce shock waves throughout the whole economy. As long as the economy was tied to the gold standard, operations in the open market were means of controlling the money supply and influencing investment and consumption. However, it is important to emphasize that this situation existed before Sweden went on the gold standard, as far back as the

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eighteenth century, mainly because Sweden had throughout its trading history been dependent on international markets for national income, a reality for any country with a small domestic market and a rising standard of living (see Jörberg, 1972, for this development).

The transition to an industrial era and exploitation of forests and railway building increased the demand for capital. In the home market, capital was insufficient to build out the basic infrastructure; therefore, capital for investment in Sweden was imported, mainly from England, Germany, and France. Large amounts of capital crossed borders, during an era of economic internationalism. The National Debt Office, with the help of commercial banks, borrowed from abroad to extend major rivers and finance housing and large parts of the growing infrastructure (Olsson, 1993).

The gold standard was significant because it linked Sweden to international capital markets, thereby offering the possibility of relative economic stability. Rapid industrialization was enhanced by extensive capital imports. These primarily enhanced the railroads and other transportation systems for distribution and communications, a vital prerequisite for the country's rapid economic upswing. Rapid industrialization and extensive capital imports, combined, had a far-reaching impact on Sweden's economic history.

Investments and Industrialization, Capital Movement, and Trade Cycles: 1861 to 1913

An international market for capital created opportunities that Sweden quickly accepted, as there were many uses for foreign capital. During most of the 1870s, investments in agricultural equipment increased greatly as agriculture became more

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efficient. Capital required for agriculture was widened through extensive borrowing from the General Mortgage Bank of Sweden (Sveriges Allmänna Hypoteks Bank), founded in 1861 (Dahlgren et al., 1937). However, the cultivation of new land gradually ceased in the mid-1880s, shrinking the capital requirements of agriculture.

> The industrial expansion in Sweden, which required considerable capital, affected directly rates of interest at home and abroad with the consequence that the government and the industries could borrow money more cheaply in foreign markets than at home. Also expansion meant direct investment for foreign capital in Swedish industries. (Dahlgren et al., 1937, p. 289)

Increased income from abroad created an easy-money market; it stimulated investment and an increase in consumption capacity in the home market. Investments in industrial equipment increased, and the output capacity grew rapidly, as well. In the meantime, the value added in manufacturing rose 14 percent per annum (Dahlgren et al., 1937, p. 258).

At the end of the last century, Sweden had considerable capital imports. But it was the capital-import institutions such as the mortgage companies and communities that borrowed abroad to finance construction and other projects, which supplied industry with the foreign exchange necessary for machinery and equipment purchases. But the government and municipalities and mortgage societies placed their loans in foreign capital markets, not in industrial companies or entrepreneurs. Long-term borrowing, particularly borrowing abroad, was not usual among the industrial firms (Carlson, 1979).

Hence, due to the government's borrowing from abroad, foreign countries financed the most capital-absorbing operation of the time--the building out of the infrastructure. This meant that the growing Swedish capital market was more or less reserved for industrial use. Domestic savings could be used for private business

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and the developing mechanical engineering industries during the last decade of the nineteenth century. By the 1890s, the rate of interest in Sweden had fallen to a point where borrowers found it as reasonable to borrow at home as abroad. At the same time, the Swedish Central Bank was reorganized. A reversal from capital imports came in 1910-1911, at the same time that the General Strike of 1909, involving more than 300,000 workers, led to a considerable import surplus.

The Necessity of a Diverse Economy

During the time under consideration, the Swedish raw materials export industries were affected by changes in macroeconomic variables, such as exchange rates, as they are today. But the high raw material content of Swedish exports made them more sensitive to fluctuations in trade and price formation. Therefore, it was imperative that Sweden diversify the economy and build a modern industry with innovative production facilities that would support expansion into the international market to gain a return on investments and contribute to the national income.

Sweden was able to move on to a new phase of industrialization in the late nineteenth century, beyond the export of raw materials to a stage based on mechanical engineering and new products. The manufacturing industries progressed from the 1870s onward with a number of "new" industries such as wood pulp, engineering and Norrland mining industries, hydroelectric power production for electrification of factories, and so on, all of which gave rise to considerable industrial construction activity and further investment. The development of capital-intensive industry[18] by the 1890s led to a new and more rapid expansion of industry as the Swedish economy entered a stage of rapid and sustained industrial advance.

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The more advanced mechanical engineering industries took off in the late nineteenth century. These industries manufactured rock-drilling machinery (for mining and construction), turbines (for hydroelectric power generation and steam turbines), separators (for dairies), bearings (for transport equipment), and so on. Improved education, an increase in newspaper production, and expanding bureaucracy in government and business created a demand for pulp and paper. "These import substituting industries had to withstand the test of international competition since the Swedish market was little protected by trade barriers" (Porter et al., 1991, p. 63). Newly developed industries attracted new entrepreneurs, which led to diversification among established firms. New products spawned from old ones, related diversification, and competitive Swedish firms moved into more differentiated industry segments (Porter et al., 1991).

The early 1890s meant economic depression for most other countries, but the depression was not that deep in Sweden, and industrial production steadily increased. Continuous structural change in Swedish industries led to a greater differentiation of industrial manufacturing than before, which added to economic and domestic stability. These factors, and others, tended to push Swedish industry toward a level of national advantage in the production of industrial products, fueling its position in the international market, which has always been so important to Sweden.

International Trade Networks and the Distribution Channel

As Sweden moved toward an era of mature industrialization, the international distribution network and prior industrial knowledge were important components. In

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addition to capital from export markets, Swedish industry was also dependent on other countries for ideas and innovations, new techniques, and technology transfer. In this context, well-developed channels of communication to gain knowledge about demand abroad, as well as prior related knowledge, technical and general business knowledge, and imports of British technology were important for mature industrialization and Sweden's economic development.

One aspect of the historical development of Sweden's absorption process that is often overlooked is how firms become aware of business opportunities in the international market and how new technologies "come to the agenda of organizations" (Arrow, 1962, p. 155). This raises the question of the existence and quality of various information channels in Sweden and more developed countries. A striking feature of the Swedish absorption process is the important role played by merchants and tradesmen, and the significance of many managers of new industrial firms, whose earlier experience had been in trades where they had learned about markets and business opportunities (Lundgren, 1995).

Because Sweden had a small domestic market, expansion of industry had to take place in international markets, where competition was keen. Sweden's ability to advance and expand in international markets was closely linked to its well-established commercial contacts and past experience in the export market.

Britain and Commercial Channels for Expansion

Sweden's export trade played an essential role in the industrial revolution of the country, and in the latter part of the nineteenth century, it occupied an even more commanding position. International contacts with Britain and other European

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countries were tied to the main Swedish export markets through the distribution channel. Going back to the Middle Ages, the distribution channel was dominated by Britain, based on the iron industry. By 1810, Britain was the chief outlet for Sweden's exported iron, and in the late 1870s, Britain's share of the Swedish export trade was as high as 53 percent (Montgomery, 1939, pp. 10, 267). From 1871 to 1875, one-third of Sweden's imports came from Britain, and more than half of Swedish exports went there. Afterwards there was a relative decline in exports to Britain.

The North Sea countries were to become the principal market for Swedish exports; however, other international markets also grew in importance. Problems of market classification and changing national borders and a number of statistical annoyances are inherent in retrospective studies (Carlson, 1979).[19] However, to make summary comparisons over time, industrialized countries must be grouped together in some form of classification. Table 4.4, showing distribution of Swedish exports, lists nine separate market areas for 1871, 1891, and 1911.

Going West

More than a hundred years ago, Horace Greeley advised his American readers, "Go West, young man." In a sense, young Swedish traders in the nineteenth century, with centuries of trading experience behind them going back to the Viking Era, followed Greeley's recommendation. Going West has always been the thing to do. Some Vikings and, later on, some traders did go East, but it was the countries around the North Sea that became Sweden's main foreign markets. In 1871, nearly three-fourths (73.3 percent) of Swedish exports went to four countries

bordering the North

countries and others.

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Nordic countries: Norway
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bordering the North Sea, with Britain as the primary destination. The Nordic countries and others, including the United Kingdom, were the dominant markets in 1871 and 1891 (see Table 4.5).

Table 4.4

Distribution of Swedish Exports in Major Market Areas
(percentage of total exports)

	1871	1891	1911
Nordic countries: Denmark, Finland, Norway	14.7	19.2	17.3
United Kingdom	49.0	45.4	29.0
Austria, Portugal, Switzerland	8.0	.4	1.3
West Germany[a]	6.7	11.7	20.1
Belgium, Luxembourg, France, Italy, the Netherlands	19.3	18.3	14.3
Other Western Europe: Greece, Iceland, Ireland, Spain, Turkey	1.7	2.1	2.4
Eastern Europe	2.4	1.1	3.6
Other industrialized countries: Australia, Canada, Japan, New Zealand, South Africa, the United States	4.6	1.0	7.3
Developing countries	.8	.8	4.8

Source: Data from *SOS Handel* and *SOS Utrikeshandel* (Official Statistics of Sweden; Trade and Export Trade).

[a]Before World War I, exports to Austria mean the old Austrian Empire, except Hungary. Swedish exports to West Germany before World War II refer first to the German principalities and independent towns that Sweden traded with at that time; later it was the German Empire and the German Republic.

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Table 4.5

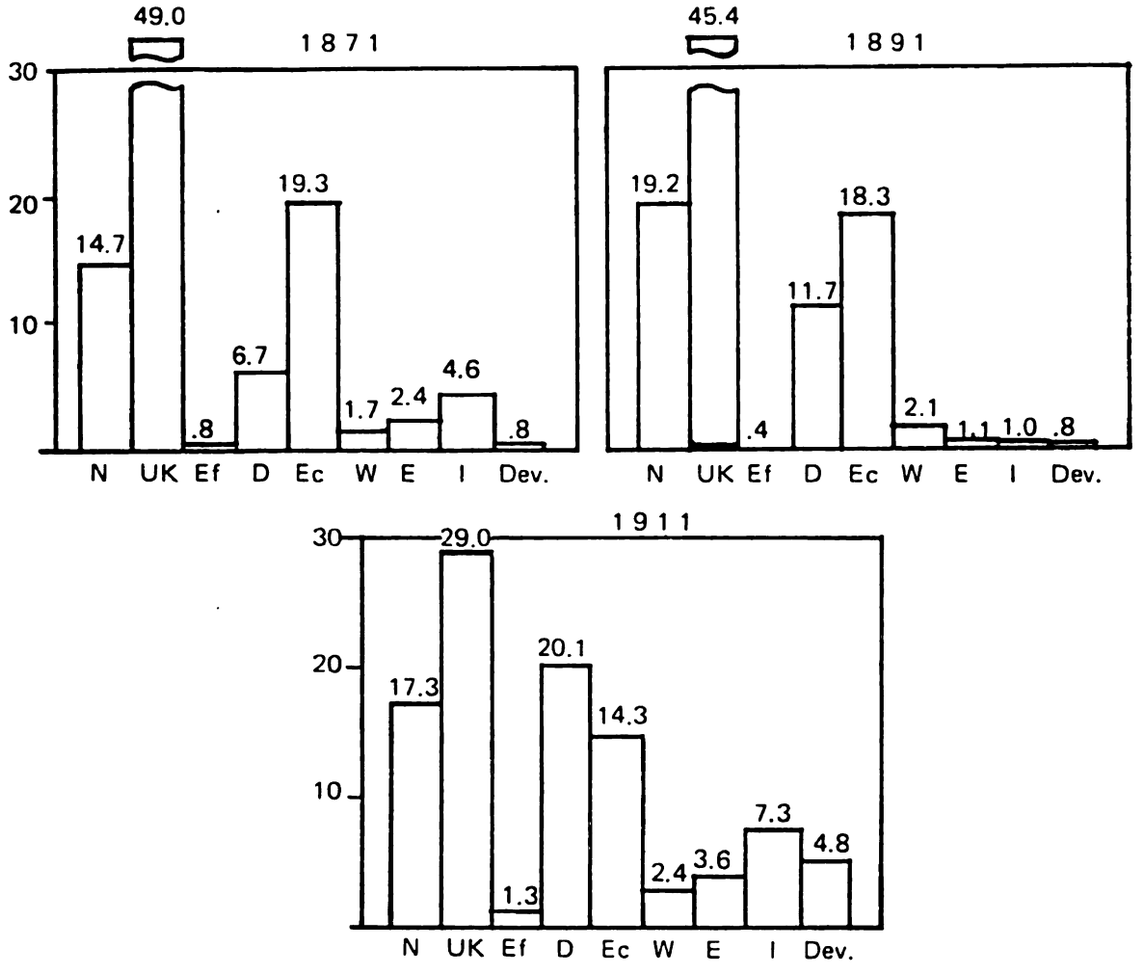
Four Leading Markets That Dominated the Swedish Export Trade
(in percent)

	1871	1891	1911	1931	1951	1971
United Kingdom	49.0	45.4	29.0	26.8	20.1	13.7
Denmark	9.1	11.6	10.0	11.9	10.1	11.4
France	8.5	10.6	7.3	7.3	5.9	10.3
Germany	6.7	11.7	20.1	8.3	5.7	10.1
Total	73.3	79.3	66.4	56.2	41.8	45.8

Source: Data from *SOS Handel* and *SOS Utrikeshandel* (Official Statistics of Sweden; Trade and Export Trade).

If the three other North Sea countries (Belgium, the Netherlands, and Norway) were added, the total share for this area would have been almost 90 percent. The situation was much the same in 1891 and 1911, or until the beginning of World War I. The four leading markets remained the same, although the relative positions of the countries bordering the North Seas changed, and their combined share of exports started to decline. The total share of exports of the seven North Sea countries in 1891 was well above 90 percent, but by 1911 it had declined to about 75 percent (Carlson, 1979, p. 25).

As can be seen in the top two charts in Figure 4.1, the combination of the Nordic countries and what was later called the rest of Efta (labeled Ef); Belgium, Luxembourg, France, Italy, and the Netherlands (labeled EC); and the United Kingdom dominated the picture in 1871 and 1891. It is only in the 1911 chart that other market segments start to appear, but their combined share is only about 20 percent of total exports. Therefore, throughout the period of industrialization, the United Kingdom dominated the picture.



Abbreviations:

N	Nordic Countries	W	Rest of Western Europe
UK	United Kingdom	E	Eastern Europe
Ef	Denmark, Finland, Norway	I	Rest of Industrial Countries, Australia, Canada, Japan, New Zealand, South Africa, United States
D	Western Germany		
Ec	Belgium, Luxembourg, France, Italy, the Netherlands	Dev	Developing Countries

Fig. 4.1: Percentage distribution of Swedish exports according to market areas.

Source: Data from *SOS Handel* and *SOS Utrikeshandel* (Official Statistics of Sweden; Trade and Export Trade).

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There are several reasons why, in the latter part of the nineteenth century, the North Sea countries, in particular, dominated the Swedish export trade and the distribution pattern:

1. **Commodity composition**: The building boom in Britain and in other countries was behind the demand for timber, and expanding industries in Britain and Germany, particularly, needed Swedish iron and steel and later iron ore for industrial production.

2. **Tariff**: Swedish exports at the time were concentrated on raw materials used for local building and manufacturing industries in the countries of destiny. Therefore, because of the classification as raw material, the tariff protection was low. The tariff differentials between the countries involved in the trade were negligible; therefore, the trade was relatively free.

3. **Transport**: Few tariff barriers existed for timber and ore particularly, but transport of raw materials was expensive. Therefore, low-cost sea transport was an important factor.

4. **Cultural proximity**: To trade with other countries, varying amounts of cultural resistance must be overcome, stemming from such variables as other languages, different social and business customs, and sometimes different levels of corruptive business practices, all of which act as barriers beyond that of national boundaries. The North Sea countries were rather well known in Sweden; German, English, and French were taught in the Swedish secondary schools, and textbooks in these languages were generally used in higher education (Carlson, 1979, Chapter III).

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Ericsson (1803-1889)

Great Britain's share of Swedish exports decreased from about half to about one-third during the period 1890 to 1914. However, Germany's rapid industrialization gave it an increasingly important place in Sweden's foreign trade. There was new demand from the German steel industry, which just before World War I bought 80 percent of the Swedish exports of ore, creating a dramatic breakthrough for Swedish iron ore exports at the turn of the century. However, the complementary nature of Swedish iron ore production and the German steel industry concealed a problem, which later would lead to political complications for Sweden.

Technology Transfer and the Engineering Industries

The historic channels of communication for commercial purposes facilitated the establishment of new channels of market and technical information, such as in the American market. The distribution channel for trade provided information channels that made it possible for firms to become aware of business opportunities.

When the capital goods firms were being built up, Swedish merchants had many contacts abroad, particularly in Britain, and trading houses transferred knowledge and experience to business. The well-established trade contacts with the British market were used to gain critical market information (Lundgren, 1995).

In addition, British ideas and techniques were transmitted to Sweden by British industrialists who moved to Sweden to do business. Also, British engineers and craftsmen were brought to Sweden as instructors, and some of the plants where they worked became regular training centers for new crafts.

Some engineers left Sweden to market their inventions. The well-known John Ericsson (1803-1889) moved to England in 1826, where he designed the locomotive

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Novelty, hot-air engines, solar collectors, and perhaps most important, the screw propeller for ships. Ericsson gained widespread acclaim for designing an iron-clad vessel, the *Monitor,* which defeated the Confederate armored steamer, the *Merrimack,* in 1862, during the American Civil War.

In the meantime, Swedish industrialists traveled to Britain to buy machinery, and engineers and technicians went to Britain for formal education and to study new techniques and innovations. Britain had been the chief initiator of new industrial techniques. Moreover, many Swedish technical innovators had international experience themselves. Some young Swedish businessmen had office experience in Hamburg, London, and Paris (Carlson, 1979). These vital channels of technical and market information were important in fulfilling the need to expand Sweden's export industries.

New technologies in mechanical engineering had been brought in by foreigners moving to Sweden. For example, the steam engine was introduced with the help of British engineers who were active in Sweden. Also, machines often were imported and then replicated in large numbers. S. Owen, sometimes known as the father of the Swedish mechanical engineering industry, set up the first Swedish mechanical engineering workshop in Stockholm in 1809 (Porter et al., 1991). His work with steam engines in threshing machines, rolling mills, and steamships resulted in the establishment of more than twenty mechanical workshops in the early nineteenth century.

The first wave of mechanical workshops, from the 1820s to the 1840s, followed by Owen's workshop and his expansion, formed the backbone of the evolving shipyard and later railway industries. A mechanical workshop, the second

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in Sweden, was established in Motalla in 1822; it later operated with the help of English workers and foremen. This workshop played a key role in the development of Swedish steam engines, including steamship engines in 1829 and locomotive engines in 1878. Foreign expertise and equipment also were used in the Swedish pulp and paper industry. Chemical pulp-making techniques emerged in Sweden in the late nineteenth century, and most of the technological influences in this area came from England.

The Swedish sawmills and later pulp and paper manufacturers developed into major suppliers to the European market. The timber trade often was the initial base for new entrants to build up international networks. The owners of the historically tightly linked trading houses, some of which specialized in forest products, were the leading capitalists at the time. They often initiated entry into new enterprises and invested profits to establish new industries, such as advanced steel making and pulp and paper manufacturing. Capital from trading companies was instrumental in developing new industries.

Following the early period of industrialization in Sweden, demand for new components and engineering products attracted massive entry by Swedish firms. Moving from the investment-driven stage, Swedish domestic demand conditions came into play in a demand for machinery, especially steam engines and transportation equipment, in the build-up of the infrastructure. Demand conditions intensified domestic rivalry as highly sophisticated buyers entered industries in Sweden and abroad. When buyers possessed relevant skills and viewed a new industry as strategic, the response of other industry participants to their entry further

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> A new entry into an industry also spawned directly or indirectly the strong national positions in related or supporting industries. Entry from upstream or related industries produced a domestic industry structure which became conducive to investment and innovations. Suppliers to those firms which became internationally successful enhanced growth or profitability, as they could frequently share brand names, distribution channels and technological know how. (Porter et al., 1991, pp. 50-51)

Science and Technology

As is characteristic of the investment-driven stage of the national economy, "Swedish companies developed the capability to move beyond passive importation of foreign technologies to modify and improve the technologies in the Swedish context" (Porter et al., 1991, p. 65). The important mining, forestry, textile/apparel, and food-processing industries demanded advanced machinery and mechanical equipment. Science and technology were the foundation for a large number of new products, often domestic innovations, which were developed and manufactured on a large scale in highly specialized factories at the turn of the century. Swedish engineering developed rapidly and offered scope to Sweden's national gift for inventing machines.[20]

In the late 1800s and early 1900s, a series of inventions led to the establishment of several mechanical engineering companies that today are among the leading international firms in Sweden. The early Swedish development of international competitiveness by the capital goods sector was built on these inventions and was crucial to Swedish industrial development and exports.[21] The success of the export industry is associated with these inventions and innovations.

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Many of the innovations were attempts to find solutions for industry in Sweden based on local circumstances.[22]

The Original Swedish Multinational Enterprises

Inventors and technicians provided a necessary source of human capital for the internationalization process of business and industry in Sweden. In the 1870s, the Swedish engineering industry entered a period of expansion that was unparalleled before or since. By the 1890s, electro technology had become an important branch of the Swedish engineering industry.

Toward the turn of the century, a new iron age dawned with increased consumption on the home market, as well as the development of large companies based on heavier industrial production and new industries in the engineering sector. The newly formed industries were based mainly on original inventions or improvements of existing inventions and mechanical engineering; primarily, they manufactured mechanical products. The establishment of these large international engineering firms often is explained as an "abrupt break" with past Swedish industrial development.[23]

Scientific development and inventions adapted to industrial products contributed to launching a number of highly internationalized companies. Sweden's economic development during the twentieth century is closely related to the development of large multinational firms, most of which were started during the 1880s, the most creative era for the development of Swedish industry. A large number of new products, often domestic innovations, were developed and manufactured on a large scale in highly specialized factories. Several of the major

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engineering multinationals such as ASEA, Alfa-Laval, and Ericsson were founded during that time (Hörnell & Vahlne, 1986). New products were to be sold in foreign markets, which soon came totally to dominate the sales of these companies. Most of the Swedish companies that had invested in production abroad before 1930 were found in the new engineering industry. Thus, "big business," Swedish style, made its debut in Sweden by the turn of the twentieth century.

The first Swedish firm to go abroad was Alfa Laval, which established an assembly plant in the United States in 1883; two years earlier, the company had started production under a license in France. Before the turn of the century, another production unit was established in Vienna. The next to go abroad was ASEA, which established a production subsidiary in Finland in 1897. SKF was founded in 1907 and rapidly built up a global sales organization with sales subsidiaries and agents throughout the world. By the outbreak of World War I, the company was represented in twenty-seven countries (Carlson, 1979). At a board meeting at Atlas Copco in 1912, it was announced that two-thirds of the company's total production was exported. And the list goes on.

Under what circumstances did the inventors, the geniuses behind the new firms, develop their ideas and abilities, and what industrial and economic skills in their vicinity could nurture, develop, and implement their ideas? A closer look at Swedish innovations that are known to have constituted the foundation of the new firms is instructive. The connections between merchants and trading houses and the first entrepreneurs in firms that later became the large Swedish multinational enterprises are apparent.

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Characteristics of the Genius Firms and Their Skills

Alfa-Laval. From the 1850s onward, the agricultural sector demanded new capital, new tools, and more capital-intensive production with the onset of "scientific farming," which also resulted in expanding exports. Soon modern, technically oriented farmers interacted with the new manufacturing firms as customers of Swedish manufacturing. This was the case in the development of the cream or milk separator, an invention based on changing needs of commercial agriculture. The separator, constructed and patented by Swedish inventor Gustaf De Laval (1845-1913), later became the first product of the international firm Separator.

De Laval is an example of an early industrial inventor in need of capital who produced and marketed his invention in a small way in an engineering workshop in the countryside. In 1872, after working and studying in Sweden and Germany, the inventor began to concentrate on one of his most important inventions, the cream separator, patented in 1878. De Laval claimed that his separator was an improvement over existing ones because it operated continuously.

In 1879, De Laval started a company called AB Separator (later Alfa-Laval) to manufacture and export the separator. He relied on the merchant Uno Lamm and used his family's international contacts when he established the company (Lundgren, 1995).

In 1889, Separator acquired the Alfa patent from a German engineer; they manufactured the cream separator and dairy systems, which was the key to the company's great success. This strategic acquisition was a result of actions taken by a subsidiary in Germany. At a mobile agricultural exhibition, Separator's agent in Germany had observed a manual separator, which, although not perfect, would

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offer an opportunity to introduce the use of separators to smaller farms. Through this exhibition, contact was established with the German engineer Bechtolsheim. Designers at Separator in Sweden combined their skills in separator technology with Bechtolsheim's ideas and achieved a successful result. The separators manufactured using this principle were superb, and sales originally were made through exports from Sweden. This meeting of the minds over national borders provided Separator with another important advantage over competitors for a long period and also broadened their market (Lundgren, 1995).

Separator was the first of the mechanical engineering industries to go abroad. In 1884, Separator started production under a license in France. During the 1890s, Separator became a world market leader following the establishment of an assembly plant in the United States. The American company turned into a gold mine.

However, for the United States market, because of the high tariffs on finished products, separator parts were exported and then assembled and finished by American dealers. Originally, in 1883, De Laval interested some American financiers in founding a sales company in which De Laval held only a minority of shares, but this did not work out, and in 1890 Separator purchased all of the shares. The now-Swedish De Laval company in America was approached by representatives of Poughkeepsie in New York, who offered the company an industrial site, free of charge, provided the company would engage 200 workers within five years. The city's savings bank offered a favorable loan of $10,000.

The employment stipulation was fulfilled well before five years, and by the end of the decade the company employed about 1,000 workers. Around 1910, 75

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percent of the profits of the Swedish parent company emanated from the American subsidiary (Lundström, 1986, pp. 141-142).

De Laval was known as the foremost inventor of his time. However, Separator ended up having severe managerial and related financial problems. Nevertheless, the international enterprise became one of Sweden's leading international firms in the mechanical engineering sector, and by the turn of the century it was the largest and most successful. Eventually, AB Separator, Alfa-Laval, became the largest producer of dairy barn equipment in the world.

Swedish Gas Accumulator Company (AGA). A closer look at other Swedish innovations that constituted the foundation of new firms can be illuminating. Sweden had a good tradition in lighthouse technique due to its thinly populated and complex coastline, which required a safe and complete lighthouse system. A Swede, Jonan Nordberg (1711-1783), devised the idea of arranging a parabolic reflector on a stand, which rotated by means of clockwork.

Over time, the Swedish Lighthouse Department made many efforts to obtain an automatic light system in which each lighthouse had a characteristic light that could be driven at low cost. These efforts resulted in the construction by Carl Gustaf von Otter, in 1865, of a flashing apparatus designed to obtain characteristic lights, and the Department followed the market. Lighthouse Department Inspector John Headgear became an important adviser and mentor when Dalén developed the AGA system (Lundgren, 1995).

Nils Gustav Dalén (1869-1937) was interested in acetylene lighting, and in 1906 he became chief engineer of AB Gas Accumulator (AGA). The idea to use acetylene gas light in lighthouses was not new. In 1881, G. W. Lyth had constructed

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a lighthouse that could be kept burning without supervision for eight to ten days, but the solution had several shortcomings, such as high consumption of gas, which made the process expensive. Also, it was important for seamen to be able to distinguish different lighthouses by their lights. Other technical problems existed as well, such as a risk of gas containers exploding.

Through efforts of his own and those of skilled instrument makers and engineers, Dalén solved many of the above-mentioned problems. The implementation of the sun ventile, the intermittent light, the stabilization pendulum, a new composition of the mixture of dissous gas and air, and the implementation of a series of important inventions or solutions, among them a switch for maritime beacons and a sun valve that automatically turned on the beacon at nightfall and turned it off at dawn, all led to AGA's strong position in the international market (Lundgren, 1995).[24] Dalén's invention of automatic lighthouses using acetylene gas and the AGA beacon meant major savings in personnel and material and made shipping safer. Dalén was awarded the Nobel Prize in physics in 1912.

Ericsson. Ericsson, formerly Telefonaktiebolaget L. M. Ericsson, is an example of a Swedish firm that was established as a result of the technical excellence of its founder, Lars Magnus Ericsson (1846-1926). Born on a farm in Värmland, Ericsson had completed intensive studies in mechanics by the time he turned thirty, and he set up a small repair shop for telegraph equipment in 1876, in Stockholm. That same year, Alexander Graham Bell filed his patent application for the telephone in the United States. For some reason, Bell did not patent his invention in Sweden; thus, it was possible for Ericsson to start producing telephones himself.

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Ericsson, a former smith and instrument-maker, had conducted his first experiments in the field as a repair man employed in a Stockholm company. Technologically, Ericsson's first contribution was to improve the sender capacity of the microphone, and he also made an attractively designed telephone. Within a few years, he had developed his own telephone and began manufacturing telephones and switching systems.

Ericsson and a partner started a company that evolved into Telefonaktiebolaget L. M. Ericsson, abbreviated as Ericsson. The company was founded on the basis of a merger between the telephone producer, L. M. Ericsson and Company, and a telephone systems company, Stockholm's Allmänna Telefonaktiebolag (SAT). SAT employed many theoretically schooled engineers who were capable of analyzing the products of the Bell companies, imitating them and in some respects improving their functioning. Soon the benefits of old achievements faded, however, and the importance of the Swedish market decreased for L. M. Ericsson.

Ericsson worked on improving "his" telephone, and in the 1880s he constructed the one-piece telephone, with a receiver and microphone in the same unit, which came to be used around the world. In contrast, Bell Telephone Company stuck with their two-piece apparatus for a long time (Lundström, 1986). Consequently, the introduction of the first Ericsson desk telephone with handset, in 1892, kicked off the company's dramatic expansion. A year later, production had risen to about 10,000 telephones annually, and subsidiaries were set up abroad (Telefonaktiebolaget L. M. Ericsson, 1992, p. 4).

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Foreign contacts were established early to create new markets, and Ericsson "employed an Englishman who traveled around Russia with a telephone in his suitcase. He is said to have sold 600 telephones to a telephone exchange in Kiev in 1893" (Hörnell & Vahlne, 1986, p. 5). The company could find new markets to explore when it realized the value of selling whole telephone systems (Lundgren, 1995). Russia was one of the important markets for complete systems.

The company expanded rapidly and for several years operated its own public telephone networks in various parts of the world, including Mexico, Poland, Israel, Brazil, Peru, and Argentina. By the time L. M. Ericsson died at the age of 80, in 1926, Ericsson was already a truly international company; 80 percent of its sales were outside Sweden. With its strong position in Western Europe, Latin America, the Far East, and Africa, Ericsson had secured a place as a global leader in the telecommunications field (study visit to Ericsson, 3 June 1992).

Ericsson picked up an existing product, refined the idea, and improved its function in some respects (Lundgren, 1995). Other important factors contributing to Ericsson's business success included his ability to recruit competent partners, as well as his persistence and managerial capabilities. These qualities made it possible for him to build up a company with great economic potential that was able to continuously improve its products.

"JO-Blocks." High quality and precision are two features of many Swedish industries based on high-precision measuring systems developed by Carl Edvard Johansson (1864-1943), an inventor and industrialist who worked at the government-owned small-arms factory in Eskilstuna. He realized that the gauge blocks being used there did not allow sufficiently precise measurement, so he

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designed a set of more accurate gauge blocks, known internationally as "JO-Blocks." Johansson's measurement pieces, which had a tolerance of one thousandth of a millimeter, were introduced in 1901; six years later, he patented a gauge block with even finer tolerances. These pieces were used in manufacturing machinery parts with high precision. Mechanical industries in every advanced nation used the Johansson measurement pieces to improve accuracy (Gullers, 1985).

Johansson, popularly known as Measurement Johan, played a key role in improving precision in the Swedish mechanical engineering and international engineering industries. His measurement pieces were probably the single most important invention for the development and growth of the engineering industry in any country. SKF in Sweden relied on Johansson for its precision machinery to make industrial ball bearings.

During the First World War, the Johansson gauges were indispensable to American war production, to production of interchangeable parts in large series, as in weapons production, and particularly to the American automotive industry. The gauges had been exported from Sweden to the United States in the American diplomatic courier mail (Lundström, 1986). The American federal authorities also facilitated the formal arrangements for Johansson to start a manufacturing subsidiary in the United States. Made of special-alloy steel, the gauges became a standard for machining and measurement. Henry Ford said that they enabled him to mass-produce his automobiles on an assembly line.

The Johansson American subsidiary, including its patents, was sold to Henry Ford in 1923. It is not clear whether the Swedish financiers did not realize the potential of the product, or Ford showed his appreciation, which made it more

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remunerative for Johansson to sell out to Ford. Perhaps Johansson, like many entrepreneurs and inventors in Sweden, suffered from being undercapitalized in the early stages of production and building up an engineering business. Following the sale of the American subsidiary to Ford, Johnasson worked in a senior position at the Dearborn factory until 1938.

SKF. Sven Winquist (1876-1953), a young production engineer, is credited with inventing the modern ball bearing, which was of revolutionary importance to mechanical design. Winquist received his education at weaving school. He was one of the Swedish technical innovators who had international experience himself, as he had acquired his practical training at mechanical shops in Sweden and in the United States.

Later, in his daily work at Gamlestadens Wäfveri AB, a weaving company, Lindquist was constantly annoyed by the bearing problems in engines and transmissions; however, he was unable to find new suppliers of ball bearings. The firm also tried to find better bearings, but dissatisfaction remained. In 1907, Winquist invented the spherical ball bearing and founded AB Svenska Kulagerfabriken (SKF), which became a world leader in the production of industrial bearings (Lundgren, 1995). Winquist relied on a trading house in Gothenburg that was behind Gamlestadens Wäfveri AB, a weaving mill, to establish the base for the company and its subsequent international expansion.

SKF worked in a technically conservative market, where insights and knowledge about transmission problems were limited. So the company offered to make special arrangements to install the bearings and help customers learn about their own problems. This kind of experience developed SKF's capability of applying

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the technology to customers' practical problems, a capability that later proved to be not only useful in the international arena but a key component of SKF's dominance in this industry.[25]

Winquist realized that the possibility of an expanding industry pivoted on the reliability of the mechanical properties of the ball steel. Thus, in 1911, Winquist established a metallurgic laboratory, probably the first industrial laboratory in Sweden, to carry out experiments to determine the relationship between the function of the balls and the method of steel production. Soon the enterprise expanded, and within ten years, SKF had subsidiaries in the United States, France, and Russia.[26]

Swedish Multinational Firms--Where Did the New Industries Come From?

Entrepreneurial Activity: The Captains of Industry

Who were the "captains of industry" in Sweden, and what was their international experience? Sune Carlson's (1986) study of heads of Swedish industrial enterprises, their family backgrounds, educational qualifications, and international experience concerns a number of industrial managers categorized as founder-entrepreneurs, heads of family business, and "others."[27] The base year for Carlson's "A Century's Captains of Industry" was 1880, the year in which the industrialization process had made some headway, Oskar II was king of Sweden, and a year before August Palm began preaching socialism in Sweden and August Strindberg published *The Red Room.*

Of the ninety-seven industrial managers in the national survey group for 1880, thirty were founder-entrepreneurs, three were heads of family businesses, and thirty-

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four were classified as "others." When considering the family backgrounds of industrial managers, who were grouped by paternal occupation under the heading "trade," there were sons whose fathers were referred to as wholesale merchants, retailers, or rural tradesmen, or else quite simply they were called merchants or "businessmen." Also included were sons of a commercial traveler, a forwarding agent, and a bank clerk, although the great majority were sons of industrial merchants. The heading "public service and liberal professions" includes an even more motley collection, which can be divided into the following subgroups:

Civil servants	12
Clergy, professors, and teacher	5
Army officers	7
Doctors, dentists, and pharmacists	3
TOTAL	27

Upper-class children. In the 1880s, industrial managers were mainly called "upper-class children." In Table 4.6, they would have been included in the category of sons of "industrial managers" or perhaps under the headings "trade, etc." or "agriculture." Under the last heading, there were three sons of "freeholders," one of a "peasant," and one of a "day laborer."

More than a hundred years ago, many industrial managers in family owned businesses had fathers who were industrial managers. In Sweden in the nineteenth century, industrial leaders were, for the most part,

> extensively recruited from the upper class *(överklassbarn).* Needless to say, this was particularly true of the heads of family businesses. In the family business group, where the majority of fathers are industrial managers, one finds a striking occupational continuity from one generation to the next. The same continuity sometimes occurs among founders-entrepreneurs. (Carlson, 1985, p. 8)[28]

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Source: Carlso

Table 4.6

Family Backgrounds of Industrial Managers[a]

	Founder/ Entrepre-neurs	Heads of Family Businesses	Others	National Total
1880 (Survey Group I)				
Public service & liberal professions	8	9	10	27
Industrial managers	3	19	5	27
Industrial white-collar employees	3	--	4	7
Industrial workers and foremen	2	--	--	2
Crafts	2	1	2	5
Trade, etc.	4	2	10	16
Agriculture	7	2	2	11
Total	29	33	33	95
No data	1	--	1	2
1930 (Survey Group II)				
Public service & liberal professions	1	3	40	44
Industrial managers	1	23	19	43
Industrial white-collar employees	--	--	5	5
Industrial workers and foremen	2	--	2	4
Crafts	5	2	5	12
Trade, etc.	13	2	26	41
Agriculture	7	--	17	24
Total	29	30	114	173
No data	1	3	2	6
1980 (Survey Group III)				
Public service & liberal professions	--	--	37	37
Industrial managers	--	8	33	41
Industrial white-collar employees	--	1	12	13
Industrial workers and foremen	--	--	2	2
Crafts	--	--	7	7
Trade, etc.	--	1	26	27
Agriculture	--	--	10	10
Total	--	10	127	137
No data	1	2	34	37

[a]Number of industrial managers investigated for 1880, 1930, and 1980 by paternal occupations.

Source: Carlson (1986), p. 58.

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The most famous example of these "upper-class children" must surely be Alfred Nobel. He started work in his father's engineering works in St. Petersburg, where the product range included mines for the Russian fleet, before starting explosives enterprises of his own throughout the world (Carlson, 1985).

The Nobel Industrial Dynasty

The Swedish multinationals' unique products, small domestic market, and long distances to export destinations resulted in Swedish industry becoming "multinational" long before the word was coined. Alfred Nobel, Swedish scientist, entrepreneur, inventor of dynamite, and creator of the Nobel Prizes, is credited with creating the first modern multinational concern, having explosives production and sales in a number of different countries.[29]

Like many American entrepreneurs, in the early stages of industrialization, enterprising Swedes with products and business ideas left home seeking larger markets and more accessible capital to do business abroad (Wilkins, 1970). Alfred Nobel and his brothers are striking examples of this trend.

Nobel was born in Stockholm in 1833 of Swedish parents. When he was only nine, Alfred and his family moved to St. Petersburg, then the capital of Russia. Although he lived in several other countries after that, Nobel never gave up his Swedish citizenship. By virtue of the education he received in many countries, Nobel read, spoke, and wrote fluently in six European languages: Swedish, French, English, German, Italian, and Russian.[30]

Nobel and dynamite. The use of nitroglycerine caused many accidents, which militated against its commercial success. The Italian chemist Sobrero succeeded

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in producing nitroglycerine in his laboratory in 1847, but the liquid exploded in reaction to heat or shock. When Nobel was 29 years old, he patented a detonating cap for nitroglycerine and nitric acid. This made the ignition safer, but nitroglycerine still was likely to explode at the slightest impact.

In 1866, Nobel succeeded in making a semi-plastic explosive, dynamite, which made an explosive mixture stable and easy to handle. Although far less risky than nitroglycerine in liquid form, it retained its explosive characteristic. Furthermore, dynamite could be loaded horizontally and in bore-holes, and it was convenient to pack and transport. Also, the risks of leakage were eliminated (Lundström, 1986).

Dynamite has played, and continues to play, an important role in industrial development worldwide. The explosive was useful in blasting the way for roads and railway tracks and numerous tunnels, particularly since so much of Sweden is made up of very hard rock. The use of dynamite enlarged the supply of iron ore and other minerals needed for the increased construction of machines, locomotives, railroad cars, and motor vehicles. It has also facilitated the construction of railroads and highways across continents, thereby allowing mass distribution of goods.

The roots of the Nobel dynasty. It was Alfred Nobel's father, Immanuel Nobel, who set out for foreign soil and industrial enterprise and laid the groundwork for the development of the Nobel empire. In 1838, Immanuel moved his family from Sweden to St. Petersburg, Russia, where he started a mechanical engineering firm. That firm went into liquidation four years later. Not easily discouraged, Immanuel started another firm, which made steam engines and steam drills, in 1842; his family then joined him from Sweden. Over time, though, driven by his restless intellect, the

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atriarch became more interested in manufacturing explosives and mines for the Russian Navy.

As a result of the Crimean War, from 1853 to 1856, there was a major pswing in Nobel's business. However, it was followed by a sharp drop in overnment orders after the war. As a result, Nobel's company was forced into ankruptcy. In 1859, the elder Nobel returned to Sweden, but two of his sons, udvig and Robert, stayed in St. Petersburg. Alfred later returned to Russia, where e conducted his first experiments with nitroglycerine in the early 1860s. In 1863, owever, his father asked him to return to Sweden.

Immanuel Nobel died in 1872, and Ludvig and Robert kept the Nobel ndustries going in Russia. Under their leadership, the mechanical engineering firm ecame one of the largest in Russia. The next big development was production of aphtha in Baku, on the Caspian Sea. In one decade, the Nobel brothers built up petroleum company based on large oil concessions in Baku. They developed a mall empire of their own in Russia with those businesses.

During the build-up of an industrial empire and fortunes, the Nobel brothers evoted large amounts of money to research and development, as the company built boratories, employed specialists, and built the first oil tanker in Motala, Sweden. ecause it was not economical to use coal to power the tanker, they hired a diesel pecialist, engineer Anton Carlsund. They financed the huge project with the etroleum company Naftabolaget, Bröderna Nobel in 1879. The oil industry also ontributed to the expansion of the machine industries in Petersburg.

Ludvig Nobel (1831-1888) developed the factories into one of Russia's largest ngineering industries, Maskinfarbiken Ludwig Nobel. When competition among

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various companies controlled by the Nobel family began in the 1880s, the firms were merged into two trusts. The trusts were multinationals, although not at that time Swedish multinationals (Lundström, 1986).

Although it was Immanuel Nobel, the patriarch, who laid the groundwork for the Nobel family businesses in Russia, the first to play an active role in the Russian society and business world was Ludvig. Through him and his generation, the Nobels went from being an immigrant Swedish family to a Russian industrial dynasty with a strong Swedish influence.

In 1859, Ludvig had written an article for the Swedish *Jämkontoret,* in which he gave an exceptional example of cooperative efforts between scientific men and industry leaders. One of the major problems that Nobel pointed out was the lack of a developed labor force. There were Germans, Swedes, and Finns but no Russians. Therefore, there was a need to build schools and provide basic education to the "young boys." Another problem in the Russian work place was drinking, which was the source of much pain. Ludvig made an effort to improve workers and service people and developed the Nobel companies into model work places in both Baku and St. Petersburg.

Realizing the need for cooperation between science and industry, Ludvig took an active role in founding the Royal Russian Technical Association in 1866. The board included only two industrial men, one of whom was Ludvig Nobel. Later, it was considered an honor for Russian business owners to join the technical association.

When Ludvig died in 1880, his son Immanuel (1859-1932) took over the businesses at the age of twenty-one. To the good fortune of the Nobel family, the

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young Nobel had a talent for administration and financial affairs. By the 1890s, the Nobels had established machine shops and built up the oil industry to be profitable businesses. As a result of their success and interest in research and management skills, the Nobel good will carried over to help other Swedish industries, such as AB Separator. The eminent Swedish inventor Gustaf De Laval joined the Nobels in a Swedish company, AB Alfa-Nobel, to sell milk separators in Russia.

In the meantime, in Sweden, Alfred Nobel improved firearms at both Bofors and Gullspång, which produced munitions. Through his scientific and entrepreneurial efforts, Nobel became a multi-millionaire. To alleviate some of the destructive effects of his inventions, he left money for the establishment of the Nobel fund. The Nobel Prizes[31] were awarded for the first time in 1901, five years after his death in San Remo, Italy.

The Russian market. At the turn of the century, the Nordic countries were important recipients of the new industrial products. Moreover, during the prewar period, particularly after 1910, Russia appeared to be the most promising market for the young Swedish engineering industry's exports, signifying Sweden's progress in industrial competition. Swedish exports to Russia soared, and numerous Swedish companies founded Russian subsidiaries. The Nobel family had an interest in many of the larger companies.

The great success of the Nobels, of L. M. Ericsson, and others encouraged both large and small Swedish companies to start their international careers in the Russian market. Unfortunately for some, their international careers also ended there (Lundström, 1986).

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Education and Technical Institutes

The establishment of a firm basis for literacy was important in developing a competent work force. Training in industrial skills was positively influenced by the fact that most of the Swedish population could read and write. The advent of universal public education in 1842 was an important step in upgrading the reading and writing skills of the general public.[32]

Nationwide, elementary school was mandated by legislation in 1842, making school attendance compulsory and requiring six years of primary school, *folkskola,* for basic courses in languages, history, and mathematics. Before that date, the local parishes had been responsible for teaching basic reading and writing skills, although writing skills were not highly developed at that time. Beyond that basic level, qualified and financially able students could get an advanced three-year intermediate degree in *realskola* and in a four-year *gymnasium.* Based on this educational frame, therefore, Sweden could develop an industrial work force (Carlson, 1979).

Completion of the comprehensive exam, the *studentexamen,* which is equivalent to the baccalaureate in France, was necessary to qualify for admission to a university. The two major Swedish universities are the University of Uppsala, Sweden's oldest university, founded in 1477, and the University of Lund, founded in 1688. The universities of Stockholm and Göteborg were founded in 1878 and 1891, respectively, as private colleges.

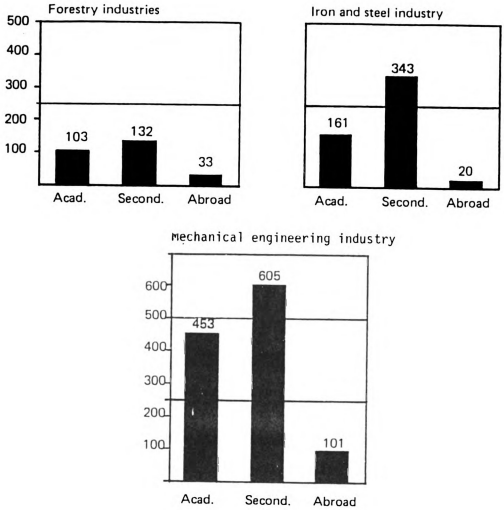
Another part of the human capital[33] necessary for Swedish firms to go abroad was supplied by the technical secondary schools and technical institutes that had been founded during the nineteenth century, and later on by schools of business administration. For the training of technicians and engineers, a number of technical

secondary schools were founded about the same time that academic technical education, which earlier had been under the supervision of the military authorities, was transferred to special institutions (Carlson, 1979). Some technical schools were founded as early as 1820, influenced by developments on the Continent.

Two major technical institutes, the Royal Institute of Technology (Royal Kungliga Högskolan), founded in Stockholm in 1827, and the Chalmers Institute of Technology (Chalmers Tekniska Högskolan), founded in Gothenburg in 1829, were instrumental in facilitating the industrialization process and the establishment of leading Swedish clusters in industries and successful multinational firms.[34]

When it comes to the economics degree, the *civilekonom,* institutions are similarly ordered according to prestige. Originally, the qualification of *civilekonom* was awarded only by the specialist *Handelshöskolan* in Stockholm, the Stockholm School of Economics, founded shortly after the turn of the century. But later a comparable *Handelshögskolan* was founded in the city of Gothenburg; it also awards the *civilekonom.*

Even so, for a long time, a considerable number of Swedes went abroad for their technical studies. However, this was more the case with regard to the home-market industry than the export industry. The distribution of engineers with different educational backgrounds in the three major export industries just after the turn of the century is shown in Figure 4.2. The diagram illustrates how important the technical secondary schools and technical institutes were to the expanding mechanical engineering industry, for recruitment of technical staff.



Abbreviations:

Acad.	Royal Institute of Technology, Chalmers Institute of Technology
Second.	Technical secondary schools
Abroad	Technical schools abroad

Fig. 4.2: Employment of graduate engineers in 1908.

Source: Gårdlund (1942), p. 232.

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Pools of specialized labor and merging higher educational institutions supported the upgrading of products and rapid introduction of foreign technologies (Porter et al., 1991). Major investments in technological training that led to innovations, as well as education and training outside the country, contributed to the growth of Sweden's multinationals. Many Swedish engineers went abroad for practical experience after graduation, at first to Britain and later to the United States, before taking their first permanent jobs (Carlson, 1979). There was no possibility of earning a *civilekonomutbildining* degree in economics or a degree in business education before 1909 in Sweden, and it was not possible to get a higher technical or economics degree before the 1940s.

Therefore, gaining practical experience and studying abroad were important factors in increasing industrial knowledge. Henrik Göransson, son of the founder of Sandviken, had been sent abroad at the tender age of thirteen for schooling in Lausanne, followed by office training in Germany and England. This was a common form of business training at the time. Regarding international experience and its importance,

> It was practical studies rather than theoretical education abroad that counted. Sometimes the studies abroad could be concerned with acquiring new technique. Studying the figures for 1880, we find that international experience was particularly widespread among founder entrepreneurs, and out of a total of 30 founders of companies, 19 (63%) had been trained or worked abroad. The corresponding figures of 11 industrial managers in this survey group were 41 out of 97 (42%). (Carlson, 1986, p. 59)

One of the more eminent examples is L. M. Ericsson, who studied electrical engineering in Germany and Switzerland and eventually founded an engineering enterprise in Stockholm. But this was before the big exodus of engineering graduates to pursue practical studies abroad.

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During the 1880s, people stayed within Europe for their education. England was the most common destination for prospective managers in the engineering industry and in iron and steel manufacturing, whereas Germany was the main attraction to their colleagues in the food-manufacturing and textile industries. France ranked a poor third. The United States was mentioned in only one case.

International experience grew more important as time went on. Germany remained the most important destination, but soon England was overtaken by the United States. International experience for founder-entrepreneurs no longer meant as much because they had started from scratch; only four of twenty-one had been abroad. Management in the engineering industry and in the iron and steel industry was drawn to America, with its increasing economic importance and emphasis on efficiency and "scientific management" after the turn of the century. The international experience of industrial managers in 1880, 1930, and 1980 is shown in Table 4.7.

The Comparative Context: The United States and Sweden

According to American business historian A. D. Chandler (1974, 1977), the growth of Swedish firms and their evolution into multinationals differed in several ways from that of American firms.[35] For example, Swedish firms made foreign investments earlier in their corporate lives than did American firms. In view of the fact that Sweden was late to industrialize, Swedish companies started investing abroad surprisingly early. Sandvik, AGA, and others also had only a short period in the home market before entering the wider world market.

Table 4.7

International Experience of Industrial Managers[a]

	Founder/ Entrepre-neurs	Heads of Family Businesses	Others	National Total
1880 (Survey Group I)				
Basic theoretical education				
technical	--	2	--	2
economic	--	1	--	1
Further theoretical education				
technical	1	1	1	3
economic	--	--	--	--
Practical studies: field trips and language studies, practical training and employment abroad	19	11	11	41
Total no. with internat'l experience[a]	20	14	11	45
Total no. in the survey group	30	33	34	97
1930 (Survey Group II)				
Basic theoretical education				
technical	1	2	10	13
economic	2	1	1	4
Further theoretical education				
technical	2	1	11	14
economic	1	1	--	2
Practical studies: field trips and language studies, practical training and employment abroad	8	16	58	82
Total no. with internat'l experience[a]	12	16	58	86
Total no. in the survey group	30	33	116	179

Table 4.7 (Cont'd)

	Founder/ Entrepre-neurs	Heads of Family Businesses	Others	National Total
1980 (Survey Group III)				
Basic theoretical education				
technical	--	--	3	3
economic	--	1	1	2
Further theoretical education				
technical	--	--	2	2
economic	--	--	19	19
Practical studies: field trips and language studies, practical training and employment abroad	--	2	35	37
Total no. with internat'l experience[a]	--	3	51	54
Total no. in the survey group	1	12	161	174

[a]Number of industrial managers investigated for 1880, 1930, and 1980 and pursuing theoretical or practical studies abroad.

[b]The total number of persons with international experiences does not always agree with the column total, because one and the same person can be included under more than one heading.

Source: Carlson (1986), p. 59.

Interestingly, twenty Swedish corporations have dominated Swedish industry since the "take-off" period of Sweden's relatively late industrialization, from 1870 to 1910 (an exception is Volvo, founded in 1915 as a subsidiary of SKF). Few firms had the time, or the opportunity, to develop into national firms before becoming multinational. They eventually did become national firms, in several cases due to their success on the international market, and began integrating both vertically and

horizontally at home during their internationalization process. Many of the early multinationals are the only existing, or by far the largest, domestic companies in their particular fields within Sweden today (Lundström, 1986).

Chandler (1977) also cited the magnitude of the American home market in explaining why managers of American companies acquired different industrial learning capabilities. The large size of the home market in the United States could facilitate the industrial learning process in a national framework for user-producer interaction.

Because of trade barriers, differences in standardization and in the level of development, and barriers of culture and language, the existence of a large home market is often considered an important factor in facilitating the learning process. It is this large home market that Sweden lacked. Thus, Swedes' prior industrial knowledge--not only technological knowledge, but also the managerial and financial skills necessary for successful business development--was significantly absorbed in the international market.

Development of the American way of manufacturing and industrial learning represents an object for comparison. The new American manufacturing system was characterized by the production of goods by specialized machines, a high degree of standardization, and interchangeability of component parts. According to American economic historian Nathan Rosenberg (1980), the role of the growing capital goods industry was vital in this development because that industry, which is primarily involved in the forming and shaping of metals, became a "learning center"

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In discussing American economic development, Rosenberg concluded that Americans' "learning by using" was important in the production process and in subsequent use, because when products reach a certain degree of complexity the user can be expected to have the best knowledge of how the product functioned earlier and conditions under which it is supposed to work in the future. Important experience is generated not only in the production process but also in the subsequent use of the project, "for in an economy with complex new technologies, there are essential aspects of learning that are a function not of the experience involved in producing the product but of its utilization by the final user" (Rosenberg, 1987, p. 122). The industrial capital goods producers had to solve practical problems for their customers, and they also had the incentive to apply the solution to new customers, new products, and/or new markets.

Sweden and Industrial Learning in International Markets: Emerging Motivations

The founders of the new Swedish engineering firms had to develop the fundamental idea or the innovation. Moreover, they had to detect the business opportunities and find a niche in the more crowded international market, which Sweden was late in entering compared to some other industrialized countries. In traditional economic theory, knowledge is considered a collective good, which is available at no cost for all potential producers. But the ability to use technological

knowledge, which is essential to industrial expansion, is the result of a "time consuming and expensive process of learning" (R. Nelson, cited in Rosenberg & Frischtak, 1985, p. vii).

In *The Theory of the Growth of the Firm,* Penrose (1959) argued that economists always have recognized the dominant role that increasing knowledge plays in economic processes, but they have been reluctant to analyze the economic effects of changes in knowledge, sometimes finding the concept too slippery to handle. An important aspect of Sweden's economic development is that the economy came to depend on high technology and international markets for national prosperity, and much of Swedish industrial learning took place in the international market.

The founders of the new Swedish engineering firms, the geniuses, had to develop the fundamental ideas underlying the innovations on which their firms were based. They also had to detect the business opportunities and define the rather small niches on which the firms were based. Existing knowledge was an important and decisive input in developing the new Swedish inventions. Thus, to integrate prior knowledge of markets and international contacts was important (Lundgren, 1995).

International Markets and Global Competition

Several of the Swedish multinationals moved into foreign markets before the turn of the century. With the breakthrough of the engineering industry in the small

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domestic market, many manufacturing industries secured markets abroad. Major motives for Swedish corporations to establish subsidiaries abroad were to gain access to foreign markets and to overcome trade barriers (Statens Offentliga Utredningar, 1983). However, Swedish large firms and multinationals were rarely driven by a single motivating force.

Going abroad is, in most cases, a gradual process that involves "learning by doing," having contact with local agents, and selling to and serving customers with special needs. Many of the manufacturing industries secured their markets abroad, not only by creating sales organizations themselves (like Sandvik, the pioneer), but also by building their own factories there. Locating production in a foreign country established closer ties with major buyers, thus creating a vehicle for expansion. In setting up production facilities in the importing countries, the business enterprise makes the transition from being an exporter to being a true multinational corporation.

Some companies combined sales offices with engineering workshops. When this was done, the next steps of local packaging, making minor adaptations, assembling parts, and finally producing some parts locally became fairly natural (Carlson, 1979). Bulky components with high transport costs often were cheaper to manufacture locally than to import from Sweden, and, in general, tariff and nontariff barriers were less for parts than for finished goods. Thus, the subsidiary management got more and more experience in the field of production, and gradual adaptation took place at a production subsidiary. Although the international

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The establishment process, with a gradual shift from agents to sales subsidiaries and from sales subsidiaries to production subsidiaries, has been called the "establishment chain" (Hörnell, Vahlne, & Finn-Weidersheim, 1973). In many cases, the establishment chain characterized a firm's penetration into industrial markets. Sales subsidiaries often were preceded by agents. At Atlas Copco, for example, seventeen sales subsidiaries were in thirteen cases preceded by agents, and twelve production subsidiaries were in nine cases preceded by sales subsidiaries (Carlson, 1979, p. 53). There were fifty manufacturing subsidiaries abroad by 1920.

The early stage of firms' internationalization process was primarily influenced by the cultural distance to the market. "Learning by doing" also meant that firms started in the easiest nearby markets. As they got more experience in doing business with foreigners, the firms moved further away to stranger surroundings.

At a later stage, the size of the market became more important. Some enterprises preferred small markets with less competition from the international giants. Others expanded primarily toward large markets. When the market had become big enough to support large-scale production, the local workshops were extended to form fully developed manufacturing plants. In other cases, the subsidiaries bought an existing plant. This slow, step-by-step internationalization process has been the characteristic of most Swedish firms.

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Technological Revolution--The Capital Goods Sector

Even though industrialization was rapid once it was begun in Sweden, the internationalization process was gradual and incremental. Industrial products have a longer life cycle than those for the consumer market and often require close client interactions and different marketing techniques. Carlson (1992) viewed this as an important aspect of Swedish management, which is particularly important in the mechanical engineering industry, and increasingly so in the paper industry. Management in these fields must know a great deal about their clients, much more than Unilever or General Foods. "The close relationship between the technology of the buyer and the technology of the consumer . . . gives one another type of mentality than in the consumer goods market" (Carlson, 1992). A focus on industrial products, rather than a concentration on consumer products, also has changed the development and composition of marketing courses at business schools in Sweden, which often focus on industrial marketing.

Ericsson, SKF, Alfa-Laval, and ASEA were all producers of goods that had considerable software content and had to be adapted to the requirements of the individual user. This was a challenge for new Swedish engineering companies, which were hampered by lack of capital and a small number of employees. Swedish firms wanted to expand but could do so only gradually.

Historically, a striking feature of Swedish international firms has been their limited size, although they grew to be quite large in their particular segment of the

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industry or particular market area, worldwide (Carlson, 1979). Limited size meant, in general, limited financial and personnel resources. International expansion took place step by step. Because Swedish firms started as small enterprises with limited financial resources and personnel, they were forced to cooperate with the clients (Carlson, 1979). The build-up of close working relationships provided an opportunity to gain knowledge while seeking technical industrial solutions to clients' needs. In addition, "the firms had at an early stage to learn to work together with foreign agents and foreign financiers and business men" (Carlson, 1979, p. 64).

The broad international market meant that large firms in Sweden had an opportunity to solve problems under varied circumstances, widening their experiences in many different situations in various cultures and thereby acquiring a higher capability of solving new technological problems that emerged over time. The technological character of innovation often takes the form of very small changes, such as minor modifications in the design of a machine that will enable it to serve certain highly specific end uses better, or that make it easier and therefore cheaper to manufacture.[36]

Moreover, Swedes helped each other. Early pioneers like SKF sometimes worked as agents for other Swedish firms until they could build up their own sales forces. Other firms cooperated in their export operations, "for example Sandvik and Atlas Copco as regards drills and mining machinery" (Carlson, 1979, p. 64). Other cooperative efforts were undertaken with regard to joint ventures to develop production facilities abroad. Swedes demonstrated an aptitude to learn from other

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people and to cooperate, but at the same time they often developed an understanding that a small country "must always be dependent on foreign countries for new ideas and for intellectual stimuli in general" (Carlson, 1979, p. 64). Limited resources in the newly developed firms at the end of the nineteenth century often made market specialization a necessity.

The development of new products was a step-by-step process that Sweden still adheres to in accelerated markets today. Exposure to global markets and new technologies must have stimulated innovative product development in itself.

Often the constraint of limited size and limited financial and personnel resources resulted in more flexible business organizations with short order and communication routes between the decision maker at the top and market people in the field. The organizational nature of leaner corporate structures from inception would have a long-term impact on the driving forces and management philosophies of large international Swedish firms.

Main Clusters of Internationally Competitive Swedish Industries

An important part of Sweden's competitive position in particular industries is that pressure often has come from the international market, where competition is keen among world suppliers of products, mainly goods used in industry. Sweden has exported these products since late industrialization in the nineteenth century, based on its major natural resources--iron, forestry, water power, and later, hydroelectric power.

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> The evolution of important industry clusters in the Swedish economy . . . paints a broad picture of how competitive industries in Sweden have evolved. Swedish competitiveness was linked to the establishment and evolution of six large industry clusters, with a foundation in the 1870s which included metals and materials, forest products, multiple business, transportation, power transportation, and distribution and telecommunications. (Porter et al., 1991, pp. 59-61)

Clusters have evolved over time and have changed with demand conditions. There have been changes in specialized factors of production, such as establishment of training centers, and changes in the curriculum of universities, or technical institutes. The clusters expanded with the creation of new firms and when existing firms added new products and processes. Success can attract new firms and thus rivalry among firms is enhanced, which leads to factor upgrading and demand conditions. This is not a smooth or closed process, but one that is continuously evolving. Tensions arise when firms are pressured to innovate and upgrade their competitive advantage in order to survive and prosper.

Transportation and Communications

Railroads

As Sweden experienced mature industrialization and the build-up of the engineering industry and the economic base for Swedish multinational enterprises, the railroads were an important factor in industrial, financial, and social development. As in other developments, the Swedish railway policy has its unique features.

The development and extension of the railway system in Sweden at the end of the nineteenth century was an industrial and social breakthrough. The railways

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gave work to thousands of Swedes, and people who were divided by large tracts of land were brought closer together (Gullers, 1985). In addition to the development of industry to support the railways in Sweden, railways were important for Swedish banks. Railway bonds created a Swedish bond market, and the foreign loans increased contacts with foreign capital markets and supplied welcome short-term deposits.

Sweden's railway network grew from 527 kilometers in 1860 to 1,876 kilometers in 1880. This expansion facilitated the rapid transport of agricultural products, iron and timber, and an integration of the market (Hancock, 1972). Railroad borrowing was achieved through long-term bonds, mostly issued by the government for railroads. The Swedish government, the National Debt Office, was in a better position than private concerns to obtain advantageous foreign loans. As a first step, domestic bonds were issued, but they were far from fully subscribed; therefore, foreign loans became crucial up to 1913. After the 1880s, almost all of the loans that were earlier placed in Germany and Britain were now placed in France. The foreign borrowings eased the Swedish loan market for industry and pushed down domestic interest rates.

In 1871, the Riksdag established a loan fund to stimulate private railway building. "In five years from 1871 to 1875 the total construction costs of new state railways opened for traffic was 8 mill kronor, and of private railways 73 mill kronor" (Dahlgren et al., 1937, p. 257). The state loans represented a quarter of the total sum invested in private railways between 1871 and 1914. Private railways could

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The discussions surrounding the adoption of the Railway Act in 1854/55 stressed the gain to society as a whole as a more important consideration than the railway companies' profits; thus, proponents asserted that the state should do the building work. The basic idea was that the state should lay down and operate a mainline network, after which branch lines would be built by private concerns. These branch lines would have to adapt the state's norms and complement, not compete with, the state railways. The government considered that business and industry were in the best situation to decide about regional or local railways and where they could be profitable. Private interest could therefore apply for a government concession to build a railway. One-third of the railways were built by the state and two-thirds by private companies.

In one sense, the distinction between private and public was somewhat blurred with regard to ownership, during the process of intensive railway building under private auspices in the late nineteenth century (Andersson-Skog, 1996). The key actors were often linked together in a tight personal network in which kinship and geographical origin were important factors. Many of them also sat in the Riksdag. The best-known example is Finance Minister Johan August Gripenstedt.[37] In addition, local authorities held large share holdings in railway companies. This meant that it was not easy to distinguish between private and public

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The international boom period in the 1870s, which in the United States was also characterized by railway construction, imparted a tremendous stimulus to private railroad building in Sweden. Probably the single most important factor influencing the Swedish economy during that time was the building of railroads. This brought market integration to large parts of the country, providing access to new natural resources and the possibility of decreasing inventories, thus cutting costs.

One of the major reasons for growth in that decade was the construction of two new private railway lines that were in the nature of a main trunk line and were fairly independent of the state networks. Both of these lines served the heavy industry of Bergslagen. They emerged partly because John Ericson, the architect of Sweden's main railway system, had neglected this area, even though the need for heavy transport was sharply felt.

Ericson's main goal was to stimulate economic development in those parts of the country that, through the absence of communications, had been left behind. The idea of railways only being a complement to other means of transport (notably shipping, which was so important for the export industries) was also abandoned; instead, the railways formed the backbone of Sweden's communications network. Railway lines were also laid through economically weak parts of the country, to whose development they were expected to contribute.

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When the state railways were mustered under the government body that became the Swedish State Railways (Staten Järnvägar) in 1888, the private rail network was divided up among a large number of proprietors. Private firms accounted for 70 percent of Swedish State Railways building in kilometers; 300 private companies accounted for a good 12,000 kilometers, whereas Swedish State Railways could claim more than 4,500 kilometers. Despite the disparity of size between the sectors, the state railways came to dominate the traffic. After 1890, the state required joint traffic agreements and adjustments of rate levels among the private lines.

This particular development underscores the pitfalls of the conventional approach of economic history and research into railways in Sweden, which has been largely related to economic growth issues to 1914. Early in 1907, Eli Heckscher submitted his dissertation on the importance of railways for Swedish economic development. In it, he drew attention to the fact that a great deal of railway building occurred in Sweden as compared to other countries. By 1900, Sweden had 23 kilometers of railways per 10,000 inhabitants, which may be compared with Denmark's 12 kilometers, England's 9 kilometers, and France's 12 kilometers (Heckscher, 1907, p. 141). However, it was not the physical extent that Heckscher found remarkable, but the fact that investors had so greatly overestimated the positive effects the railways might be thought to have on the social economy.

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industries, as well as many others, were located far out in the countryside, which could have had social advantages. It reduced the immediate need for a concentration of industry and alleviated pressure on Sweden's few cities during a time of industrialization and growth of urban areas. The disadvantages lay in the resultant high cost of the infrastructure, in addition to railways, water, drainage, schools, hospitals, and so on, as well as the length of time required for a return on investments.[38] The government took over the price structure and delayed the completion of the railroads to gain more time to pay back financing from outside of the country.

Most of the Swedish railroads were built before 1920, and in contrast to what happened in most other European countries, state and private railway building continued thereafter with considerable intensity. Twenty percent of Sweden's railways, in kilometers, were built between 1920 and 1936. "The building of these lines was not to meet the transport requirement of new industries but rather to round out the original rail network" (Andersson-Skog, 1996, p. 29). The role of the government and the heavy emphasis placed on social aspects meant that the railways were not built in the most efficient way to serve business and industry.

Entrepreneurs and Financiers

This was a time when Sweden invested in new railways and built a network that covered the nation. Even though some of the parts were imported, the rolling stock was manufactured in Sweden, thus building up the manufacturing sector and

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Fränckel was the director of equipment at the Swedish State Railways. He proposed building a special factory for railroad material and later became its first general manager. Francke was an industrial leader and financier who had built up industries in Mölndal, on the west coast of Sweden outside of Gothenburg. He was also one of the founders of Göteborgs Handelskompani, a bank. A. O. Wallenberg had founded Skandinaviska Enskilda Bank, which had been active in railway building, and took an interest in the idea of a factory to produce railway materials (Gårdlund, Janelid, Ramström, & Lindblad, 1973).

The new company, Atlas, as well as other newly started mechanical workshops, targeted railways as their early, key customers. This pattern of supplying the home market, in this case to build the infrastructure and then to provide for the home market and eventually for the international market, was a familiar one for some of the major companies created during the time of Sweden's rapid industrialization. New products and technologies were developed in cooperation with buying and supplying industries in the mining sector.

During the 1890s, the demand for railway stock declined sharply, but Atlas diversified into a wide range of engineering products, linked to the rapidly increasing

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home demand for products like machine tools and steam. To satisfy construction and mining customers' demand for speed and reliability, Atlas improved a compressor technology that had been imported from the United States, which was adapted to develop pneumatic equipment.[39]

New Possibilities for Mining in Northern Sweden

Toward the turn of the century, a new iron age dawned with increased consumption on the home market. "The relative importance of foreign trade in the Swedish economy decreased" (Olsson, 1993, p. 10). However, this was the era of the breakthrough of the previously discussed large enterprises that would later expand overseas.

When the Thomas steel-making process was introduced, at the end of the nineteenth century, it made it economically feasible to mine the enormous and largely unexploited and unexplored deposits of high-phosphorous iron ore in the north of Sweden and also in the rest of Europe (Porter et al., 1991). Before the Thomas method, no processes were available to purify high-phosphorus iron. (The Bessemer method was well suited to exploit low-phosphorous iron ore deposits in the central Swedish mining belt.) The construction of the railways in the second half of the nineteenth century opened up the vast ore fields of Lappland, which were of a highly phosphoric nature. Previously, the lack of affordable transport had made it impossible to get the rich ore deposits in Norrland to the coast for shipment.

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Leading up to the twentieth century, optimism and entrepreneurial spirit prevailed. Profits from steel and timber were channeled into new industries. Capital from abroad had been imported to finance much of the infrastructure, thus freeing up the domestic supply of capital. Around 1895, the transmission of electric power for energy to illuminate factories and the development of a railway and transportation network integrated the domestic market. Industry for the domestic market also increased, supported by tariffs and the rising standard of living.

"At the conclusion of this period the two major power groups of the Swedish society were the industrial leaders and the large banks. They wielded the strongest influence in most branches of the economy, and nothing new was likely to succeed without their support" (Montgomery, 1939, p. 250). "Banks were to industry what railroads were to transport, and market integration" (Lundström, 1991, p. 187).

From having been on the absolute periphery of Europe's industrial centers, Sweden had now become something of a regional industrial country. After the turn of the century, one-third of the population worked in industry, their production being worth more than that of the farming sector.

Summary

Sweden did not have an internal capital market by the 1870s, nor market integration due to the underdeveloped infrastructure. However, the banks were rather advanced compared to other industrialized countries during the same period. Therefore, their development was premature, especially for investment banks,

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considering the state of the Swedish economy. During the nineteenth century, the traditional role of the merchant houses--that of building up capital from earnings and borrowing the rest abroad as a source of working capital for their clients in the export industries--slowly declined. Initially, all exports had been handled by trading houses, but the function of trading houses disappeared or was taken over by others. Better communication, or immediate communication through the use of the telegraph and the telephone, as well as the fact that transportation of goods could be carried out by agents and well-organized carriers, contributed to the displacement of merchants and their traditional role.

The trading houses comprised one of the few sectors of the Swedish economy that did not grow during the era of Sweden's rapid industrialization, once it took off in the 1870s. Banks eventually became the primary source of investment capital, but not until later. The decline of merchant houses was one phase that was most indicative of the transition from the old-fashioned economy of the nineteenth century to the modern system, which replaced it. The process of integration of the economy was needed. Once this developed it resulted in (a) producers and consumers being brought closer together, bypassing the middlemen; and (b) a displacement of the individual as an economic agent by large, organized units.

However, the owners of capital contributed to modernization of the steel, mechanical engineering, and pulp and paper industries, and it seems that the merchants later played a key role in the development of new export industries. Profits from steel and timber were channeled into new industries because capital

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from abroad had been imported to finance much of the infrastructure, thus eventually freeing up the domestic supply of capital. Trading companies often initiated entry of new firms, and trade of timber often was the first base for new entrants to build up international networks. Trading houses made large profits, which were invested in new industries to move to more advanced steel making and pulp and paper production.

Many of the new plants, at first sawmills and later pulp and paper mills, were founded by merchant families; they later developed into major suppliers to the European market. Capital from the trading companies was instrumental in developing these new industries. Merchants were also pioneers in the founding of new banks.

During the late-nineteenth century, industry moved from exploitation of available technologies, indigenous as well as imported, to an innovation stage. The two major national industries that procured foreign currency--forestry and iron and the manufacture of wood pulp--increased, while that of lumber products stagnated, and iron ore began to be exported. Education expanded, and research institutes created specialized pools of labor, often recruited from agriculture. Large investments in infrastructural projects (canals, railroad, and so on) and perhaps, most important, imports of technology and capital in the mid-1800s formed the basis from which new industries and industrial clusters developed. With new techniques and capital for investment, Sweden was able to move into an era of mature industrialization and the fundamental foundation of the start of big business, the

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establishment of foreign trade, and the initial stages of the internationalization of Swedish business, mainly concentrated in the manufacturing sector.

Advances in communications and transportation as well as the build-up of the infrastructure led to an integration of the domestic market and further advances in external markets through the use of Sweden's well-developed international network based on the long history of the iron industry and Sweden's prior industrial knowledge. Many technical innovators in Sweden had international experience.

As we shall see in Chapter V, the next step was to organize labor as Sweden moved toward larger engineering industries. Leading up to the turn of the century, labor-market conflict erupted in the forest industries and workers were united in national labor unions, and finally into the Swedish Trade Union Confederation. As a response to their collective effort, employers organized themselves into their own umbrella organization. These steps marked the beginning of a highly organized labor market and one of the most densely organized labor forces in the world in the twentieth century.

Endnotes

1. Immigrants were pioneers of the modern forest industry, Dickson, Kempe, Röhss, Bunsow, and Astrup, one Scot, two Germans, two Norwegians, for example, but the only other field in which they were particularly influential at that time was banking. At two of the three major Swedish banks, Jewish immigrants played a significant role in the development of the economy. Theodor Mannheimer was the first manager of Skandinaviska Banken, and Louis Fraenckel reorganized Stockholm Handelsbank, now Svenska Handelsbanken (Heckscher, 1954).

2. Hofstede (1994) reminds us of the complexity of managing international enterprises across borders and the important role of culture, such as various national cultures and corporate cultures. Hofstede argued that "management is getting

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things done through [other] people. This is true the world over." However, effective management means understanding people. "Their background has provided them with a certain culture. The word 'culture' is used here in the sense of 'the collective programming of the mind which distinguishes the members of one category of people from another.'" Managing international business means handling both national and organizational culture differences at the same time, and "common organizational cultures across borders are what keep multinationals together" (p. 1).

3. Not much is known about the entrepreneurs in the early stages of industrialization in Sweden. However, an analysis by Jörberg (1968) sheds some light on the subject.

4. The Swedish State Central Bank reports directly to Parliament. It acts as the central bank for the government and other banks, administers Sweden's gold and foreign exchange reserve, and issues notes and coins. The banks in Sweden are monitored by the government body, Finansinspektionen (*Doing business in Sweden*, 1996).

5. At the time, Sweden was on the copper standard. The Swedish monetary system took a decisive turn in the seventeenth century, during a time of desperate need for foreign currency. King Gustavus Adolphus, in 1625, introduced a copper standard to replace the old silver standard for currency. At that time, Sweden had a virtual monopoly on copper (Heckscher, 1954).

6. A policy of cheap money is a deliberate monetary policy of keeping interest rates low.

7. A dominant part of Swedish industry was (and still is) connected to two commercial banks, Stockholm's Enskilda Bank (now Skandinaviska Enskilda Banken, known as S. E. Banken) and Svenska Handelsbanken.

8. Samuelsson (1968) described the development of banking as follows: In 1860 there existed 12 banks housed in 27 offices. By 1880 the number had risen to 44 banks with 205 offices, and in 1913 to 75 banks with 630 offices. Between 1877 and 1896, outstanding claims of commercial banks rose from 450 to 900 million kronor, averaging out an increase of 20 million kronor per year. Advances then rose at an annual rate of 100 million kronor up to 1913, when they began to approach the 300 million mark. Large sums of capital were also accumulated in savings banks, and as the century neared its end, also in insurance companies. At the close of 1913, there were 440 savings banks with total deposits of 953 kronor, mostly invested in building credits and bonds (p. 198).

9. The bakery system is the opposite of today's on-line systems.

10. However, investments in building and construction were substantial. Urbanization had begun, and investments by both central and local authorities were kept at a high level. Bonds were issued abroad and in Sweden.

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11. The Wallenberg family is Sweden's most powerful industrial dynasty, with dominant stakes in many multinational Swedish companies.

12. In 1908, share loans given by banks accounted for only 15 percent of the total share capital of all Swedish limited joint-stock companies, exclusive of banks.

13. At the turn of the century, banks took a more active part in financing industry, the same as in the rest of Europe. Despite differences in stages of development and pace of industrialization in Sweden and the other industrialized countries in Europe, the trend of bank lending in Sweden looks almost identical to that in other countries. But this does not mean that banks were of little importance for industry.

14. According to Montgomery (1939),

> In 1808, war with Russia compelled it [the Riksbank] to refuse payment on its notes, and devaluation of the year 1834 put an end to this new period of a paper standard, and silver again became the basis of currency, and the silver content of the Riksdaler banco, which had been previously practically agreed with the Hamburger banco, was now reduced by five-eights. (p. 97)

15. On the gold standard, the central bank must give gold on demand in exchange for currency, which is central to the classical economic view of equilibrating processes in international trade. Each currency was freely convertible into gold to fix the exchange rates between currencies, and all international debts were settled in gold. The United Kingdom stayed on the gold standard until 1914, returned to it in 1924-1925, and left again in 1931. The United States was on the gold standard from 1879 to 1933, although some gold was used as a guarantee until 1968, and the dollar was convertible to gold outside the United States until 1971. Switzerland abandoned gold conversion in 1954 but for a while still required some gold backing (see North, 1981, for further discussion).

16. For a study of Sweden's monetary experiences during the period of the gold standard, see Jonung (1984).

17. Arbitrage means to take advantage of the existence of two or more different market prices for some commodity by entering into contracts simultaneously to buy and sell or to borrow money--to buy where prices are low and sell where they are high, or to borrow money at a low rate of interest and lend it at a higher rate. For example, if wheat is cheaper in Chicago than in London, after allowing for transport and dealing costs, it will pay to buy in Chicago and sell in London. Or if interest rates are higher on a Deutschmark deposit in London than in Frankfurt, a higher return will be obtained by switching funds from one center to the other. Unlike speculation, arbitrage does not normally involve significant risks because the buying and selling operations are carried out more or less simultaneously and the profit made does not depend on taking a view on future price changes. Thus, arbitrage tends to eliminate price differentials and contributes to the achievement of equilibrium, making price discrimination between markets difficult or impossible where possibilities for arbitrage exist (Bannock, Baxter, & Davis, 1992).

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18. Capital-intensive industry refers to traditional basic industries such as pulp, paper, mining, steel, and heavy chemicals.

19. At various times, goods have been reclassified, industrial branches have been given new contents, and market areas have been redefined in various ways. For example, before World War I, when a Swedish steel mill shipped goods to London, Britain was regarded as the export market even though the goods often were reshipped to the Dominions. Today, when the same mill has its own agents in Sydney and Johannesburg, a similar shipment would be classified as an export to Australia or South Africa. The same is true of the official trade statistics. In the past, it was the country to which goods were sold that was the export country, but today in most countries it is the country of consignment. There are also problems of market classification and changing national borders. For example, the European Economic Community (EEC, 1957), European Free Trade Association (EFTA, 1973), and Eastern Europe do not make sense as market segments before World War II (Carlson, 1979, pp. 22-23).

20. The Swedish scientific establishment is often said to have been born in 1739, when the Royal Academy of Sciences was founded. This was the first time that scientific research became systematically organized. Swedish scientists at that time were "universalists" who made vital contributions to scientific and technological progress.

21. Capital goods are manufactured or constructed objects that have a long, useful life and are used in the production of, but not incorporated into, other goods. Capital goods include machinery, tools, and factory buildings.

22. According to Scobbie (1972),

> The telecommunications firm L. M. Ericsson started making telephones in 1876 and by 1883, a public service company, Stockholm's Allmänna Telefon AB, was set up to make and operate telephone lines. Also in 1883, Elektriska AB, the firm subsequently called ASEA, began making electrical machinery at Arboga. ASEA was then moved to Västerås where it still remains today; Sweden's electrical center and a firm of international repute. By the turn of the century standardized goods such as the bicycle and sewing machine came onto the market. F. W. Lindqvist's Primus cooker, G. Dalén's acetylene gas units, and C. E. Johansson's precision instruments were all developed about this time. Sven Linqvist invented the ball bearing, and in 1907, SKF, Svenska Kullagerfabriken, i.e., the Swedish Ball Bearing Company, was founded. (p. 80)

23. This topic was discussed by Swedish economic historian T. Gårdlund (1942).

24. The Swedish multinational, AGA, has a considerable part of the industrial gas trade in some of the European and Latin American markets in which it operates.

25. Even though Swedish large multinational firms are small by international standards, they are considered large in their segment of an industry or in a particular

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market area. A high degree of product specialization has been the rule. SKF is a good example of this pattern of Swedish development, as it is a global firm in the ball and roller bearing business and also has a significant share of the world market. SKF is historically a Swedish company, but today ninety of the SKF group organizations are outside of Sweden, making it truly international. Although the enterprise is relatively small by world commercial standards, the business idea is wide: "We claim to be market leaders both in the technological sense and in terms of market share. Our activities know no frontiers" (SKF Group, 1988). Roller bearings account for 80 percent of SKF's business. SKF has 45,000 employees in 130 different nations, with manufacturing in eighty factories situated in seventeen countries.

26. SKF was the first company to build housing for workers in Sweden, in Gothenburg. The company expanded dramatically during the twentieth century. In 1990, the number of registered SKF Group employees rose by 9 percent due to company acquisition, which was the pattern of expansion for many Swedish multinationals in the 1980s and 1990s. The SKF employees working in the ball bearing factory in Gothenburg exhibit a keen interest and pride in their work, which is clearly visible to a visitor to the plant floor (study visit to SKF Corporate Group Headquarters, Gothenburg, 23 June 1992).

27. In writing "A Century's Captains of Industry," available in English and Swedish, Professor Carlson (1986) used as his primary materials *svenska män och kvinnor,* an eight-volume dictionary of biography covering the years 1942 to 1955, and *Vem är det?,* the Swedish "Who's Who," published in alternate years by P. A. Norstedt & Söner förlag. One major conclusion was that industrial managers, particularly the heads of family businesses, one hundred years ago and fifty years ago were recruited from the upper class. Carlson pointed out:

> When studying the results of this investigation, however, one has to remember that they refer to a particular group of managers. We are not concerned here with a random sample of managers or any kind of average manager for the various periods; instead we are concerned with industrialists who are considered sufficiently important by a couple of publishers to be included in two well-known works of reference.

Professor Emeritus Carlson, born in 1909, was active as a United Nations and OECD economist, and served at the Department of Business Economics and Management, Uppsala University. One of Carlson's best-known works is *Executive Behavior.* He is a member of the Royal Swedish Academy of Engineering Sciences, the Royal Academy of Arts and Sciences of Uppsala, the Royal Society of Science at Uppsala, and the Royal Society of Humanities at Uppsala.

28. Carlson found it remarkable that, in all the materials for the 1880s, there were only two working-class sons, both of them founders of businesses. Only seven were sons of industrial white-collar workers, and only five were sons of craftsmen. Of the latter, three and two, respectively, were founder-entrepreneurs. Relatively speaking, the same situation prevailed in 1930, although founder-entrepreneurs then included five sons of craftsmen. Carlson (1986) found no change for the next 100 years and stated that "most managerial appointments in industry are still occupied by men

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whose fathers were employed in 'public service and liberal professions' or were 'industrial managers'" (pp. 54-55).

29. Some of this section about Nobel is based on an article by Bengt Jangfeldt in the Swedish newspaper *Svenska Dagbladet* on 5 October 1997. The Nobel Prize was not the First Prize of Nobel, according to the Russian archival material about the Nobel family, which revealed some new information about the Nobel dynasty. According to that material, the Nobel Committee and the Nobel Prize were outcomes of a Nobel family tradition.

30. Alfred Nobel always wrote to his mother in Swedish and composed his will in Paris in Swedish. Because he distrusted lawyers, Nobel made his final will without any professional advice or assistance. In it he stipulated that the income from his estate, which on his death in 1896 amounted to more than $US 9 million, should be divided annually into five equal parts and distributed "in the forms of prizes to those who during the preceding year have conferred the greatest benefit on mankind" (Swedish Institute, 1986, n.p.). The fields embraced by the Nobel Prize stipulated in the will reflect Nobel's personal interests. There were no prizes for architects, artists, composers, or social scientists, but he was generous to those working in physics, chemistry, physiology, and medicine--the subjects he knew best himself and in which he expected the greatest advances. Nobel's favorite poets were Byron and Shelley, and he wrote enthusiastic letters about authors, among them Sweden's Selma Lagerlöf, the first woman to receive a Nobel Prize in literature.

31. Alfred Nobel's will created the five Nobel Prizes--in Physics, Chemistry, Medicine/ Physiology, Literature, and Peace--to be given to those who had conferred the greatest benefit to mankind in those areas the preceding year.

32. There were elementary schools in Sweden as early as the end of the eighteenth century, but they were comparatively few in number and were based on a voluntary system. Soon, however, the State intervened in elementary education, and in 1842 the Elementary School Regulations were issued. In general, the high standard of education of the people was originally, to a great extent, the result of the work of the clergy. Traditionally, local church parishes had been responsible for primary education. The old order of the parish assembly electing the school board was preserved only in small parishes up to the late 1930s. "In all others, local school questions are in the hands of the communal authorities, who elect the school board, on which the clergy are represented. Religious teaching in the Bible and church history is given in all schools" *(Sweden Yearbook,* 1938, p. 48).

33. The significance of technology and the resource of human capital--the skills and knowledge embodied in the labor force in the form of well-trained engineers and skilled workmen--has been an integral part of the internationalization process in Sweden.

34. For higher education and research in mechanical engineering and shipbuilding in the Gothenburg area, Chalmers played an important role in the evolution of the industries. As the decades and industrial development continued in the nineteenth

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century, the Royal Institute of Technology and the Chalmers Institute of Technology were to become of great importance for technical development and expansion abroad (Carlson, 1979). Both technical institutes later achieved university status. Today, degree courses in engineering are offered primarily at the technical universities in Sweden. The University of Lund has a university and a technical university at the same site.

35. Similar to Professor Chandler, the approach of focusing on large firms to analyze a country's economic independent performance seems highly suited to Sweden's situation. Located on the northern periphery of Europe, the country experienced late industrialization (see Chandler, 1977). Also, for an enormous amount of information about the evolution of multinationals, see Chandler's (1974) two-volume study.

36. Other such changes include improving the performance characteristics of a machine by introducing a harder metal or a new alloy with a higher melting point; or by slight engineering changes that economize on some raw material requirement; or simply substituting a cheaper material for a more expensive one where possible; or by a design change that reduces friction or vibration and therefore increases the useful life of a machine.

37. For distinctions between private and public ownership in the process of intensive railway building, see Gasslander (1949). Another example is Lars Johan Hierta, founder of the radical newspaper *Aftonbladet,* who was also the founder of Liljeholmens Stearinfabrik, the Liljeholmen stearine candle factory; see Kihlberg (1968).

38. The government's direct intervention in the domestic economy increased in the 1800s, following the state's involvement in railroad construction. This ended in the 1870s, when the National Debt Office, with the help of commercial banks, borrowed from abroad to extend major rivers and finance housing and large parts of the growing infrastructure (Olsson, 1993).

39. In 1917, Atlas merged with AB Diesel Motorer, a company that had built diesel engines since 1898 based on a license from Rudolf Diesel in Germany. After both companies experienced difficult times, it was decided that the merged company, Atlas Diesel, would concentrate on core products--diesel engines and pneumatic equipment. After the successful introduction of a new light, high-speed drilling machine in the 1940s, which was named the "Swedish method," the company sold off its diesel engine business and concentrated on pneumatic equipment and compressors. In the mid-1950s, the name was changed to Atlas Copco, which now has almost all of its production outside of Sweden, with headquarters in Stockholm. The contemporary multinational is a member of the Wallenberg group, Investor.

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CHAPTER V

DEVELOPMENT OF PARTICIPATION IN THE SWEDISH LABOR MARKET: MANAGEMENT AND LABOR IN SWEDEN TO WORLD WAR I

Introduction

This chapter concerns the early relations of labor and management and the historical progress of participation in the work organization, a vital component of the development of the Swedish labor market. Also considered are important underpinnings for the internationalization of Swedish industry and development of multinational firms. The first section is a general background. This is followed by a discussion of the formative years and the founding, in 1898, of the Swedish Trade Union Confederation (LO). The organization of labor, as well as a reorganization of workers, began during the latter decades of the nineteenth century in Sweden.

Industrialization did not occur suddenly in Sweden, and changes earlier in the nineteenth century in institutions, economic policy, and the supply and use of labor transformed the movement from a more static to a more dynamic economy. In Sweden, as in other Scandinavian countries, the labor market began to assume a well-defined structure at a relatively late date. Its late industrialization and the unique characteristics of Sweden's dispersed industries in the countryside meant that, in the transition from handicrafts to manufacturing, the Swedish labor force had to be reorganized. In the international context, the existence of an exceptionally

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large rural middle class, which was unusually homogeneous in ethnic terms, made a fairly smooth transformation from an agrarian to an industrialized society.

The guilds had been abolished in 1846, during an era of liberal reform (1840 to 1860), although they had never really been that significant in Sweden outside of the main cities, Gothenburg and Stockholm, during the previous century. The labor movement did not get started until the 1880s, due to Sweden's rather late industrialization and urbanization. One important aspect of mobilizing the work force in changing times was the emergence of popular movements, and Sweden's first official political party, in 1889--the Social Democrats or the Worker's Party.

The reorganization of labor into an industrial work force brought with it a stronger development of trade unionism, which began as a reaction to the insecurity resulting from what seemed to be the anarchy of economic liberalism. In reality, it can be said that workers' insecurity was a result of stronger and changing economic powers, rather than the abolition of the old system of regulation; however, workers viewed their situation as a consequence of new economic principles. Therefore, it is not surprising that they had to search for methods of dealing with the young industrial era and new circumstances, following the introduction of free enterprise before the mid-nineteenth century.

In the 1800s, the trade union movement grew in response to the pressures of a population shift to towns and through a developing political awareness among the working class. Trade unionism aimed at guaranteeing a secure, adequate, and fair wage rate that would be independent of employers' discretion.

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workers to unite. During the latter part of the nineteenth century, the sawmills were being transformed into pulp mills to produce more of a finished product and to gain a higher return on capital after the demand for wood decreased. The Swedish engineering industry was beginning to produce ball bearings, telephone separators, and turbines, for which it was to become well known in international industrial circles. Domestic industry was engaged in making articles for a more affluent population who were living in towns rather than under a subsistence economic structure in the countryside.

Similar to the different phases of the industrialization process, the evolution of Swedish industrial relations and the main actors in the labor market experienced different stages of development (Schiller, 1977).[1] By the turn of the century, both employers and employees had begun to establish a system that, in turn, facilitated increased collective regulation of working conditions, once the process got under way. Workers were organized into a central trade union by 1898. In response, the owners and directors of Swedish companies consolidated their strength in 1902, forming a central employers' organization.

Trade unions were soon accepted by employers, and collective bargaining became widespread. At first, around the turn of the century, collective agreements were local; only later did they spread industrywide. The unions were well organized, but compared to the present, the membership ratio was low. In addition, employers' prerogatives (e.g., the freedom to hire and fire and to assign work) were well protected throughout most of the twentieth century.

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Institutionalization of Conflict in the Labor Market

Labor market stability has been a relevant dimension in Sweden, a small country with manufacturing production concentrated in industrial products for distribution in the international market. Technological development and economic growth have been some of the preconditions for the improvement of living standards. The Swedish economy constantly had to adapt to external pressures of product demand and market instability. Swedish industry, based on raw materials and manufacturing, primarily engineering products, required an innovative and skilled work force, a steady supply of labor, and reliable delivery of industrial products.

Although labor strikes occur everywhere, in many instances employers in Sweden did not have the possibility of replacement workers. The United States had a steady stream of immigrants to feed the labor force and an expanding national market. In contrast, in a small country like Sweden where one out of five people had crossed the Atlantic in a wave of emigration, it was difficult and expensive to find and to replace skilled workers. This was particularly true as Swedish industry moved toward high technology and the growth of the engineering industry, starting in the late 1900s.

In addition to skilled workers, labor was often recruited from agricultural workers who had not left the country. These workers had to be trained for higher level work, requiring investment in human capital. The quandary facing those involved in industrial production in Sweden has not been primarily how much a skilled worker can be paid, because that is negotiated, but whether or not the worker will withhold labor in the form of work stoppages. As De Geer (1992) noted,

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> The employer is interested in more than the price of labor. He is looking for security of supply, for a guarantee that the work will get done. Wage increases are not the greatest threat; a refusal to deliver the goods (strikes, blockades) or delays in deliveries (sabotage, go-slow) are more serious. It is always possible to bargain about money. (pp. 49-50)

During the formative years of the organization of Sweden's industrial economy and the development of management and labor relations, many of the discussions between employers and employees centered on wages and hours in a new factory setting, as well as work conditions. From the early years of labor market organization, it was up to the directors of the trade union and employer organizations to define the parameters of labor market control and regulation. Taking into consideration the inherent tension between labor and management in industrialized countries, the difficult balancing act required discipline and strong leadership.

Because Sweden had a more egalitarian past than other industrialized countries, employers were prepared to accept unions and to sign agreements with them at an earlier stage, and on a larger scale, than in some other industrialized nations. Part of the reason is that the historic relationships between Swedish social classes permitted a degree of local self-government and individual freedom, even in an agrarian society; thus, there was less class conflict in Sweden than elsewhere. Farmers often owned land and had political power; in fact, since the medieval era, the farmers were part of the four-estate Parliament (Riksdag). In addition, the Swedish iron industry located in the countryside, the *bruk,* set a pattern of calm and paternalistic labor relations.

The main actors in the organization of the Swedish labor market, the Swedish Trade Union Federation (Landsorganisationen i Sverige, LO), representing manual workers) and the Swedish Employers' Confederation (Svenska Arbetsgivarefören-

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ingen [SAF], representing private industry), took on the task of regulating the Swedish labor market through collaboration. Thus, they established one of the unique features of the Swedish labor market--regulation by agreement rather than legislation. The "social partners," meaning labor in the umbrella organization LO and employers in private industry in the umbrella organization SAF, formulated the traditional principle that wage policy and related terms of employment should be worked out between labor and management without explicit governmental intervention.

In terms of labor law, the role of government and Parliament remained primarily a supportive one for a long time. Direct control and regulation were more the exception than the rule.

> Apart from material legislation on a specific subject or with reference to specific employee categories, the main trend was to encourage collective bargaining and collective agreements, to contain the scope of overt conflicts within moderate bounds and to place instruments at the disposal of the social partners for the peaceful settlements of disputes between them. By the early years of this century, the collective agreement had become a widespread arrangement for manual workers. The advent of nationwide agreements for different industries and occupational fields, with special rules governing the settlement of disputes and a ban on direct action while agreements were in force, enhanced the efficacy of these collective bargaining instruments. In time these national agreements came to function as a kind of labor legislation, the contents, scope and formulation of which varied in the different sectors and occupational spheres. An important development was that it became usual to include clauses on negotiation arrangements aimed partly at reinforcing the function of the agreement as a peace document and partly at guaranteeing to the parties the facility of talking to one another on questions that arose during the period of agreement. (Edlund & Nystrom, 1988, pp. 7-8)

However, it is significant and sometimes overlooked that relations between the two major consolidated organizations representing labor and management evolved from a pattern of discord rather than harmony, which was later to

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characterize the Swedish labor market following the Great Depression and World War II. Official statistics reveal that there was a continually elevated level of labor market unrest at the turn of the century, and during the formative years of the organization of the Swedish labor market. As shown in Table 5.1, definitive alteration occurred in the 1930s, the Depression decade, in the climate of relations between labor and those representing management in private industry.

Table 5.1

Official Stoppages of Work in Sweden, 1903 to 1938

Period	Number of Stoppages	Number That Developed Into Strikes	Total Days Lost (Thousands)
1903-1907	1,148	912	4,411
1908	302	229	1,842
1909	138	102	11,800
1910-1916	831	770	2,383
1917-1919	1,623	1,540	4,841
1920	486	455	8,943
1921	739	656	5,338
1923	206	192	6,907
1924-1927	895	804	5,776
1928	201	173	4,835
1929-1933	956	873	10,844
1934-1937	328	314	2,847
1938	85	83	1,284

Source: *Statistisk årsbok* (1952).

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Archival records and statistical data demonstrate how troubled and disruptive the industrial scene sometimes has been in Sweden. Contrary to often-accepted notions about Swedish consensus and images reminiscent of its nonfeudal, egalitarian background, with industry dotting the countryside among forests and farms, the Swedish labor market fought its way toward labor peace for four decades during an era of regulation by organization. In fact, by 1910, Sweden was considered to be a more strike-plagued country than most (Forsebäck, 1980, p. 11). The remainder of this chapter is an investigation of the formative years of the Swedish labor market, before World War I, emphasizing the foundation of LO.

Preindustrial Labor Market Activity

The organization of workers in Sweden did not occur until the last decade of the nineteenth century. In the preindustrial era, the Swedish labor market was largely agricultural; even in the modern era, agricultural workers resisted strong unions. Farm laborers were employed under the old rules of master and servant, which meant they could not strike for wages, although there must have been some discussions and negotiations about increases in payment for their toil. In addition, day workers in agriculture often were tied to their employers, who provided dwellings for them.

According to a 1770 ordinance, factory hands who asked for a higher wage than was generally paid became liable for a monetary fine of 20 daler, but in reality they then had to pay twice that amount. "The workers of the factories and manufacturers down to the year 1846 were strictly enjoined by legislation to abstain from any concerted action in the matter of wages" (Montgomery, 1939, p. 203). The

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only legal way for most workers to improve their conditions was to petition authorities, companies, or individual employers. Striking amounted to mutiny, but "strikes and boycotts existed in the days of governmental control" (Bergquist, 1982, p. 32). The strikes were more like desperate demonstrations than effective means for enforcing labor regulations.

In the early nineteenth century, guilds were strong only in Sweden's few large cities, Göteborg, Stockholm, and Malmö and in Ystad, a smaller town in the south, across the border from Germany. However, guild regulations were strict, particularly in Stockholm. In fact, it was not until the mid-eighteenth century that guilds extended to some small towns; therefore, they were significant only for about 100 years outside of the cities. The journeymen in the guilds, a somewhat privileged group, often considered themselves superior to simple factory hands.

The ban on labor organization enunciated by the Ordinance of 1770, which regulated manufacturing industries, was lifted in 1846; at that time, the old regulations on the manufacturing industry and handicrafts were replaced by more liberal rules. Thus, in 1846, the guilds were abolished. The Economic Freedom Ordinance (the Royal Ordinance of 1864) on the extension of freedom of trade was passed to protect real wages during a time of increased costs. In theory, the ordinance provided a laissez-faire doctrine regarding economic activity and the labor market, allowing laborers to pursue any lawful aim. Every Swedish man and woman was entitled to carry on any business such as commerce, manufacture, and handicrafts. In 1881, legislation concerning occupational hazards was enacted to protect workers.

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The abolition of the old system of regulation meant the repeal of the last legal obstacles to workers combining in order to promote their interests as employees. However, the new legal and economic climate in an age of commercial liberalism implied greater risks in that the stronger party could impose terms on the weaker party. Further, according to the liberal ideology prevailing at that time, the state (government) was to refrain from intervening.

The new freedom and an attitude of nonintervention, on the other hand, also opened up great possibilities for new ways of promoting workers' interests to emerge. Nevertheless, change manifested itself slowly, and many of the old traditions survived. In principle, all matters were regulated by individual agreements; in practice, however, customary opinions about what were the right wages and the right working hours were decisive. Sometimes workers were fired for joining unions. Over time, polarization increased between workers, on one side, and employers and officials on the other. This meant that the employers maintained their dominant position. In general, strikes were regarded as something evil or even criminal.

There was in force a provision that proved to be a serious menace to strikers —that everyone capable of work and dependent on work for his livelihood had to be employed in a lawful occupation or risk being prosecuted for vagrancy. The authorities applied this provision in the first significant strike in Sweden, the sawmill strike at Sundsvall in 1879. As a consequence of that event, the provision was repealed in 1885 (Bergquist, 1982, p. 33). Eviction was another weapon used to break strikes in cases where the employer provided lodging, but striking per se was not deemed unlawful.

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The authorities often were apprehensive about strikes and laborers acting together. Officials frequently called in the army when confrontation was imminent. Also, "ordinary middle-class citizens, knowing of labor violence in other countries, feared unions and socialism as challenges to order and to the traditional social structure" (Scott, 1977, p. 415).

The fundamental legal prerequisites of an effective collective-bargaining system were established primarily in Britain, before any labor movement existed in Sweden. These were (a) freedom of association and (b) freedom to withdraw one's labor.

The attitude of the Swedish government and course of law was one of neutrality toward the parties in the labor market. No attempt was made to enforce the principles of free competition and individual freedom of contract. Also, not much was done to hamper the evolution of the collective-bargaining system, although nothing was done to promote it, either. Some of the amendments to the criminal code, passed in the 1890s, mainly concerned picketing, and they were regarded, even by many conservatives, as clear examples of class legislation (see SAF, 1982). It was therefore left to the groups in the labor market themselves to form their own relations.

Bruk and Timber

The characteristics of the Swedish labor market in the first half of the nineteenth century militated against the growth of workers' associations. The small scale and patriarchal nature of early industry, the scattering of mines, the dispersed iron works, and the rural lumber industries in the sparsely settled woodlands far from

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ports and cities discouraged labor organization. In addition, the decentralized nature of industry found in the Swedish *bruk* made it difficult to get cooperation for strikes and protests. Ironworks generally were located in isolated rural communities, which served to reduce contact between workers at different locations.

The companies associated with the *bruk* were synonymous with the needs of society, providing housing, schools, health care, all owned and controlled by the *bruk* owner or *brukspatron,* squire or master, in the old *bruk* society (see Halvarsson & Svensk, 1986, pp. 171-178). The *brukspatron* controlled production and those who worked in the *bruk.* Sometimes the patriarchal owner could allow private initiative to build houses and stores and provide other services, but the paternalistic system rendered the employees dependent on the structure and relationships that were built on tradition and fraught with rigidity. Therefore, before the late 1870s, often regarded as the modern industrial era, the *bruk* provided the needs and functions of society. This structure would change during an era of mature industrialization, when the labor movement and the Social Democratic Party would take over some of the functions of the old *bruk.*

The Significance of the Swedish Timber Industry--Cultural Patterns

Developments in the timber industry reveal part of the pattern of labor in the transition from a preindustrial labor market based on agriculture, to an organized labor market and industrial production aimed at primarily an export market. By the latter part of the nineteenth century, at the same time that the iron industry was experiencing a structural crisis and mergers and shutdowns, the sawmill operatives became a large and influential group of their own.

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Even though the timber and later the pulp and paper industries were in rural areas, more remote than many of the *bruk* devoted to ironworks, the cultural patterns and organization of work and the labor force in the two industries were quite different. Traditional relations that existed in the iron industry were retained after 1846, even though workers of the *bruk* had lost their former quasi-guild organization. There were more historical traditions in the *bruk,* where professional skills were needed, than at the sawmills, and relations between employers and workers were also somewhat different. More skill was required at the ironworks, which raised the social position of ironworkers, when compared with operatives of sawmills. Furthermore, unlike the long history of the *bruk,* the timber-related industries expanded with great rapidity.

Even though the timber industry and sawmilling (the forestry industry) did not have some of the historical traditions associated with the iron industry, they did demonstrate an advantage of huge numbers of workers in large establishments. Often workers in the timber industry were massed together in comparatively large establishments, and in some districts the mills were separated by only small distances. This facilitated communication and rendered connected action by large numbers of workers easier than in the iron industry.

This different historical development of the sawmilling industry makes it understandable that the sawmilling district of Sundsvall became the scene of the first great (but not the last) labor dispute in Sweden, the strike of 1879. Thus, the strike was no chance occurrence.

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Early Signs of Industrial Conflict--Labor Discontent

During the last decades of the 1800s, labor expressed a growing discontent and open conflicts erupted in the Swedish labor market. According to official statistics, labor strife grew remarkably between 1886 and 1902; whereas about thirty strikes occurred per year until 1896, the number increased to more than a hundred per year thereafter. The number of disgruntled participants ranged from 5 to 10,000 workers (*Arbetsstatistik,* 1909, p. 328). Leading up to the tumultuous decade of the 1890s were a number of significant conflicts, which set the stage: Sundsvall, Norberg, and Norrland. An account of these strikes, based on archival records, follows.

The Sundsvall Strike, 1879

The Sundsvall strike *(Sundsvallstrejken)* of 1879 was Sweden's first confrontation with a large work stoppage (*"Konflikter,"* 1967). At that time, international competition exerted pressure on prices. Following a downward spiral of prices for more than a year, sawmill directors decided to restrict production and to reduce wages by 15 to 20 percent of a day's wages, from 1 to 1.5 crowns (Hallendorff, 1927). This cutback produced a negative reaction throughout the Norrland sawmill area, and the strongest reaction was in the central district of Sundsvall. On May 26, 1879, a Monday, a strike occurred at the Heffner & Company sawmill. Although the strike seemed to be resolved almost immediately, it flared up again the next day. Workers went into town threatening and carrying red flags; bars were closed while between 4,000 and 5,000 people gathered in protest. The strike spread and continued into the Pentecost holiday weekend, June 1 and 2.

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Hovding (type of governor) Treffenberg called for military troops after the conflict had continued for a week.

Workers had been camping out during the turmoil, and the directors gave them an ultimatum that if they did not go back to work they would be evicted from their houses. Some workers took a steamboat *(ångbåt)* home if they had a contract. Others were treated as itinerant workers *(lösdrivare),* which at the time meant that they could have been prosecuted. Work resumed, but strikes broke out again here and there throughout the summer.

The Norberg Strike, 1891-1892

Two years later, in February 1891, a strike began in the Kallmora silver mine. Then a couple of months later, there was a public strike at the Norberg mine fields *(gruvfält).* The protest concerned a reduction in wages and a "fight against society's lower-class starvation." The Norberg mines were under the same technical and economic administration as Kallmora, which meant that the mine leaders and Landshövding Hederstierna were located in Västerås (home of ASEA), an hour from Stockholm and a distance from the mines. The workers' representative, Hjalmar Branting, negotiated an agreement between the opposing parties on May 25; thus, it did not mean closure at that time. However, the strike was just the first phase (Hallendorff, 1927, p. 11).

In June 1891 there was another strike in the Kallmora silver mine. Workers called for a sympathy strike, demanding that all mine workers strike on September first. There was no violence and no one was fired. The directors demanded that the workers sign a new contract, but many did not want to commit during trying times.

On November 18, 600 to 700 workers stopped work in the mines. By May 1892, the strike was almost over. The Norberg strike lasted a total of sixteen months. It was the biggest and most threatening strike since the Sundsvall strike of 1879. These alarming activities demonstrated, more than Sundsvall, that the strike could go on and that the environment was heating up on the Swedish labor market. Public interest was keen. The result was a compromise that was a precursor of how serious grievances and disagreements would be dealt with in the future.

The Norrland's Sawmill Strike, 1899

In 1899, a year after the Swedish national trade unions had been organized into the centralized organization, LO, management at the sawmills in Sundsvall handed out circulars to workers stating that they did not want to have employees who were connected to a work organization in their employ. Workers were faced with an ultimatum: If they chose to join unions, they would lose their jobs. When the workers protested and struck, the stevedores on the docks, loading the lumber for export, refused to join the sawmill workers in Sundsvall in a sympathy strike, and without their support the sawmill workers were constrained (Hallendorff, 1927). When the other unions did not join in, LO could not do much to change the direction of management's domination.

The reluctance of other workers to show solidarity hampered LO's clout, in the early stages. The central administration for LO in Stockholm started in 1899, a year after the organization's founding. It evidently did not have the power to rally a concerted effort by labor against employers, who were at that point not organized in a central organization.

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Consequently, the 1890s were not a good time for free and relatively painless agreements regarding work conflicts. Despite large labor conflicts, the time was not ripe for negotiations. Neither employers nor workers had enough experience to test the hazards or difficulties of reaching agreements. Thus, developments in the labor market had to reach a more mature stage.

From Handicrafts to World-Class Manufacturing

Over time, the Swedish system of industrial relations has generated distinctive features that are related to the attributes of its industrial profile. The traditional staple industries, the "basic industries" of forests, iron, and steel products, are of great importance to the development of a competitive position in international markets. Exploitation of natural resources--iron ore, rivers, and forests--drove the early phase of industrialization in Sweden, when the country became a supplier of iron, steel, and sawn timber, as well as rye, to the rest of Europe.

During the late nineteenth century, industry moved from exploitation of available technologies, some indigenous and some imported, to an innovation stage. Industries in their formative phase created demand for the next phase of Swedish industry; consequently, these brought about an increasing demand for sophisticated machinery and components. The build-up of shipyards and a railroad system nurtured the manufacturing of steam engines, steam locomotives, and ships. In addition, the sawmill industry was built on conditions favorable to a demand for steam engines and ships for export.

Profits from steel and timber were channeled into new industries; this was important for expansion.[2] A newly developed machinery industry triggered a wide

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range of companies supplying industry with steel and other materials such as bearings and standardized components. Also, food processing, textiles and apparel, and the emerging pulp and paper industry were important domestic buyers of machinery.

Pressure from international markets and increasing industrialization in other countries forced Swedish firms to upgrade; included were a focus on creating new products and the mechanization of plants to be competitive in markets abroad. The expansion of education and the development of research institutes created specialized pools of laborers and technicians. Most often, laborers were recruited from agriculture.

Engineers designed technical production systems that were carefully planned and improved according to market and product adaptation. It was an era when it was necessary to diffuse technology, upgrade skills, and reorganize the labor market as the economy was making a transition from handicrafts to manufacturing. Key industrial areas on the early twentieth century included metals, forestry, power generation, and transportation equipment.

Even though industrialization was swift once started, historical data reveal a slow change in a majority of important industries in the Swedish economy. This development is reminiscent of the Swedish industry in the rural mills, where skills and expertise in metallurgy spanned centuries.

In the era of rapid industrialization, firms committed to certain technologies and product areas, and there was a strong commitment of owners in certain business sectors (see Porter et al., 1991, pp. 216-219). Since that formative phase, Swedish industry has been characterized by product life cycles aimed at long-term

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goals. A key factor of Swedish industry is that, even in difficult industry crises, large firms committed to an industry have chosen to compete by upgrading products and investing in mechanization[3] rather than diversifying out of the industry.[4] Because of this feature, Swedish firms try to innovate around problems and seek new product niches (Porter et al., 1991).

As a result of a strong commitment to upgrade within certain industries, downsizing of the labor force has been minimized, although not avoided, through efficiency measures and increased productivity (rationalization and the need to use labor at an optimal level to gain the highest return on investments in fixed assets). Swedish firms fine-tune products for use in industry--the manufacturing and engineering sectors. There are few internationally active firms in consumer goods. Due to market fluctuations, it has been important to keep industrial strife to a minimum to maintain production and the reliable delivery of industrial products for customers abroad, who increasingly have had a worldwide network of suppliers from which to choose.

These features of long-term commitment, in the form of financial resources and investments in fixed assets and costs for training workers in new technologies and manufacturing skills, necessitated a reorganization of the labor market at the turn of the twentieth century. These developments, in turn, led to the creation of an eventual forum for dialogue and, in the long run, stabilization in the area of industrial relations.

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The Formative Years, 1895 to 1907

The organization of labor evolved during a period when the old sharply contrasted with all that was new. The old rural factory and mill communities, *bruk,* devoted to metalworking and forestry represented a long tradition of labor organization and industrial techniques. However, many *bruk* ceased to exist by the 1860s, as they did not have the same growth potential as in past centuries. After the Göransson father-and-son team bought the patent for Bessemer steel and the iron industry was revitalized, Sandvik concentrated on producing high-grade specialty steel for rock drills and equipment. At the same time, in the 1870s, the sawmill industry flourished.

Structural changes followed on the heels of the shift from an agrarian economy to one based on industrial production. Swedish industries based on raw materials tended to be located in rural areas, but urban centers also experienced some growth. The Swedish economy was increasingly based on foreign trade and the import of foreign capital to launch an era of modernization, deepening levels of international involvement and dependence.

In the last decades of the nineteenth century, Sweden's original multinational firms were an integral part of economic growth and expansion in international trade, further emphasizing the need for a reorganization of the labor market and a structure for labor and management to conduct a dialogue. Swedes are a literate people, a prerequisite for adapting to the industrial mode of work and higher education. The Royal Technical School (KTH) in Stockholm and later the Stockholm School of Economics (HHS) provided the labor market with engineers and those trained in economics and management.

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Although many people had left the country during hard times, whose who stayed in Sweden found work in expanding industry. Although skilled workers were hard to replace, those with fewer skills diminished the risk of unemployment with trade unionization. However, trade unions developed slowly in Sweden. In the early stages, labor was organized by craft.[5] Local associations linked to a vocational identity began to spring up during the 1860s and 1870s, when Sweden was in the early stages of transformation from an agrarian to an industrialized economy. According to Swedish historian Hans De Geer (1992),

> Trade unions began to appear in Sweden during the 1890s and became increasingly common during the 1870s. They consisted of local associations, generally with strong vocational identity. The economic crisis of the late 1870s hit them hard. The long depression--as historians usually call the period from the late 1870s to the mid-1890s--gradually loosened its grip and the organization of labor in trade unions picked up again. . . . At this stage centralization became more evident. Local joint-cooperation committees lost much of their influence, and an increasing number of unions were created at the national level, integrating the country in a common labor market. (p. 15)

Trade unions with national coverage were established by 1896, launched by craft unions. The Swedish trade union movement developed from a few locally bound trade organizations into a centralized structure in 1898. At first, workers hesitated to join these unknown organizations, but soon membership grew to such an extent that it embraced almost every group of manual workers in the country. This happened at the same time that employers were meeting to discuss consolidated efforts to define and regulate their position in the increasingly industrialized Swedish labor market.[6]

Powerful organizations formed by workers led to a counterpoint when management organizations were established in various branches of industry. The most important of these in the engineering and technology industry is the Swedish

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Engineering Employers' Association (Sveriges Verkstadsförening, VF), sometimes referred to as the Swedish Mechanical Workshops Association; it was established in 1896 in Gothenburg. After some unrewarded endeavors, a few separate employers' organizations, as well as some major independent industrial concerns, joined into a central organization (SAF) in 1902. Later the federation was joined by a number of new industrial organizations; in 1917 it was also joined by the Mechanical Workshops Association.[7]

At that time, labor conflict was the order of the day, and the "main task of SAF was to indemnify the employers for their losses and to settle disputes" (SAF, 1984). In just a short time, the employers at SAF came to concern themselves largely with the business of negotiation. At first, collective agreements were local only; later they became industrywide. When trade unions were accepted by employers in 1905 and 1906, collective bargaining became widespread.

The Grand Period of Organization

From 1895 to 1907 was the first grand period of organization, coinciding with an upward swing in the business cycle in Sweden. The expansion of free industrialism caused the industrial work force to organize in Sweden, similar to other countries, to assert more effectively "their economic interest vis-à-vis the employers" (SAF, 1947, p. 21). In 1898, a number of national trade unions joined forces to form a central organization known as the Swedish Trade Union Confederation (LO). At the same time, national organizations of a corresponding scope also were formed in Norway and Denmark. From the outset, the Swedish trade union movement

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established intimate contact with the political labor movement and the Social Democratic Party.

Labor, in many respects, expressed a belligerent attitude in the early 1900s, which caused employers to attempt to counteract workers' attempts to organize. The powerful organizations formed by workers led to countermeasures by employers, which led to the establishment of the Swedish Employers' Confederation (SAF) in 1902, four years after LO was formed.

However, the umbrella organization representing manual workers grew in strength, starting most noticeably when they had a formal group to oppose in the labor market. "When the Swedish Employers' Confederation was formed in 1902, LO numbered 40,000 members. By 1904 the membership figure had more than doubled; in 1906 it was 144,000, and in 1907 it was 186,000" (SAF, 1947, p. 21). SAF started with 20,000 workers, as measured by the number of workers employed by its various members. By 1908 the number had increased dramatically to 154,000.

Of course, there are many reasons why LO's membership grew so dramatically in the first decade of the twentieth century. One explanation for that growth may simply be that "its time had come." Another is that, as one primary labor market organization grew, so did the other; they grew in parallel as counterbalances to one another. Also, because the economic cycle was positive, and many workers were able to make gains in wages, they were able to pay union dues and support organizing efforts. This was particularly true of workers involved in the engineering and related technology sectors. Thus, union funds were available for administration and recruitment. Another reason for LO's dramatic growth in membership is the

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cooperative relationship between LO and the Social Democrats. This relationship produced strong numbers, in terms of membership, dues, and support, for both organizations as the economic importance and influence of labor grew. Before suffrage reform in 1909 (male suffrage), workers could not meet the income qualification that would allow them to vote; therefore, they were able to affect their circumstances only through union and collective political activity.

In the development and the competitiveness of Swedish industry, "the skilled workers came to mean a great deal both to the companies and to the trade union movement in Sweden" (De Geer, 1992, p. 16). In his highly acclaimed study of a century of the SAF and analysis of Swedish industrial relations, Swedish historian Hans De Geer concluded that the increased strength of the trade union movement during the first decades of the twentieth century was

> . . . not triggered by those in greatest need, it was not based on the situation of the least skilled and it was not fueled by the pressures of hard times. On the contrary, the growth of the trade union movement which grew in Sweden, as elsewhere in Europe, [was from] workers possessing a distinctive identity and related self-awareness, who were literate and accustomed to meetings and discussions, and it was most vigorous when the economy was strong. The skilled workers came to mean a great deal both to the companies and to the trade union movement in Sweden. (p. 16)

Characteristics of the Swedish Labor Market--Child of Industrialism

The labor movement in Sweden came into being toward the close of the nineteenth century, with the advent of industrialism.[8]

> In its structure, its behavior and its fundamental values the trade union movement is a child of industrialization. Factory work, mass production and urbanization created the wage earning masses--subject to the laws of the market forces and the regulatory systems of the employers--from which the movement arose. Most of the organizations among wage-earners and

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> employers alike, and the basis for their mutual relations, came into being before the First World War. (De Geer et al., 1987, p. 42)

In the transition from handicraft to manufacturing and modern industry, the labor market in Sweden assumed a well-defined structural pattern. Thus, the development of relations between management and labor, or industrial relations, has been going on as long as there has been industry.

In the late nineteenth century, Sweden had few laws directed against the trade union movement or obstructing economic development. Both employers and employees began to establish a system of organizations that facilitated an increasingly collective regulation of working conditions by agreement, rather than legislation. Therefore, the government or Parliament was able to adopt a supportive role. The main trend that developed was to encourage collective bargaining and collective agreements to contain the range of open conflicts and to place instruments at the disposal of the social partners for the peaceful settlement of disputes (Edlund, 1986). The two major actors on the Swedish labor market, LO and SAF, were able to determine the parameters and future of the Swedish labor market as long as they did nothing illegal and did not harm the public, the third party.

Before 1900, there was a decentralized structure of companywide negotiations for wage bargaining, which had been established at the early stages of the organization of the labor market in Sweden. During the first decade of the twentieth century, trade union negotiations developed around a system of national collective agreements with employers.

Before World War I, the employers' organization representing industry pursued a policy of having the labor market regulated by overall agreement with the

trade union confederation, although there was no guarantee that the government would not intervene and attempt to regulate the labor market through legislation. Unlike France and Germany, large companies in Denmark and Norway followed the Swedish example. "The Scandinavian countries thus pursued the same trend as in Britain, using collective bargaining agreements rather than legislation of a socially controlling nature" (Schiller, 1991, p. 145). Therefore, the system of bargaining and solving labor conflicts is more than a century old and is well established in Sweden.

Technical and Organizational Change in the Manufacturing Sector

Early internationalization of the manufacturing industry assumed an important role in the development of the Swedish economy. As a small country, Sweden has a scant pool of labor and lacks a large domestic market, especially for industrial products sold abroad. This is the core economic sector, which is critical to economic development and expansion. Consequently, technical and organizational change has been a reality for Sweden, in order to continue to be competitive in demanding international markets. To facilitate change, investment in human capital has been an important component of the international competitive position of Swedish industry.

Other than adaptation to new technology and the need for skilled labor, relations between business and industry and the strong trade unions have been a challenging priority for leaders of the umbrella organizations. For a small country with limited capital and human resources, adaptation to the realities of a competitive international market required a great deal of discipline and long-term planning to

create healthy, stable, and cooperative labor market conditions and to meet often-violent and sudden swings in the international markets.

The shortage of skilled labor following mass emigration to America and the demand for Swedish industrial production in the world market created a need for skilled workers during the build-up of Sweden's large enterprises. This combination of demand and labor shortage forced management to recognize and come to terms early with collective bargaining. Thus, these factors related to Sweden's dependence on the external market for trade and capital, and the simultaneous expansion of Sweden's large companies based on technology and engineering, forged some of the unique aspects of Swedish industrial relations in the early years.

Economic Growth at the Turn of the Century

Between 1890 and 1893, Swedish exports were rising, with iron and steel dominating (Dahlgren et al., 1937). Between 1890 and 1910, Sweden was in the midst of the third period of economic acceleration and mature industrialization. "Agriculture and industry had both been export led, exports providing the broad market needed for scale and efficiency, whilst the development of sawmills and iron works generated the capital goods production which has served Sweden so well ever since" (Lawrence & Spybey, 1985, p. 8).

The depression in 1891-1893, following the agricultural recession of the 1880s and 1890s, when American grain flooded the European market, was not as deep in Sweden as in other industrialized countries. During the 1890s, there was an increase in home demand for light consumer products, at a time when production for the domestic market was sheltered due to an era of protectionism. Factories

started to produce consumer goods on a large scale, such as textiles, cotton ready-made clothing, and shoes. Then breweries appeared, and the production of beer, spirits, tobacco, sugar, and even bread and confectionery expanded.

There had been appreciable imports of capital between 1879 and 1890 (see Dahlgren et al., 1937), when the government invested heavily in education and communications. The third wave of capital from abroad, 1898-1910, marked the final period of capital import.

The age of innovation and inventions enabled Sweden to develop and profit from new technologies. There were significant new developments related to the three major Swedish natural resources--forests, iron, and water:

1. The sawn timber industry, which had grown since 1850, was being converted to the paper and pulp industry.

2. Metal trades, which were based on mining and processing of ore, going back to the thirteenth century, provided a technical framework and a highly skilled and inventive labor force for exploiting industrial inventions.

3. Water power could be used more effectively through the development of hydroelectric techniques.

Demographic and Structural Change

The supply of labor increased with the decline in the death rate. (Before industrialism offered employment to the rural proletariat, it was emigration that had provided an outlet for unemployment; the peak year was 1887, when 50,000 Swedes left the country.) The population continued to be scattered geographically due to the nature of the raw materials industries and the wide dispersion of ore resources in

central Sweden, as well as the work force associated with the large area of the northeast coast that covered the timber-working industry. All of these factors favored a low population density.

With an increase in industrialization, landless agricultural laborers moved into towns, but the Swedish towns were not as large and sprawling as those in other countries at the time. Swedish industry had avoided giant concentrations, which heightened misery in some other places. Instead, Sweden's industrialization was characterized by the emergence of numerous small manufacturing centers and a few industrial towns.

Most people had to adjust to working indoors in factories rather than outside in agricultural activities. At the same time, increased communications, such as the telephone; better transportation, including railroads and shipping; and the electrification of factories played a key role in creating an integrated national market. Also, during those dramatic economic times, Swedish industry was expanding internationally, particularly the new industries that had evolved based on raw materials.

An important question was whether the workers were getting a proportionate share of the increase in the Swedish national income. It seems that industrial wages did rise in accord with the upswing in national income.[9]

Despite the dispersed nature of the basic industries, iron and forestry, Swedish society became more urbanized as the industrialized work force increased with the expansion of the Swedish economy and the development of large firms. There was significant movement from rural to urban areas, which increased contact among people as the industrial market became increasingly integrated. The urban

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population increased from 10 percent in 1840, to 22 percent in 1900, to 29 percent in 1920 (or 45 percent if smaller settlements were included) (see Öhgren, 1977, p. 33).

Around 1900, Sweden had about five million inhabitants. Approximately two million people were engaged in paid employment, of whom 500,000 were female. More than half of the population worked in agriculture. About 25 percent worked in industry, and 5 percent each were employed in commerce, transportation, public administration, and domestic work (De Geer, 1992, p. 12).

Popular Movements

One of the remarkable features of nineteenth-century Swedish social history is the appearance of idealistic movements and associations that forced changes in society. All were part of the popular movements and a vision for a utopian society. The organization of labor sprang up from the mass-based popular movements, when social protest and a form of peaceful idealism emerged--from the mid-nineteenth century onwards. Popular movements *(folkrörelserna)* appeared at a time when economic resources of the masses were negligible. The popular movements consisted of three major divisions: (a) the Low and Free Church movement, recruited from the lower-middle strata; (b) the Temperance Movement, with a similar pattern; and (c) the large-scale workers' movement. The last, toward the end of the century, became the most important, contributing to the improvement of the growing working classes.

The popular movements occurred at a time when land reform had reorganized villages, and the country was being transformed from an agrarian to an

industrial society. People left the land and worked in industry. This pattern of change provided a social structure that was fertile ground for the growth of popular movements, i.e., organizations broadly supported by ordinary citizens with a democratic structure and an ideology often combined with cultural aims and protection of the material interests of the members. Idealism was a driving force within various organizations in the popular movements.

Associations were formed for politics, temperance, religion, popular education, and sports. People met in assembly halls throughout the country, where they discussed farming matters and listened to lectures. The halls and lodges opened up new horizons for common people, activities that had hitherto been denied to the majority, especially those in the rural areas. There were study circles, sewing circles, instruction in foreign languages, and lessons in how to organize a meeting and make presentations.

Related to the population doubling from 2,237,303 to 5,136,441 in the nineteenth century, new forms of social consciousness emerged through concentration of numbers and group interaction. These included dissenting religious sects such as Methodists and Baptists, who eventually broke with the established Lutheran state church, as well as temperance societies, local consumer cooperatives, unions, and new political parties.

The great mass of the Swedish population was provided with education, at first modest but then broader based following the Education Act of 1842. The introduction of compulsory instruction promoted reading, which was a significant development for the dissemination of information and ideas in sparsely populated Sweden in the nineteenth century. In this sense, the printed word and literacy, as

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well as efforts to educate the public, were important for personal communication and social mobility.

Women were permitted to attend universities in 1873; twenty-eight years earlier, they had been granted equal rights of inheritance. The Fredrika Bremer Association was founded in 1884, named after the advocate of women's emancipation; at that time, most women worked in agriculture.[10] Reforms and investments in education during the second half of the nineteenth century provided a firm basis for literacy and individual mobility in the industrial era. However, despite reforms and advances in education for the general public, the lower classes were slow to rise to self-consciousness. The popular movements of the nineteenth century, which often were organized by the middle class, had difficulty reaching the lowest strata of society.

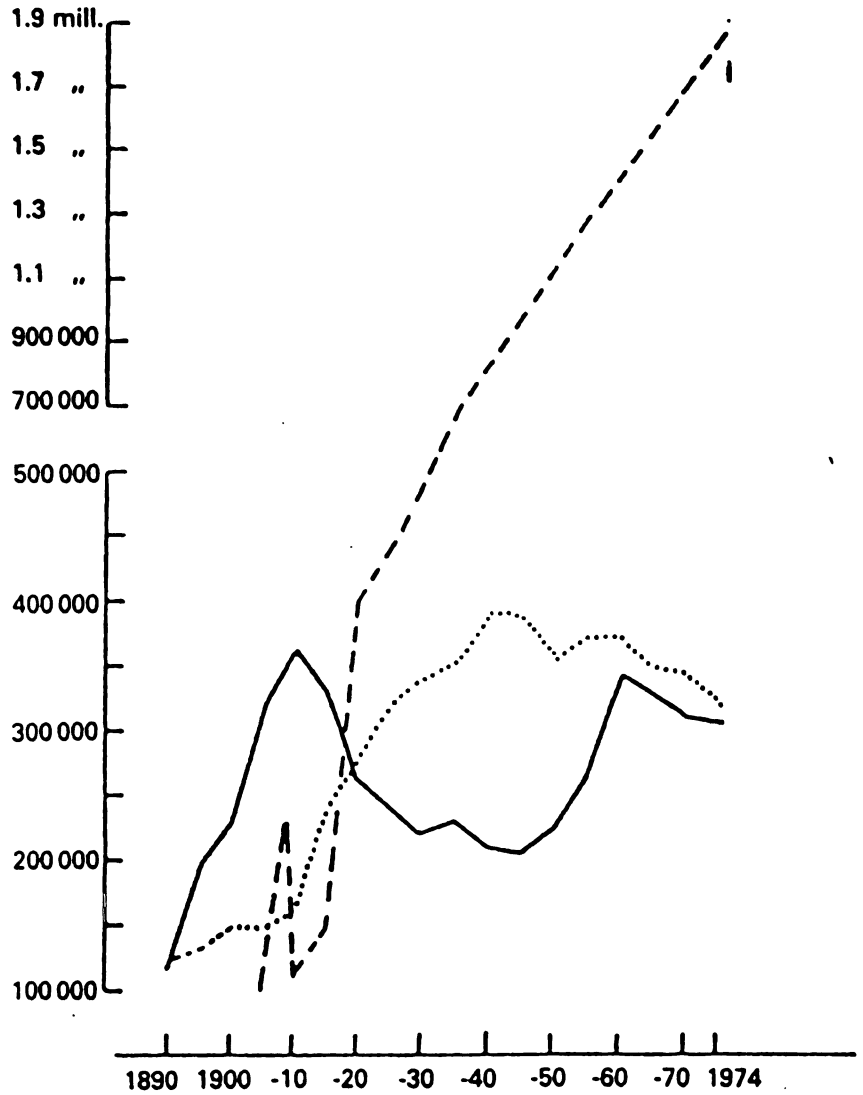
In the towns, living conditions were often poor, although not as wretched as in some other industrialized countries. Families were quite large, and there often was serious overcrowding and poor hygiene. Few towns in the nineteenth century had adequate and safe water and drainage systems; diseases were prevalent, and the masses dreaded tuberculosis. Moreover, working conditions were dangerous; in 1881 the Occupational Hazards Act was enacted to protect workers during a time of high accident rates.

In 1885, a Royal Commission investigating work hours discovered that the work day in mining and manufacturing was approximately eleven hours; twenty years later, it had been reduced by only one hour. Bad housing, malnutrition, and excessive work hours were powerful obstacles to the development of interests beyond the most immediate necessities of everyday life. Therefore, taking into

consideration the long work day and the general living conditions of workers during the time of rapid industrialization in Sweden, it is not surprising that there was not a great deal of organization and cooperation until the 1880s and 1890s. Eventually, the rise in wages and the general shortening of the work day precipitated great changes. At that juncture, the new Swedish proletariat had a short time to wait before the rise of international socialism, which would aid in improving their conditions.

The popular movements and industrial modernization were important to the spread of new values and prepared the masses for democracy. Also, with regard to political progress, the association halls and societies, with a vision for a new society, acted as the cradle of Swedish democracy. This served as a type of early training for political participation. However, although it was a time of profound change and opportunity, most people were not represented in the Riksdag, and they had little influence in other social and economic matters. In the 1880s, there were no formal political parties in the modern sense, although the conservative farmers had established their grouping in the Farmers' or Country Party, and eloquent liberals were heard in the Riksdag in Stockholm. Although the farmers were represented in Parliament, a property qualification or a tax prevented most rural and working people from seeking change through political means as they did not meet the income or land qualifications that would give them the right to vote.

Over time, the various Swedish associations developed into powerful popular movements. About 1900, 450,000 adults were engaged in popular movements (see Lundkvist, 1977). The growth of the popular movements is illustrated in Figure 5.1.



Key: - - - in labor unions affiliated with LO
___ in the temperance movement
. . . Free and Low Church movements

Fig. 5.1: Evolution of membership in the main popular movements, 1890-1974. The graph shows that the labor movement suffered a sharp but temporary decline with the failure of the general strike in 1909. After that, it increased dramatically. Not all unions were militant and successful.

Source: Öhngren (1980), p. 172.

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The goals of the various groups differed, but new demands evolved from the need for a structure for social reintegration in the new industrial urban population. Among the groups, organized labor (and purely political associations) played a decisive role in Sweden's sociopolitical transformation and economic development. According to American scholar Timothy Tilton (1974), it was socialism and the labor movement that helped spread modern ideas through Swedish society at the turn of the century. A combination of new interests, new activities, and economic change provided the background for a rise of the labor movement.

Labor Market Organizations at the Turn of the Century

Political Aspects of Trade Unionism--Sweden's First Political Party

In the midst of a changing economic environment catalyzed by increased industrialization, new factories, and an integration of markets, some trade union representatives met in Stockholm in 1889 and formed the Social Democratic Worker's Party (Socialdemokratiska Arbetarepartiet, SAP). There were 250 trade unions in the country at the time, and fifty joined the labor party at that stage (Lindgren, 1927). Thus, trade unionists made up a majority of party members when the Social Democratic Worker's Party was formed (Johnston, 1962).

The trade union movement and the Social Democratic Worker's Party functioned to some extent as a trade union confederation, as the Social Democrats had been the only central organization of the working class (Blake, 1960). Therefore, a close ideological system of organization was in place by the time the party was formed. But although the party was mainly interested in organizing the

whole of the working class, time revealed that craft and union problems required a separate and specific trade union system.

From its early stages, the labor movement placed heavy emphasis on education and information. Some trade unions evolved from workers' study groups, and workers' institutes were founded in different parts of the country. Further, unions received Social Democratic propaganda. (Karl Marx's *Communist Manifesto* had been available since 1848, and the Swedish labor movement developed its own press. Many leaders were journalists in trade circles, as well as in the Social Democratic Worker's Party.) Furthermore, some trade unions collectively enrolled their members in the party.

During Sweden's late industrialism, the population was widely scattered geographically due to the characteristics of the decentralized *bruk* and an absence of heavy industrial belts such as the Great Wens in England. Even though urbanization was on the rise, a prevalence of small local labor markets raised some problems concerning labor mobility and, eventually, flexibility in the economic structure.

Consequently, in 1898, SAP, together with the trade unions, formed a separate nationwide organization for union questions in response to a growing need for coordination among the rapidly forming nationals. This was the beginning of LO (LO, 1979). At that time, the distinctions between the political and trade union branches of the labor movement were far from being clearly defined.

Early Organization of Trade Unionism

It is difficult to trace the early rise of the trade union organization because trade unions proper often did not distinguish themselves from other kinds of labor organizations. According to a trade union historian, they differed little from those sickness-and-burial clubs that, in certain trades, took over some of the activities of the journeymen's societies (see Hansson, 1938; Linbom, 1938).

The first trade unions came about in the handicraft and printing industries, with their old traditions of association under the guild system. The honor of seniority goes to the Typographical Union, founded in 1846 and based on the British model of trade unions. It was merely a type of friendly society until 1872, when it took the initiative in a question of labor relations. Although this early action did not constitute a contractual agreement, it was a step toward a collective agreement.

Later, the bricklayers were able to get a few building contractors to sign written undertakings on minimum wages and piece rates during an 1869 strike in Stockholm over wage reductions. However, following their strike, the bricklayers group continued mainly as a sickness-benefit society.

Thereafter, in the 1870s, labor actions and the foundation for unions became more frequent. The first unions formed in that decade were organized among handicraft and skilled workers to deal with new economic developments during the breakthrough of industrialization at a time of increased railroad construction. Thus, craftsmen in urban areas were the basis for trade unionism because they did not have the welfare benefits of *bruk* workers.

The trade unions that were formed in the 1860s and 1870s focused on protecting the financial interests of members with insurance schemes, benefits, and

so on, rather than changing the structure of society. The unstructured and occasional associations foreshadowed the more firmly organized unions that sprang up in later decades when more workers were drawn together in factories where they established a community of interests.

In the unions' formative years, workers tended to join temperance or religious movements or even some associations linked to educational or political purposes. The first large labor conflict in Sweden, the strike in the Sundsvall sawmills at the end of the 1870s, had a religious sanction attached to it when laborers tried to open up negotiations with employers and later refused to move away for some days while camping out. At that time, workers instituted a divine service with some sectarian preachers. The strike indicated that a change was in the wind and that the workers were intent on pursuing their own aims.

During the 1879 Sundsvall strike and others, workers could be dealt with ruthlessly by military troops. Some were sacked and driven from their homes, and others were replaced by strike breakers. Labor actions during that era demonstrated that more than insurance schemes were needed to protect union members. Because of these developments, the year 1879 is considered to be the boundary for the modern era of industrial relations in Sweden.

For a long time, labor organization was of a casual character. Then in the 1880s there was a burst of trade union activity, and new tendencies spread gradually from old handicrafts to manufacturing industries and other trades. The trade union movement progressed from local organizations of workers within one craft, to the unification of local organizations, to national craft unions. The idea of unions finally emerged in the 1880s, when national unions took the lead and built up chains of

locals, subordinate to national unions. The first national craft unions were organized in 1886 for printing and postal workers.

In 1889 the Riksdag passed a law that, among other things, made it illegal to prevent strike breaking and consequently provided a weapon against the workers' efforts to organize themselves (this law remained in force until 1938). At the same time, the government appointed a committee to investigate the role of arbitration and conciliation in industrial relations. During that period, the trade union movement began a long struggle to protect its independence and resist any further attempts by authorities to interfere with its activities. However, at the time, it was not illegal to strike.

The moderate size of the Swedish labor market made it comparatively easy to build up the organizational structure on a national basis. In addition, workers were unified in the same religion, spoke one language, and most were Swedes by birth; further, all workers had a common background in agriculture. By the 1890s, national unions became the accepted method of organizing workers.

Table 5.2 illustrates the development of the local trade unions into a national union federation based on craft.

Social Democrats and Trade Unionism

The first attempt to provide contact among unions in one place was made in 1883, when a central committee of different trades was formed in Stockholm to direct political and industrial issues. Soon the committee became involved in the rising Social Democratic political movement. Social Democrats took the initiative to organize groups of workers outside the jurisdictions covered by the existing

Table 5.2

Development of Local Trade Unions Into a National Union Federation

Craft Union	Swedish Name	Date Established
Typesetters	*typografförbundet*	1886
Postal employees	*postmannaförbundet*	1886
Painters	*Målarförbundet*	1897
Shoe and leatherworkers	*sko och läderindustriarbetareförbundet*	1888
Metal workers	*metallindustriarbetareförbundet*	1888
Woodworkers	*träindustriarbetareförbundet*	1889
Clothing workers	*beklädnadsarbetareförbundet*	1889
Construction workers	*byggnadsträarbetareförbundet*	1889
Masons	*murareförbundet*	1890
Unskilled & factory workers	*grov och farbiksarbetareförbundet*	1891
Tin and sheet metal workers	*bleck och plåtslagareförbundet*	1893
Bookbinders	*bokbindareförbundet*	1893
Foundry workers	*gjutareförbundet*	1893
Saddle & upholstery	*sadelmakare o tapetsareförbundet*	1894
Mining workers	*gruvindustriarbetareförbundet*	1895
Grocery workers	*livsmedelsarbetareförbundet*	1896
United union	*de förenade förbunden*	1897
Quarry workers	*stenindustriarbetareförbundet*	1897
Sawmill workers	*sågverksindustriarbetareförbundet*	1897
Transportation workers	*transportarbetareförbundet*	1897
Textile workers	*textilarbetareförbundet*	1898
Railway workers	*järnvägsmannaförbundet*	1899

Source: SAF (1990), p. 1.

national organizations, as well. Industrial growth, along with rapid changes in production methods in the 1890s, focused more attention on the need for a central organization and perhaps hastened the process to convert the traditional unions (Johnston, 1962).

Social Democratic politicians sensed a need for a central confederation of organized labor in changing times. At the second party convention in 1891 (SAP formed in 1889), special interest was expressed in the organization of farm workers. During their third convention in 1894, the focus was on the organization of workers in sawmills and iron mines. At that time the forest industry was focusing on the production of paper and pulp products. The iron industry was in a new phase of specialization and was important to the build-up of the engineering and machinery industries.

By 1897, twenty-three national unions were in existence. Several had grown to considerable proportions, among them the Metal Workers, Carpenters, Laborers, Transport Workers, Stone Cutters, and Masons, each with several thousand members. Some unions had grown strong financially and were able to exercise significant control over their locals. Although the executives of a number of nationals had cooperated since 1892, interunion connections were notoriously weak (Blake, 1960). The organizational structure of the union movement was based on an autonomous, vertical form conditioned by the necessity of meeting the employers on an industrial front, often with a national scope. This structure resulted in ineffective coordination in conflicts with employers in the period before World War I. (According to SAF documents, employers did not want numerous agreements on a local level

for different crafts. Instead, they wanted to have industrywide agreements, as will be discussed later.)

Part of the weakness was due to the craft-oriented structure of many national unions in factory industry. During a business upswing in the mid-1890s, there was a drive for centralization of authority in the national headquarters of the major unions. This was the motivation for effective action vis-à-vis the employers. The pattern for a central authority was similar; it included increasing dues, building up strike funds, and making local union by-laws uniform (see Norgren, 1941, Chapter III, for a discussion of the transition to industrial unionism following the strike of 1909).

The Swedish Trade Union Confederation (LO)

As a result of heightened interest in organizing workers in a structured way, the Social Democratic Party's executive committee acted as the forerunner for the central confederation of trade unions, LO, which was later founded in 1898. During a decade of industrial strife in the 1890s *(stridåren)*, the Central Committee decided that the time was ripe for centralization of the separate national unions (Hallendorff, 1927). At the Scandinavian Labor Congress held in Stockholm in 1897, SAP officials drew up a preliminary draft for a trade union center, worked out by Ernst Blomberg and Herman Lindqvist. By that time, they recognized a need for a trade union confederation that would coordinate the work of the national unions and be separate from the workers' party.

The Social Democratic Party authorized the unions to collaborate on union matters with the cooperation of the party. Having a trade union center made it

necessary to develop a mutually satisfactory relationship between the two central organizations of the labor movement (Blake, 1960). "In 1898, SAP together with the trade unions formed a separate nationwide organization for union questions, and this was the beginning of LO" (LO, 1979, p. 8).

At the trade unions' congress in Stockholm on August 5-7, 1898, it was decided to form the Swedish Confederation of Trade Unions. (For the early activities of LO, see Hansson, 1923.) That year, the national organizations merged into LO (SAF, 1990). LO's constitution set out the purpose and duties of the new central organization, but no great powers initially were assigned to this central organization, and the national unions retained most of their sovereignty. It was not until the following April that LO set up its administrative apparatus in Stockholm. At the time, it was not a monopsony because the Swedish Workers' Union (1899-1915) competed with LO for a while to organize labor into a national organization for religious workers.

Compulsory Affiliation

In the summer of 1898, the Social Democratic Party headquarters initiated a propaganda campaign in favor of compulsory affiliation of the unions with the party. When LO was established in 1898, it was decided that within three years all unions in the confederation would be affiliated with SAP.[11]

The clause about compulsory affiliation with the political party had been adopted at the party convention in 1897, originating with the Metal Workers. However, the union leaders changed their minds. The following summer, in June 1898, Ernst Blomberg, the Metal Workers president, wrote that it would be

"unnecessary" to demand immediate affiliation because workers would only, as "their insight deepens," go to the Social Democratic Party for political leadership (in the June 1898 issue of *Järnarbetaren* [Iron Workers], a trade union journal for metal workers). Although Blomberg pointed toward an obvious political inclination for workers, considering the alternatives, the clause about obligatory collective affiliation turned out to be a more complex and controversial issue than anticipated.

At the LO congress in 1898, the clause in favor of compulsion was warmly debated. The final proposal accepted by the convention required local-union affiliation with the Social Democratic Party within three years after affiliation with LO.[12] The most outspoken leaders opposed to compulsion included Ernst Blomberg of the Metal Workers, Charles Lindley of the Transport Workers, Herman Lindqvist from the Carpenters, and Nils Persson from the Masons. Others opposing the clause included the typographers and textile workers. Most union delegates followed the lead of their executive officers. The convention approved a constitution stipulating that the executive board, called the secretariat of LO, would consist of five members. Two of the five were to be appointees of the Social Democratic Party executive.

Fredrik Sterky, elected the first president of LO at the 1898 convention, was neither a manual worker nor a union member. Before becoming president, Sterky had left Stockholm and founded the socialist paper *Ny Tid* in Gothenburg, which he edited until 1898. Just before he was selected to head up LO, Sterky had taken over the post of business manager for *Arbetet,* the socialist daily in Malmö in the south of Sweden.[13] Sterky was a party leader who had been prominent in Stockholm in the 1880s as a journalist and a member of the *Socialdemokraten* editorial staff. He

contributed to Sweden's developing knowledge about international labor movements when, in 1895, he translated Webb's *History of Trade Unionism* into Swedish. At that time, knowledge of English unionism was apparently fairly widespread due to direct contact among the leaders and union literature that had been translated.

When Sterky died in 1900, he was succeeded by LO's vice-president, Herman Lindqvist, from the Carpenters union.[14] That same year, LO removed the compulsory-affiliation clause. Hjalmar Branting, a leading Social Democrat, proposed that one of the aims should be to work for the affiliation of each trade union with the local party organization and to the national party. Thus, after a brief interlude, the two formal links that connected the party and LO had been severed. No apparent reason has surfaced for abandoning the compulsory affiliation, although it must have made some socialists uneasy. At that time, the Social Democrats were pushing for a broadening of the franchise and democracy (with the aid of another small political party, the liberals in the Riksdag). LO and the party were linked in the struggle for suffrage and the eight-hour day, among other things.[15]

After a rather low beginning, partly because of the complicated party-affiliation issue, LO had twenty-one member unions and 43,500 members by the end of 1900. It was firmly established as a central focus for trade unionism in Sweden (Johnston, 1962). The central organization, LO, gained strength as Swedish laborers increasingly worked in new factories and industries.

LO did not operate as an effective centralized negotiating body for the trade union movement until the SAF was formed in 1902 in Stockholm. As illustrated in Table 5.3, there was strong growth in union membership from 1902 to 1904.

Table 5.3

Growth of the Swedish Trade Union Confederation (LO), 1899 to 1910

Year	Number of Organizations	Number of Associations	Number of Members
1899, July 1	16	664	37,500
1900, end	21	787	43,500
1902	24	797	39,500
1904	30	1,172	81,700
1906	30	1,726	144,400
1908	28	2,172	162,400
1909[16]	27	1,829	108,000
1910	27	1,576	85,200

Source: Hallendorff (1927), p. 15.

Following confederation, there were more possibilities for workers to assemble than before. In 1904, a central meeting place, the People's House or *Folkets Hus,* was created. It was located a block from LO's national headquarters in the center of Stockholm. Previously, during the formative years, workers' organizations were not permitted to use public buildings; thus, workers frequently were obliged to hold meetings in the open, outdoors. In addition, frequent strikes increased contact among workers and contributed to the growth of LO.

Conflict in the Swedish Labor Market: 1863 to 1909

Even though the Social Democratic Party leaders tried to mediate conflict and prevent collective demonstrations of labor unrest, the labor market trend pointed

toward an escalation of conflicts. The results of 748 work stoppages of the 1,454 known to have occurred between 1863 and 1902 are shown in Table 5.4.

Table 5.4

Results of Total Work Stoppages From 1863 to 1902

Result	1863 -69	1870 -74	1875 -79	1880 -84	1885 -89	1890 -94	1895 -99	1900 -02	Total
Lockout	4	8	6	3	26	41	39	24	152
Worker's strike	2	3	-	2	29	74	150	93	353
Compromise	-	6	2	6	16	29	102	82	243
Total	7	17	8	11	71	144	291	199	748

Source: *Arbetsstatistik* (1909).

The early years of labor market organization were not conducive to negotiations and collective bargaining. Conflicts became more costly and embraced more people. From 1890 to 1901, a total of 22,300 workers were involved in sixteen labor conflicts. The trend was inevitable as the number of people in the labor market was larger, and more of them were laborers than before.

The 1890s were not good times for employers and workers to settle difficulties. Between 1886 and 1902, more than thirty significant strikes occurred per year. In 1896, about a hundred strikes took place, with 5 to 10,000 workers *(Arbetsstatistik,* 1909, p. 328). Often the victory went to the workers' side, or else the dispute resulted in a compromise. Table 5.5 shows the results of the conflicts that occurred from 1890 to 1901.

Management would not totally go against workers because those in power and the general public would not support such action. In the 1890s, the trend

seemed to be more conflicts about wages and other issues. When labor conflict erupted again in Sundsvall in 1899 (the Norrland strike), it seemed likely it would not be the last. For many private employers who were stuck between granting higher wages or undergoing a strike, often there was no other choice than to "ride out the storm" (Hallendorff, 1927, p. 11). Therefore, at the turn of the twentieth century, employers had to find another strategy to deter increasing conflict in the labor market at a time when Swedish industry was expanding and the need for skilled workers created competition among employers.

Table 5.5

Labor Market Conflicts, 1890 to 1901

Result	Number of Large Conflicts (1890-1901)	Total Workers
Employer's conditions	4	4,400
Workers	5	6,200
Compromise	7	11,700
Total	16	22,300

Note: Sundsvall was not counted in these statistics.

Source: SAF (1927), p. 18.

On April 25, 1899, Harald Hjärnes, a historian who became one of the foremost ideologists for the conservative camp, argued in a lecture at Uppsala that employers would be better served by establishing an organization of their own rather than devoting all of their energies to combating trade unions alone (see Hallendorff, 1927, p. 13). The torrid environment had reached a point where "consolidation had to be met with <u>another</u> consolidation" (Hallendorff, 1927, p. 13).

The Employers' Organization, SAF

Solutions were needed to determine the shape and future developments of the Swedish labor market. Would it be through legal activity in the form of labor market legislation imposed by the government, or would they maintain a position of independence? Evidence of increased conflict in the labor market encouraged employers to consolidate in an effort to defend themselves against LO and seek a means to blaze an independent path. Employers' organizations in Sweden were formed as a defense mechanism against trade unionism. Within four years of national trade union consolidation in LO, directors of private industry joined forces and sought a "practical possibility" to solve shared dilemmas.

Heeding Hjärnes's advice, small groups of initiators led the way for employers representing private industry to form the Swedish Employers' Confederation (SAF) in Stockholm in 1902. In contrast to LO, which was organized as a rather loose organization of trade unions with a good deal of local activity and some financial constraints, SAF was a more highly centralized and coordinated body with an innovative financial basis. At an early stage, the employers grasped what SAF's objectives had to be, although the early years provided a valuable learning process. SAF and LO were establishing the groundwork for their future relationships at the same time that the modern political parties were developing. The future of political developments in Sweden at the turn of the century was unknown.

Conclusions

This chapter focused on the early experiences of trade unionism and the founding of LO in 1898. Early in the first decade of the twentieth century, the parameters of the Swedish labor market were established. Both workers and employers merged separate groups to form organizations to protect their constituencies.

During the early decades of industrialism, the break from regulated markets of the past did not exhibit many characteristics of change. But as industrialism progressed, rapid social and economic change took place. New attitudes developed, although change did not come easily. Tradition was an important factor in work organization and work relationships. As the labor market became organized, by the 1890s, there was more discontent among workers and more strikes.

Skilled labor had organized from local craft groups into national organizations at the same time that Sweden's future multinational enterprises were expanding and seeking their niche in the international market. At that time, there were more urban Swedes than ever before; they were literate and had access to higher levels of education. Most people were used to belonging to associations and attending meetings. As a result, it did not take long to develop an organized work force with industrial skills. However, skilled workers were scarce in Sweden when they were needed in manufacturing industries for the international market.

The establishment of the umbrella organizations, LO and SAF, was the first step toward providing a forum with the possibility of settling wage and work-condition issues through collective agreement rather than legislation. Labor and management

had to develop their own approaches to seeking stability within the Swedish context. As conflict increased, so did the risk of governmental intervention, which would threaten the autonomy the two groups desired. As we shall see in the next chapter, the early years of SAF provided useful learning experiences, leading up to a hallmark of Swedish industrial relations, the December Compromise.

Endnotes

1. In the 1930s, industrial relations changed from conflict to cooperation. Schiller (1977) stated that

> Industrial democracy is an integral part of the study of relations between capital and labor and the role of the state in those relations. Here the term industrial democracy will be used to mean both worker participation in decision making (sometimes referred to as workplace democracy) and sharing in the company's capital or profit or both (sometimes referred to as economic democracy). The two aspects are related to each other, particularly in Scandinavia. The trade union struggle to democratize the work place has historically been directed toward restricting the employer's prerogatives to hire and fire and to direct the work progress. Its aim has been to increase employment security and to obtain influence on management. Influence could mean the right to be consulted or to take part in decisions. (p. 63)

2. As explained before, capital from abroad had been imported to finance much of the infrastructure, thus freeing up the domestic supply of capital.

3. In the early stages, it was mechanization; then, within the last decades, it has been increased automation.

4. This was in stark contrast to the United States, where there has been an orientation for escape through diversification, according to Porter et al. (1991).

5. According to historian Bernt Schiller (1991), "This [unionization] always happens first in crafts, where the gap between master and apprentices was traditionally small" (p. 145).

6. The organizational structure soon changed to what is known as the "industrial union principle," which resulted in a swift growth of membership in the Swedish Trade Union Confederation in the first decades of the twentieth century. Thus, the unions gained ground through the new industries, not by crafts (Olsen, 1984, p. 172). According to archival records at SAF, this did not occur until 1909.

7. See Hallendorff (1927) for the complex web of embryonic employer associations.

8. For more on the development of the central trade union in Sweden, see Swedish Trade Union Confederation (1979).

9. Regarding wage structure and development, it seems that industrial wages moved in line with the upswing in national income. This was the conclusion reached by Arthur Montgomery, an economic historian at the University of Stockholm and author of one of the few comprehensive accounts of Sweden's early industrial development. The problem of pre-World War I influence on wage development by the unions remains rather obscure, and unemployment statistics on prewar times are defective, which does not give a clear insight into the state of the market. Over the whole period of industrialization in Sweden, the benefit of increases in wages most likely was achieved by those involved in industry other than agriculture. Both manufacturing and agricultural wages were rising during the fifty-odd years between 1860 and 1913, according to investigations undertaken by the Institute for Social Sciences of Stockholm University. "Between the periods 1860-1864 and 1910-1913 . . . the annual earnings in manufacturing and mining rose by 195 percent while the agricultural day rates rose barely 155 percent" (Bagge, Lundberg, & Svennilson, 1933, p. 303). At that time, allowances had to be made for payments in kind, and so on, and until 1910 there were only estimates for agriculture, the dominant economic activity of the Swedish people at that time.

10. It was not until after universal and equal suffrage was legislated in 1919 that women were permitted to enter civil service–in 1923. At that time, the largest professional group of women in the labor force was teachers.

11. Labor unions had collectively enrolled their members in the party. Between 1895 and 1899, local unions made up 90 to 96 percent of all the organizations affiliated with SAP, and affiliated unions made up between 95 and 97 percent of all SAP members. Collectively affiliated unions made up between 95 and 97 percent of all party members.

12. The vote was partially reported in *Socialdemokraten,* 9 August 1989; Labor Movement Archive, Stockholm.

13. Sterky's election was reported in the newspapers *Socialdemokraten* in Stockholm, *Arbetet* in Malmö, and *Ny Tid* in Gothenburg; also see Sjöberg, 1942, pp. 81-135.

14. LO's chairmen include Fredrik Sterky, journalist, civil servant, and office manager, 1898; Herman Lindqvist, a cabinetmaker, 1900-1920; Arvid Thornberg, a joiner, 1920-1930; Edvard Johansson, shoemaker, 1930-1936; Albert Forslund, a railway worker, 1936; August Lindberg, a sawmill worker, 1936-1946; Gunnar Andersson, a metal worker, 1946; Axel Strand, a cabinetmaker, 1947-1956; and Arne Greijer, a metal worker, 1956-.

15. Contemporary LO documents reveal a much larger scope, more combative in nature and tone:

> Thanks to a strong political party [SAP] and a strong trade union organization, the Swedish labor movement has been able to combat effectively the interests for which the *bourgeoisie* and the capitalist employers stand. A strong and united labor movement is necessary in the light of the strength of its opponents. LO and SAP fight for the same goal but on two different fronts. Solidarity is a particularly important concept for the Swedish labor movement. Both within the trade union sector of the movement and in the Social Democratic Party itself, this means the continuing effort to achieve greater justice and equality for all. (LO, 1979, p. 5)

16. Trade unionism suffered a severe setback with the General Strike in 1909, which resulted in a backslide in membership. According to archival documents, because of Sweden's rather late urbanization and industrialization, it was decided in 1909 that labor would be organized around new industries and not by crafts–the industrial union principle or *industriförbundsprincipen* (SAF, 1967). After 1909, industrywide trade unions were to make up most of the membership of the Social Democratic Party. See Olsen (1984), p. 172.

CHAPTER VI

THE EMPLOYERS UNITE: THE SWEDISH EMPLOYERS' CONFEDERATION, 1902

Introduction

This chapter is an investigation of the formative period of the Swedish Employers' Confederation (Svenska Arbetsgivareföreningen, SAF), the umbrella organization representing management and privately owned enterprises in Sweden. It considers the early years, based on archival records. Also examined are efforts to establish guiding visions and principles for the organization of the Swedish labor market following some years of increased labor conflict and the organization of trade unions into an umbrella group representing manual workers (LO). Pragmatic attitudes eventually contributed to SAF's strength in assuming a dominant position in the private-sector labor market.

The present activities of SAF and the role it now plays in Swedish society differ in several respects from what they were when the Confederation was founded. At that time, conflicts were the order of the day, and the main task of SAF was to indemnify employers for their losses and to settle disputes. In due course, however, SAF came to concern itself largely with the business of negotiation. Today its main tasks are to negotiate, promote the interest of business, and provide service for members.

To become a co-owner of SAF, a company must join one or more of the thirty-six employer associations that are responsible for labor market agreements within the company's field of activity. In principle, each association represents one branch of industry. LO is organized in a corresponding fashion. All employees working in a given branch of industry belong to the same trade union, whatever their individual trades may be. This is known as the industrial union principle.

Today, SAF, with its 40,000 member companies, is the largest employer organization within the private sector (SAF, 1981, p. 8).[1] The bulk of Sweden's industrial enterprises in commerce, building, civil engineering, manual trades, transport, and other service activities are affiliated with SAF. About 1.2 million employees work for SAF companies--about 30 percent of the more than four million gainfully employed people in Sweden.

In Sweden, both employers and employees are organized to a high degree (this is true of both the private and public sectors of the labor market). In 1981, about 70 percent of all white-collar employees were union members. Moreover, almost 90 percent of manual workers were union members--primarily in LO, which had approximately two million members.

In matters of primary importance governing the relations between management and labor, the right of decision on the part of workers rests with the trade union federation concerned, and on the part of employers it rests with SAF. The employers' organization was founded in 1902 as a counterbalance to LO, founded in 1898 in Stockholm, which embraced manual workers.

In 1903, SAF established the organization's headquarters in Stockholm. Two years later, SAF and LO reached an agreement based on some form of concession

with the trade unions represented by LO. That agreement was the December Compromise of 1906, a cornerstone of Swedish industrial relations. Collective bargaining came by degrees and increased in scope, and was adopted as the usual form of negotiations between employers and workers in the manufacturing, mining, and transportation industries.

These umbrella organizations, LO and SAF, became known as the "social partners" in the Swedish spectrum, establishing policies and shaping future relations between management and labor and directions for economic growth. These two powerful groups assumed the role of establishing the norms and structure of the Swedish labor market from the time Sweden was becoming increasingly industrialized until World War I.

Collective Agreements--Collective Bargaining

Powerful organizations formed by workers led employers to take countermeasures. The Norrland conflict of 1899 and further labor unrest in the first few years of the twentieth century indicated that there was a need for an organization for employers to counter LO. A broad cross-section of management would be represented in a single definitive national umbrella organization.

> Management organizations were thus established in various branches of industry for the sole purpose of protecting the interests of the affiliated employers vis-à-vis the laborers in their employ. The first of the more important organizations of this nature in Big Industry was the Swedish Mechanical Workshops Association, established in 1896. (SAF, 1947, p. 20)

Employer organizations from various regions in Sweden spearheaded consolidation, drawing together separate organizations representing management. After some unsuccessful attempts, a few separate employers' organizations

including some from major independent industrial concerns in various parts of Sweden representing different industries joined a central organization known as SAF, in 1902. It was not until 1917, however, that the Mechanical Workshops Association became a member of SAF. This important group is known as the Metal Trades Employers' Association (Verkstadsföreningen, VF).

In contrast to LO, SAF has not been affiliated with any of the bourgeois political parties of its time (known later as the Moderates, Liberals, and Center parties--conservatives, liberals, and agrarians, respectively). However, SAF members probably were not members of the Social Democratic Party, which represented the needs of the growing working class.

Although the early era of labor market organization exhibited high levels of industrial strife, an important characteristic of early development was the absence of government intervention to regulate industrial activity. Key to this development was the free and unbounded way in which Swedish trade and labor organizations were able to pursue their principal mission, which was to negotiate wage agreements through collective bargaining or open conflict.

From the initial stages of trade unionization and the foundation of SAF, the stop-work threat, in the form of a strike or lockout, and the realization of that threat, has been the driving force for the contesting parties to have their various demands satisfied through collective bargaining. Collective bargaining is the process by which a group of employees' terms and conditions of employment are negotiated on their behalf by their representatives. These representatives may conduct negotiations with a single employer or manager or with a representative of a number of employers, including industrial employers' organizations.

Collective bargaining between union representatives and management spokespersons is essentially a conflict situation, the ultimate objective of which is to arrive at a workable agreement. The agreement itself, which spells out specific understandings on various issues, such as wages, fringe benefits, training, seniority, and so on, frequently has a fixed time limit during which the parties apply the provisions and assess their adequacy.

Agreements generally are arrived at in the spirit of compromise to accommodate different interests. However, provisions often are made for the orderly settlement of differences during the life of the agreement. Management and labor use the mechanism of collective bargaining to devise ways to meet the problems arising from changes in technology (International Labor Office, 1972). The parties involved--in this case, the two central organizations, SAF and LO--arrive at a collective agreement for their constituents.

The foundation for rules governing the development of industrial relations, collective bargaining[2] for instance, was laid in the 1920s and following World War II. This resulted in a labor peace record that is among the best in the Western world (see SAF, 1987, for more information). From the Great Depression until the 1960s, the labor movement increasingly turned to cooperation with employers. Thereafter, negotiated agreements between management and labor established a foundation of labor peace and industrial prosperity based on international markets.

In Sweden, there was an early acceptance of collective bargaining in the international context with regard to the acceptance of workers' rights of association and the concept of labor-management cooperation. However, the terms often were not equitable (Schiller, 1991). Recognition of association that was based on the

signing of agreements with workers implied a recognition of democracy, which allowed for organized workers to participate in setting wages and working hours and eventually to determine other working conditions. At first, the agreements were concluded at the local level; they proceeded to the national level within a few years.

Except for occasional brief periods of recession, both SAF and LO grew rapidly both in numbers of members and influence following the December Compromise of 1906. The scope of SAF, measured by the number of workers employed by its various members, expanded from 20,000 workers in 1902, to 65,000 in 1906, 127,000 in 1907, and 154,000 in 1908 (SAF, 1947).

Labor Unrest and Uncertainty--The Early Years

The period during which LO was consolidating trade unions into a central body (1898) and SAF was founded (1902) was one of formative experiences that determined how labor and management would unfold the Swedish form of industrial relations. The extent of labor conflicts fluctuated with changes in the economic situation. In the early days, when the organizations were still young and inexperienced, relations between management and labor were characterized by extensive and bitter disputes (SAF, 1947). Moreover, economic and political conditions were such as to foster among the working class a will to fight for a better position within the community. Disagreements about wages and bitter disputes led to strikes and lockouts in the first decade of the twentieth century.

There had been an upward trend in the Swedish economy during the development of an industrial state in Sweden, from 1866 to 1914. Despite this, there were also many fluctuations, as more Swedish workers were organized into trade

unions and labor became more powerful. Consequently, they were less willing to accept an automatic worsening of employment conditions whenever a recession loomed. The period between 1906 and the end of World War I was one of considerable political and labor market turmoil. By 1907, industrial production surpassed the value of agricultural production for the first time.

Following the December Compromise between LO and SAF in 1906, a period of bitter relations ensued. SAF developed the large-scale lockout, culminating in the General Strike of 1909. There was a period of instability leading up to the war. The challenge facing leadership in organizing Swedish industry and industrial relations at the time that industry was expanding indicated that it was incumbent on them to come to terms with a strategy and structure for the future.

Future developments in the Swedish labor market would depend on a relative sum of accumulating experiences following the tribulations of the formative period. Compromise in the labor market became more apparent over time, but it was not accepted without a struggle. Both labor and management had to impose strong discipline to guide their own course without interference from those outside the sphere of industrial life, those lacking industrial experience.

The formative years and the interwar years were times of considerable industrial strife and a testing ground for adversaries to come to terms. Swedish industry was becoming more active in international markets, and big business was becoming an important player in the Swedish economy. History professor Bernt Schiller (1977) referred to these years as "years of crisis" during the "conflict phase" of relationships between capital and labor leading up to the 1930s.

The Formative Period of SAF

The Political Strike of 1902

A large political strike provided strong motivation for employers to consolidate their efforts. Four years after it was founded, LO was involved in a three-day political strike to illustrate how serious the labor movement was about its demands for universal and equal suffrage.[3] The large strike was an attempt to mobilize organized workers for political purposes and to demonstrate to the authorities, the king and the Riksdag, the need for movement on the suffrage issue (Hallendorff, 1927). At that point, leaders summoned agitation and set an emphasis on achieving suffrage reform soon. Liberals as well as Social Democrats agitated for reform on the franchise (Tingsten, 1941).

At a Social Democratic Congress in Malmö, which was held in connection with the Scandinavian Workers' Congress in Copenhagen, a decision was made for a general public strike to be funded out of daily wages and a special strike fund. This idea got a cool reception from the workers in the countryside, but the leaders had engaged themselves and were committed, and they decided to go forward when the Riksdag was still in session, in 1902, in Stockholm.

The strike was conveniently held on May 15 and 16, a Thursday and Friday before Pentecost *(Pingst),* which was a holiday weekend. The last day of the three-day strike *(pingsaftonen)* would be the final strike day, followed by the *Pingst* holiday on Sunday. The strike consisted of 84,000 workers; 2,284 work establishments were represented (Hallendorff, 1927, p. 19). The action engendered a strong response.

The power of direct action in the form of a strike acted as a magnet for sympathizers, who joined in to create large numbers of participants. Train and taxi (carriage) traffic was held up, as was the publication of the daily newspapers. In this respect it was a motivation for industrialists to consolidate in the face of demands for reform by labor, represented at that time by the Social Democratic Party and LO, and apparently the public at large.

The strike followed a decision on defense reform in 1901, related to the restricted franchise of "one man, one gun, one vote." This reflected the demand for abolition of *indelningsverket,* an army organization in which the soldiers were given small holdings to live on, similar to the Scottish Glebe system. The old defense system had moved toward modernization in an effort to replace the old army organization with a larger and better-trained National Service army. A compromise decision was reached in 1873, but it was not settled until 1892. The Defense Reform of 1901 introduced a purely conscriptive army with a call-up period of 240 days (Andersson & Weibull, 1985).

The Employers React

The strike was met with an immediate answer in the form of a lockout by employers nationwide. According to a large group of managers at industrial firms, the direct action implied that the question of strikes could go to the political arena and open up a perspective of legislation--an administration of the labor market that had nothing in common with industrial work life. The strike was held before the employers came together as a formal group. However, the political strike made a big impression on the development of Swedish industrial relations and economic

development. It was considered a "real watershed" because it highlighted the strength and unity of labor and demonstrated to the as-yet splintered and noncentralized employers' association the need to join in an umbrella organization.

The strike preceded and acted as a catalyst for the organization of SAF. Reflections about the implications of the strike were later recorded in SAF documents. According to those documents, management regarded the strike as a bit too above and outside the law (Hallendorff, 1927, p. 19). The documents also indicated that the strike was not completely understood by those directly involved, due to political propaganda and other pressures.

Most important, the 1902 strike was the **event**, not the cause, of employers' joining together in a central organization. Representatives of private business had to ask themselves what course they would undertake to steer a motor organization. The political strike was considered to be a learning situation for SAF. After the employers organized into a central body in the autumn of 1902, they looked back on the event as a "rich experience." In the meantime, Swedish employers were fully aware that employer consolidation was going on concurrently in other countries (Hallendorff, 1927).

Employer Consolidation in Other Countries: The International Context

At the same time as SAF made its entrance in Sweden, employers were combining forces in other industrial countries, as well. Industrial development internationally experienced its share of strikes in the early stages of development. England's trade unions had been a front-runner for similar organizations of trade unions in other countries, and the British trade unionists used the weapon of the

strike. Thus, there was some precedent about using the strike as a weapon in industrial relations.

Employers reacted by forming organizations of their own to defend their prerogatives. There were a variety of different types of organizations in other countries when Swedish employers consolidated into SAF in 1902. However, compared to Britain, workers and employers in the Scandinavian countries became more systematically organized. Britain did not implement the tool of strike insurance until World War I.

In Austria, Switzerland, and Germany, the labor organizations were ten years older than the employer organizations in those countries. In Germany, an attempt had been made to form a defense organization of employers as early as the 1870s. By 1910, all three countries had common employer organizations representing business.

In France, there was an individualistic and splintered workers' movement, which was similar to that in Belgium. That is, in both countries, there were too many factions on labor's side for employers to respond and join in a large central organization.

In other international developments, the boycott movement in 1902 led to a special Anti-boycott Association in North America (Bonnett, 1922). Because of the war in Japan, every workers' movement was brutally put down, which meant that there would be no employer organization in reaction. In Australia, in 1885, employers had already been successful in opposing the powerful workers' movement (Hallendorff, 1927).

Employers' Organization in Denmark--The Prototype

The development of the labor movement was somewhat similar in the other Nordic countries, Norway and Denmark.[4] They are all small countries having a homogeneous population with one religion, speaking one common language, whose class differences are not that large. Further, all Scandinavian countries are dependent on exports. Because of these similarities, there has been some discussion of the Scandinavian or Nordic Model, but the historical antecedents differ considerably.

Internationally, the Danish model was the most important influence on the development of labor market organization and to some extent managerial attitudes for SAF. Nevertheless, even though there were similarities between the Swedish and Danish labor movements, there were also some differences.

The Swedish labor movement became one of the strongest in Europe in the twentieth century. It was inspired by the Danish labor movement, the oldest in the North, in which there was a nonradicalization of the working class. The development of trade unionism and a central workers' organization, as well as a central organization for employers, happened earlier in Denmark than in Sweden. Also, Sweden was the only Scandinavian country with a strong raw-materials base that became an international industrial power.

The Danes

The development of a nonradical approach to labor market development in Denmark influenced a similar development in Sweden. In Denmark, the workers organized into a central organization twelve years before their Swedish counterparts.

In 1886, a central trade union organization was formed by Copenhagen trade unions, which subsequently were joined by others in the provinces.

According to the chronicles of SAF, the Danish employers' organization had a strong influence on Swedish organizational structure and methods. Because of Sweden's different industrial history, however, development there occurred later (Hallendorff, 1927, pp. 22-23).

The Danish influence was not restricted to trade unionism; the central Danish employers' organization also had a strong influence in Sweden. Due to pressure from the confederation of labor, a special group of Danish employers from factories in the iron industry in Copenhagen met in 1885, and they started to build a vigorous employers' association. Then a wide organization materialized from a federation of Danish Industry and Handicraft workers (Dansk Industri og Haandvaerk), during the period 1891 to 1897. That organization was motivated to form a general consolidation of employers in these areas of industry (Hallendorff, 1927).

Core groups including Entreprenörforeningen, Tegelvaerksförening, and Murermestrenes Organization coalesced. On May 19, 1896, under the leadership of Danish parliamentarian Niels Andersen, various groups established the Danish Employers' Association (Arbejdsgiverföreningen) with a mandate to oppose labor conflicts and develop better and more stable relations with trade unions. In 1899 the association took the name Dansk Arbejdsgiver og Mesterförening. The next year the Metal Trades Employers' group joined and was followed by others to build up the confederation. Andersen was the director until 1907, followed by Kaspar Rostrup until 1911. Under their leadership, the organization developed into a meaningful power bloc (Hallendorff, 1927).

After the consolidated group representing independent business was formed in Denmark, the "baptism of fire" *(elddop)* was just around the corner, in 1899. Conflict in carpenters' unions *(snickerifacket)* had been ongoing since the beginning of 1899. As a defense tactic, the employers instituted a lockout in the beginning of May, which spread to other areas of work; at its high point, 30,000 workers and about 4,500 work establishments were involved. The result was considered a victory for the Danish Employers' Association because of an agreement that took place on September 5 (thus called the *Septemberförliget).* The agreement gave fundamental importance to Danish industrial relations by establishing fundamental principles, recognizing and regulating the right to organize and employers' right to lead and assign work, as well as keeping foremen out of the labor union. Following the September agreement, Danish employers decided to meet a strike with a lockout (Hallendorff, 1927).

Many of the terms of the agreement were later emulated by the Swedes in the December Compromise. However, the Swedish employers also had time to learn about the need for compensation during a prolonged strike. The experience of the Danes showed the Swedes that an effective weapon for employers against strikes was strike insurance *(strejkförsäkringen).* (It was not until around 1911 that the Danes took up that issue.)

Danish Influence in Sweden

The Danish model of labor market development, both in its organization and in its guiding principles, was followed with interest across the water in the south of Sweden, in Skäne, which once had been part of Denmark. The Danish Employers'

Association and its experience were highly influential in Sweden in 1902, as part of the international exchange of ideas and experience.

The structure of industry and the main actors were different in Sweden than in Denmark, which contributed to the later organization of employers in private industry in Sweden. To bring industrial companies together in Sweden, another type of effort was required for several reasons. Geographically, Denmark is smaller than Sweden. Also, in the latter part of the nineteenth century, the Danish labor market profile had the following characteristics: (a) small distances between work places and (b) highly concentrated population and industry; most notably, industry was concentrated in Copenhagen.

As a result, cooperation came about more naturally in Denmark because difficulties related to long distances and decentralization of industry and rural aspects, which were the case in Sweden, did not exist in Denmark. Also, industry in Denmark was younger and less differentiated than in Sweden. Industrial leaders were recruited from the *enhetlig borgarklass* (Hallendorff, 1927), or a more homogeneous Danish middle-class bourgeoisie. The older, well-known Swedish iron industry rested on the foundation of the traditional and independent position of the many generations of *brukspatron,* who usually made decisions about maintenance and business planning on their own.

Therefore, due to these different characteristics, it is understandable that establishment of the Swedish employers' organization took longer and was more time consuming or tedious than was the organization of employers in Denmark. In 1900, the Danish experience was shared with the Norwegians and Swedes at the Nordic Industry Conference in Copenhagen. At that meeting, the Norse attendees

proposed a cooperative agreement among the employers from the three Nordic countries.

Competition for Employees and Market Share

In addition to the political strike and the threat of the labor market falling within the grasp of labor legislation, friction created by competition within management circles was another valid reason for employers seriously to consider consolidation. Due to the expansion of industry and improved communications, some companies in growing areas began to compete with each other for competent and skilled labor and a wider share of the market.

Growing competition among industrialists and small business owners for labor made evident the need for management to organize. The movement started in handicrafts and small-scale industry and later extended to large-scale industry (De Geer, 1992).

Employer Organizations in Skåne

SAF was not the first or the only organization of its kind. Some Swedish employers had already begun to organize themselves into associations by industry, locality, or both, in the latter decades of the nineteenth century, before SAF was established in 1902. These associations were countermeasures to the powerful organizations formed by workers, trade unionists, and the Social Democrats in 1898.

The major impetus for consolidation was in Skåne with its younger, localized industry, which got impulses from Denmark and even Germany. It was the sawmills and engineering industries that first demonstrated the intention to form a cooperative organization of employers in private industry. The Sawmills and Lumber Export

Association realized a need to consolidate, and later joined in the Swedish Metal Trades Employers' Association (VF), also known as the Engineering Association ("Sverige verkstadsförening 1896-1926," 1926).[5]

The Metal Trades Employers' Association/ Engineering Association (VF)

The formation of VF was reported in the June 9, 1926, edition of the organization's journal, *Verkstadsföreningen tidskrift, Verkstadens Jubiliemsnummer.* According to that account, in 1882 the Stockholm industrial managers had held a joint planning meeting with the intention of organizing into a larger group, but that effort had not yielded solid results. The crystallizing force for the engineering employers' organization was in Göteborg, where the Foundry Workers' Association emerged as an energizer for an employer organization.

A salary activity from the union prompted James Keiller, on May 29, 1896, to call together various engineering managers like himself in the western region around Göteborg. They decided to form a confederation called the Swedish Engineering Association (Verkstadsföreningen). This newly born west coast Göteborg group received support from their colleagues in Stockholm. The tension later led to the first collective agreement with the Foundry Workers' Association (Hallendorff, 1927).

On June 19, 1896, a collective agreement, perhaps the first, was reached with the regional section of the Foundry Workers' Association. On July 8 and 9, it was taken up and finalized at a technical meeting in Malmö. At that time, the private employers agreed to build up a larger Swedish Engineering Association, organize themselves, establish rules, and form groups of engineering managers in different regions--west, Gothenburg, south, east, Stockholm, and north (Hallendorff, 1927).

The western region, Gothenburg, saw the most activity in the next few years. A conflict, which later arose between AB Separators management and workers in the western section during the political strike in 1902, led to an invitation for other engineering industry managers to attend a general meeting in Gothenburg on June 6. Stockholm had been organized preliminarily on May 30, and then decided in Gothenburg to join the Swedish Engineering Association on June 7.

The revised rules were taken up at a meeting on September 24, 1902, when the Swedish Engineering Association met in Stockholm. Three-fourths of the attendees voted to make a lockout binding on the membership. They discussed the topic of economic guarantees, as well as the possibility of getting all of Swedish industry into a large confederation (Hallendorff, 1927). Members recognized a need to establish some leading principles about how to structure the organizations and regulate themselves with regard to the practical aspects of joining all of Sweden's industries into one large group--Stort förbund (SAF, 1947). At that time, they decided to open an office in the capital, Stockholm, with their own ombudsman. If they were divided about plans and ambitions, it would not bode well for the future.

The Central Employers' Confederation (CA)

At the same time that the Swedish Engineering Association reorganized to become a significant and powerful professional association, other employers also were involved in organization work. Different types of organizational attempts were made and alternatives weighted because the employers were operating in uncharted waters.

The leading representatives from the Danish and Norwegian employers' associations had been invited to the tenth annual meeting of the Central Organization of Swedish Handworkers and Industry Association. The meeting was held in mid-July 1902 in Örebro in south-central Sweden. In discussions about organizational plans, Vice-Chairman H. van Rijswijk suggested that an organization could be altered so that it would be structured along two lines: (a) employer interests or (b) common national organization of handworkers.[6]

Members decided to form a central board for organizing and planned to build a national organization. The result was that employers from a variety of trades joined together and established the Central Employers' Confederation (CA) on September 12, 1903, a year after SAF was founded. Most of the members came from the building and construction industry and from related trades such as plumbing, painting, and sheet metalworking. In the early years, there was frequent collaboration between CA and SAF.[7]

The Earliest Employers' Organizations

SAF was founded on September 17, 1902. However, its roots went further back in time to when industries and those with economic interests discussed the possibility of forming a common organization to use strike insurance and devise rules and regulations to bring it to reality. In the 1890s, there had been discussions about economic interest in one central organization of employers and the adoption of strike insurance in Malmö and Helsingborg. There were various attempts to organize business leaders and managers, and alternative visions of the organizational structure as well as mutual goals. In the south of Sweden, two

different employer organizations were founded--in 1899 and 1902. One wanted conflict insurance, and the other thought it would be too expensive. One organization faded away, and the other became part of SAF in 1906 as a regional association.

In 1896, initiatives to build an employers organization were undertaken by director Hjalmar Wessberg from Kockums wharf and factories in Malmö, and the ombudsman of the National Bank of Sweden (Riksbanken), Häradshövding Wilhelm Montelius (Häradshövding is an old Swedish term meaning governor of a small area). They considered strike insurance, but the principle did not garner sufficient support.

Later in Malmö, in the south of Sweden, a local employers' organization--the Southern Local Association of Swedish Employers (Södra lokalförbundet Svenska Arbetsgivareföreningen)--was established in 1898. The leader was R. F. Berg, the well-known managing director for Skånska cement works in Lomma and Limhamn. This group of employers did not fully understand the proposal and thought it was too expensive. Therefore, this organization never got off the ground and never got out of Malmö.

Consequently, Berg invited managers from southern Sweden to meet in 1899 in Helsingborg, located across the sound from Denmark, in southwestern Sweden. Interested business leaders decided that strike insurance would be a main goal of the organization. But Berg's proposal about insurance was not understood. Following the Helsingborg meeting, there was a split among the membership about how to proceed and about the governing principles (SAF, 1990, pp. 10-11).

Two Factions

The General Employers' Confederation in Malmö. The first breakaway group, those who understood Berg's idea, later joined a new organization in Malmö--the General Employers' Confederation (Allmänna Arbetsgivareföreningen i Malmö)--under the chairmanship of manufacturer Carl Cloetta. At a large employers' meeting in Malmö in 1902, there were 150 attendees, representing 227 industries and firms with 8,500 employees. Suggestions were made to the interim board, and Carl Cloetta as chairman, about a general consolidation of employers.

Following the large meeting, more meetings were held in the summer and autumn. These meetings were described as very intensive work sessions in which attendees sought ways to proceed and organize the employers. To build up the membership, a recruiter was hired. During the ongoing meetings, a proposal was made to build up an organization based on principles of insurance for strikes or lockouts. This entailed providing stable compensation during a strike or lockout to protect the members, thereby providing a form of security (SAF, 1990, pp. 10-11).

At that time, Malmö's interim board searched for the appropriate type of large national organization of employers. Would it be like the one in Malmö or various groups around the country to fit the needs of their era? It seems that, at this point, they did not know. Therefore, this was a period of seeking and defining alternatives. Ongoing investigations about different structures and organizational choices were conducted to determine the most suitable organization to represent the interests of employers in private industry.

The proposal of Malmö's interim board was submitted to the central board, suggesting that the time was right to build a single association for the whole country.

When suggesting one central organization, they also asked whether their organizational model in Malmö was the one that should be adopted. They perceived that the time was ripe for one confederation of Swedish employers to be established (Hallendorff, 1927). In 1906, the regional Malmö organization joined SAF in Stockholm.

The Southern Swedish Employers' Confederation in Helsingborg. From the beginning, the second group did not want strike insurance. Thus, those opposed to Berg's ideas pursued other avenues. They intended to keep the employers' contribution low. It included an entrance fee and a yearly fee of two Swedish crowns per worker. The leader, Malte Sommelius, from the Helsingborg sugar factory, directed the organization of the Southern Swedish Employers' Confederation (Södra Sveriges arbetsgivareförening) in Helsingborg.

The confederation wanted to acquire a person who was knowledgeable about agreements and negotiations with labor union leaders. They hired Gustaf Falkenström as ombudsman on December 19, 1899, to organize the confederation. Later he became the first managing director at SAF's central office in Stockholm (Hallendorff, 1927).[8] This group worked too slowly in facing the challenge of several labor conflicts in 1899 and 1900, and they could not get employers in other areas to join. These things led to the Helsingborg group's demise.

Time for the SAF Organization

In a separate case, the leaders of the employers' group in Stockholm had developed rules in 1898 that were to have the most influence on the founding of SAF in 1902, and the shaping of its statutes. The proposal was to build up the employers'

association with mutual strike insurance along the same lines as a mutual insurance company.

After some preliminary meetings in May 1902, following the political strike, the initiators of a confederation of Swedish employers from the Stockholm region (Robert Almström, Gustaf Fredrik Östberg, and Oscar Carlson, among others) sent out an appeal to business leaders from various parts of the country to attend a general meeting in Stockholm. (There had evidently been meetings with Malte Sommelius, who was chair of the Helsingborg employers' region, and he had invited them to Skåne to teach the Stockholmers how employers should be organized.) Between thirty and forty leading businessmen met at the Grand Hotel in Stockholm on September 17, 1902. They founded SAF and adopted preliminary statutes (Hallendorff, 1927, pp. 31-32).

The first meeting was called to order by Chairman Robert Almström, a factory manager and *brukspatron* from the Rörstrand ceramics company. An interim board was formulated by acclamation. These people included Robert Almström, G. F. Östberg, Daniel Engelke, Vollrath Tham, V. Schwartz, H. Wessberg, and Oscar Carlson; substitutes included G. Wenström, M. Visser, and John A. Bäckström. The board issued a short summary of the meting to the press (Hallendorff, 1927, p. 32).[9]

The confederation approved the constitution, which had been drawn up earlier at various meetings. Despite many subsequent revisions, the constitution still provides the framework within which SAF operates. Two distinguishing features of the constitution are (a) control over the commencement of lockouts and (b) payment of compensation during work stoppages through a mutual insurance scheme.

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SAF members had not come together as a group to negotiate with workers. The confederation's leaders determined that the main purpose of the organization was achieving cooperation among companies, not negotiation. However, the ensuing years would test SAF's ability to become more flexible about its willingness to negotiate with labor. The organization's self-awareness would be chiseled along the same lines as employers' interests would be organized.

The characteristic features of SAF's powers and methods of operation were derived from the experience of employers in southern Sweden. It was decided that it was not enough to set up an investigating body. They must be ready to fight against the policy and tactics of the unions, rather than the unions as such. For SAF to attain its goals, the leaders had to have considerable power to make decisions.

The Three Initiators of SAF

Gustaf Östberg, known as Dick, originally was a farmer and became head of a milk company in Stockholm. Östberg was a politician and a member of parliament as part of the protectionist ranks. He was a member of the National Debt Authority in the Department of the Treasury. Östberg had joined the New Farmers' Party and was thought to have had a role in the merger of two farmer parties in 1895. Later, he promoted the creation of the Conservative Party. Östberg launched SAF to mobilize employers on a national scale.

Robert Almström was an assiduous politician who got his start in local government. In 1887, he became a member of parliament as a Conservative and a protectionist, sitting in the Upper House. He was influential as a member of political committees and because of his success in business.

Oscar Carlson, head of a superphosphate plant, was active in several companies and professional organizations. He had been one of the founders of an insurance company in 1888, and in 1898 he became a member of the Swedish Arbitration Board for Trade, Industry, and Shipping (De Geer, 1992; Hallendorff, 1927).[10]

Structure of SAF

Since its formative years, there has been considerable centralization in the organization of affiliated employers in SAF. The original tripartite structure consisted of (a) a General Assembly as the highest authority, (b) a General Council, and (c) an executive board.

The interim board. Early in 1903, SAF's leadership met to develop the organization into a more definitive form. On January 10, after a rather long organizational period during the previous autumn, the interim board met. They reported that fifty co-owners representing 14,625 workers were represented in the organization, with a shared responsibility for a total of 1,325,400 Swedish crowns. The income from the membership fee totaled 40,134.14 crowns, and the managing director was to be paid a yearly salary of 6,000 crowns (Hallendorff, 1927, p. 43).[11]

The interim members discussed methods to attract new members. They decided to send out a circular to employers, primarily those throughout the large industries, and that the board members would personally work for affiliates. Almström, Östberg, and Carlson would work to gain new recruits throughout the middle of Sweden, particularly Bergslagen. Hjalmar Wessberg (a deputy member of SAF's first board) had announced that the employers in the southern part of

Sweden, including Skåne, Halland, and Blekinge, were already well organized. The interim board decided to send a secretary to Bergslagen, with responsibility for the other areas, as well. In addition, Gustav Falkenström from Helsingborg would serve as a traveling ombudsman, working in southern and western Sweden under Wessberg's supervision. The interim board thought that his previous experience with the Southern Swedish Employers' Confederation in Helsingborg made him well qualified for the task at SAF (Hallendorff, 1927, p. 43).

The General Assembly. The General Assembly, which included all members, was the highest level of decision making for the employers' organization. When this group met at the Grand Hotel in Stockholm on March 5, 1903, there were 78 co-owners representing 21,054 workers. This was an increase of almost 50 percent since SAF's formation the previous December. Most of the members of the General Assembly represented a concentration in manufacturing, engineering, and high-tech industries, or industries that required skilled workers (SAF, 1967). They had responsibility for funds totaling 1,908,150 Swedish crowns. The confederation's income was 43,605 crowns, with expenses of 6,029.25 crowns (Hallendorff, 1927, p. 46).

Twenty-seven members, regarded as co-owners, attended the March 5 meeting. Robert Almström was the chairman for the day. According to the minutes of the meeting, twenty-five of the attendees were given power of attorney or proxy, forming the General Council. The Council was like a roster of Swedish business and industrial elite, a kind of Who's Who or *Vem är Vem.*

The General Council. The members of the General Council included wholesalers, military officers, *bruk* owners, managing directors, and manufacturers,

as well as A. Henrik Göransson of Sandviken and A. E. Salwén, the director of Grängesberg--two business leaders from Sweden's iron and mining industries, respectively. The composition of the General Council is depicted in Figure 6.1.

6 *Bruk* Owners	2 Wholesalers
Chr. Aspelin, Fagersta	John A. Bäckström, Stockholm
Knut Falk, Graveldal	H. V. Söderman, Uppsala
Wilh Tham, Huskvarna	
Vollrath Tham, Stockholm	1 Captain
A. Henrik Göransson, Sandviken	Arvid Lindman, Iggesund
Chr. W. Lundeberg, Forsbacka	(Prime Minister, Conservative--1906-1911)
14 Directors	1 Factory Director
Oscar Carlson, Stockholm	Robert Almström, Röstrand
G. A. Granström, Sala	
James Herzog, Stockholm	1 Manager
V. Schwartz, Billesholms-Gruva, mine	Hugo Gödecke, Trälleborg
Malte Sommelius, Hälsingborg	
L. F. Ståhlberg, Eskilstuna	
A. W. Wallberg, Halmstad	
Arthur Vendel, Mölnlycke	
Axel Vennersten, Boräs	
G. Wenström, Stockholm	
Hjalmar Wessberg, Malmö	
B. Wijkander, Bofors	
Dr. G. F. Östberg, Stockholm	
A. J. Roman, Landskrona	

Fig. 6.1: The twenty-five members of the General Council of SAF.

The Executive Board. On March 19, 1903, the General Council met and voted to replace the interim board. The twenty-five members selected Robert Almström as chairman and G. F. Östberg as vice-chairman. Others elected to the board included Oscar Carlson, V. Schwartz, and Vollrath Tham, with G. Wenström, John A. Bäckström, Hjalmar Wessberg, and Arvid Lindman as substitutes (Hallendorff, 1927, pp. 45-47). At that meeting, the leadership also agreed not to release any information to the press without full agreement among themselves.

At the next board meeting, on April 11, Dick Östberg was elected chairman of the board and Oscar Carlson was elected vice-chairman. Östberg was in charge of tax issues. *Bruk* administrator R. Norén was responsible for the treasury. The board named Falkenstöm director general on April 18. Robert Almström served as chairman of SAF from 1903 to 1907.

At first, owners and not the member organizations were members of SAF, but this arrangement of direct relations between the partners and SAF was short lived. SAF membership was granted to individual employers or companies, the partners, who affiliated with SAF through their employer association, the members.[12] In 1904, the emphasis was placed on direct relations between the partners and SAF. Thereafter, companies joined associations and they became members of SAF.

The partners were obliged to pay dues and were entitled to receive compensation for losses arising from industrial disputes. They were also entitled to benefits flowing from the provision dealing with strikes and lockouts. However, no partner could call a lockout on his own initiative. Financial arrangements fell into two categories: (a) annual dues and (b) mutual insurance obligations.

The original rules left some scope for local as well as trade associations to become members, but only one local association did join SAF, in 1906. Thus, SAF grew to be organized along specific occupational and industrial lines. Members were entitled to a voice and to a vote in SAF. In the first few years, member associations were required to submit their rules to gain the approval of SAF. Because of these organizational developments, SAF was able to concentrate on overall policy because the activities of the confederation were channeled through the

member associations, rather than concentrating on the problems of partners or particular members.

Unique Features of SAF

One of the most distinguishing features of SAF, compared to other contemporary employer organizations, was its conflict fund, which was constructed along the lines of a mutual insurance company. VF and CA, the other large employer associations, had no such fund, and its absence actually hindered the leaders' ability to act swiftly and support their members in time of need.

SAF was formally a mutual insurance agency, most likely an organizational idea based on its leader's background in insurance and tax issues. A key feature was that the dues paid to SAF were deductible for tax purposes. Because the bulk of the annual dues went straight into the insurance fund, the companies could pay their dues out of pretax resources. This clever attribute must have been an attractive way to encourage new members. Thus, the increasing financial resources of the organization gave it economic clout.

Because of the insurance fund, companies were also co-owners (see De Geer, 1992, for explanation). Therefore, the insurance company, SAF, could assume the right to decide what precautionary measures the policy holder would take (De Geer, 1992). These special organizational features contributed to centralization of decision making.

During its first few years, SAF's organizational efforts produced results, and the young organization grew in strength. The majority of the members of SAF were engaged in industry proper, and the organization, representing privately owned

business, grew by adding partners throughout various industries (see Table 6.1). In 1904, SAF's rules were changed so that professional and regional federations could become members (SAF, 1967) (see Table 6.2)

Table 6.1

Growth of SAF, 1902 to 1906

	Co-owners	Number of Workers
March 5, 1903	78	21,075
December 31, 1903	101	23,075
December 31, 1904	134	31,937
December 31, 1905	236	44,443
December 31, 1906	453	65,420

Source: Based on board statistics, SAF Archives.

Table 6.2

New Members of SAF and Their Occupational or Regional Affiliations, 1902 to 1906

SAF Affiliate	Year
Stockholm Bookbinders' Employers' Union (Stockholm Bokbinderiidkares Arbetsgivareförbund)	1905
Borås Textile Employers' Union (Borås Textilarbetsgivareförbund)	1905
Sweden's Forest Industry Union (Sveriges Träindstriförbund)	1905
Norrköping's Textile Association (Textilföreningen i Norrköping)	1905
Sweden's Tile Association (Sveriges Kakelfarbikantförening)	1906
Iron Workers' Association (Järnbruksförbundet)	1906
General Employers' Association in Malmö (regional association) (Allmänna Arbetsgivareföreningen i Malmö [ortsförbund])	1906

Source: Hallendorff (1927), p. 63.

Practical aspects. In the autumn of 1903, SAF's administration started out in a compact two-room apartment in Stockholm that was outfitted with a safe and a typewriter. In October 1904, a female typist was hired, and the small group moved to a four-room apartment in the same building at Malmtorgsgatan 5, amid "just the basics" (Hallendorff, 1927, p. 61). In 1907, the office was moved to three floors on Drottninggatan 31 (Strindberg resided on this street during the latter part of his life), with space for negotiations, a few meeting rooms, and a lunch room (SAF, 1967). During the first year at its new address, SAF started to work with the Nordic organization of employers, restructured its own board, and elected a new director, Hjalmar von Sydow, a lawyer and judge.[13]

Sailing against the wind. From the beginning, SAF faced a difficult road as most managers and employers were opposed to the idea of an organization that would make decisions based on collective action, rather than their traditional position based on independence with the latitude to decide themselves. Once Vollrath Tham from the important company, Husqvarna, joined SAF, other business directors started to soften their resistance.

Over time, SAF became successful in gaining new members drawn from private industry, mostly manufacturing companies. Still, because of this factor and also increased labor unrest, the organization of business leaders sought solutions about organizational questions against a strong adverse wind *(stark motvind)* (Hallendorff, 1927, p. 49).

Relations With Other Employers' Organizations

The Metal Trades Employers' Association

SAF was willing to expand and develop collaboration with other groups of employers. The Metal Trades Employers' Association (VF) and the Central Employers' Confederation (CA) both influenced the need for negotiations and collective contracts. In fact, some of SAF's tactics on particular questions were derived from the metal trades and building employers' practices. VF provided a lead in the use of the lockout threat and in the insistence on developing negotiation procedures, which had a strong influence on SAF.

VF did not join SAF in the early stages of the organization's development. In some aspects of its work, SAF spent the first fifteen years wooing the metal trades and engineering employers. The leaders of the two organizations had different views about business ideas. SAF wanted centralized decision making and guaranteed, through its insurance funds, that members would not suffer financially from industrial disputes. In contrast, VF supported a more decentralized structure, with an emphasis on the importance of the independence of separate districts. This meant that members of VF would have more autonomy than SAF members in bearing their own risks. Also, the metal trades employers did not approve of SAF covering handicraft employers (Johnston, 1962, pp. 84-85).[14]

The Central Employers' Confederation

SAF's mutual insurance principal was a stumbling block for a merger with CA and led to a dispute. CA was made up of building and handicrafts workers, and those closest to the craft tradition, particularly small building contractors, had limited

ability to pay the high SAF fees or dues. In addition, CA had internal problems. However, it was the building employers who, in discussions, convinced SAF of the need for a policy on collective contracts. (In 1905, SAF introduced a collective contracts clause into the rules.)[15]

Therefore, the three major organizations for employers representing business in Sweden in the first decade of the twentieth century were SAF, VF, and CA. They did not compete much among themselves because they were directed at different parts of industry (De Geer, 1992). In 1910, SAF formed a consultative committee and met with three employer organizations outside industry and handicrafts--commerce, shipping, and agriculture--to promote the common interests of the employers' federations represented in the country.

Engineering Agreement, 1905

The period between 1902 and 1905 was one of bitter and fierce struggles over the question of formal recognition of the Metal Workers' (Metall) and other unions' negotiating rights. The unions in the metal trades experienced lockouts, and in 1905, the collective agreement was formally recognized in that industry as a method of regulating employment relations. The Metal Trades Employers' Association (VF), also known as the Engineering Association, was not a member of SAF, but the agreement that VF signed with the Metal Workers' Union in 1905 provided the motif for a large part of the private industrial sector.

In the wake of the general political strike in 1902, trouble broke out at a large factory in Stockholm, AB Separator, which involved John Bernström, a leading figure in VF. The dispute centered on the right of association and the prerogatives of the

employer. After an escalation of turbulence in the engineering sector, VF called for a lockout in the whole sector. Employers were eager to protect their right to choose their own workers. They did not want a closed shop. The dispute was settled in two months, but the basic issues were not resolved and the next few years were a period of "latent conflict" (De Geer, 1992).

For the Metal Workers' Union, the issue at stake was to obtain guarantees that even if the union adopted a hard line in labor market conflicts, its members should not be subject to discrimination. They should be entitled to return to their jobs, even in the case of a drawn-out strike. One method of solving the problem was to insist that all workers belong to a union, a closed shop. A closed shop would help the unions mobilize workers and gain control over the labor supply, which was anathema to the employers. Management argued that the right of association also implied the right not to belong to a trade union. Another area of dispute concerned the right of trade unionists to refuse to work with strike breakers.

Following a period of frequent disputes, a joint committee proposed a negotiating procedure in February 1905, to settle the burning issues. However, the discussions soon fell apart and were followed by a spring that foretold continued disputes (De Geer, 1992, p. 32). Despite pressure from government to avoid a conflict, VF declared a total lockout throughout industry at the beginning of June. At that time, public opinion was concerned primarily with the Swedish-Norwegian union crisis. Employers opened negotiations with the nonsocialist Swedish Workers' Union, which was a union favored by Bernström. Negotiations with the Metal Workers' Union were relaunched in October under an impartial moderator, an area

governor, Count Hugo Hamilton. An agreement was reached on November 9, and four days later the lockout was curtailed.

The settlement established a negotiation procedure for the manufacturing industry as a whole in what was the industry's first national agreement (SAF, 1967, p. 4). The collective agreement was formally recognized in the metal trades industry as a method of regulating employment relations. At the same time, the right of workers to combine in trade unions was formally concluded. In an amendment, VF and relevant trade unions agreed on the right to participate in work under all circumstances, freely and unrestrictedly. The adoption of this concept meant that the right of association was respected and was to be observed by both parties. Workers could freely participate in work.

Thus, the agreement between VF and the Metal Workers' Union was "epoch making" and demonstrated a collective liberalism that was not apparent in most other industrialized countries. It symbolized a breakthrough in broader terms as a test of how future developments and relationships in the labor market were to be built. The VF and Metall agreement set the pattern for the private industrial sector. It acted as a formative experience for SAF, an important part of SAF's accumulating experiences, by establishing parameters for relationships in the Swedish labor market and tactics adopted by the major players, following the 1902 political strike. VF fought the battle without any support from other employers. SAF later offered financial compensation, even though VF was not part of SAF, but VF rejected the offer.

The Significance of Collective Bargaining

These new events and developments in the labor market were a strict departure from the past. There were reasons to retain the employment contracts of the past, which were individual agreements between workers and their employers, such as the patriarchal system that existed in the *bruk* and in many companies.[16] These agreements were oral, based on mutual trust and tradition and linked to the production process. Employed in that process was a combination of skilled ironworkers and agricultural workers, dominated by the ironmaster, the *brukspatron,* all located in the countryside. In contrast, factory production was based on mechanization. The Swedish legal tradition mandated that each person was responsible for himself and had to be gainfully employed or face the possibility of prosecution.

At the turn of the century, collective agreements were not regarded as a substitute for individual employment contracts but as a frame for contracts, establishing guidelines and boundaries. Such agreements could be regarded as an advantage for employers as long as the collective action of their workers was not that strong. At that time, more small businessmen were leading the way in responding to workers' demands for collective agreements about wages and the work environment. However, at that time, SAF was not in the business of negotiation.

Uneasiness in the Labor Market

The metal trades discussions were only part of the considerable political and labor market unrest in 1905. The following year was characterized by many small

conflicts. Fifty-eight of them lasted more than one month, and ten lasted longer than three months, including:

1. The superphosphate factory (Superfostafabriksaktiebolaget) in Gäddviken. This conflict started in June, included only seven workers, and lasted for 226 days.

2. The Kosta Glassworks (Kosta glasbruk) in Småland. The conflict began in August, involved 188 workers, and lasted 225 days.

3. The Copperworks (Kopparverket) in Helsingborg. The conflict erupted in July, included 22 workers, and wore on for 253 days *(Arbetsinställelser under åren,* 1909).

An increase in strikes reflected troubled times in the Swedish labor market. As recorded in the official statistics, which reflect the whole Swedish labor market, even those conflicts outside of SAF's area, the peak year was 1909 (see Table 6.3).

Table 6.3

Official Strikes, 1903 to 1910

Year	Conflicts During the Year	Lost Number of Work Days (Thousands)
1903	142	642
1904	215	386
1905	189	2,390
1906	290	479
1907	312	514
1908	302	1,842
1909	138	11,800
1910	76	39

Source: *Statistisk Årsbok* (1952).

The Tactic of the Lockout

Defensively, the counterpart of the organized strike is the lockout. If this tactic were not possible, a strong trade union movement could put down one strong firm after another. Offensively, SAF initially used the lockout to adjust wage levels for the particular industry, obtain uniform agreements, and develop a procedure for negotiations. At the same time, LO had to overcome the more parochial and democratic ideals of the national unions. SAF had a wider scope to attack, based on its constitution and centralized structure. In contrast, "the constitutional powers of LO were limited by a cautious desire to preserve a good deal of union autonomy" (Johnston, 1962, p. 34).

In an effort to acquire more disciplinary control and streamline its organization, SAF made great use of the lockout on a wider front, as a method to defend its partners and also to attack the workers' side. In 1904, SAF introduced the sanction that members and partners who violated the lockout provisions could be assessed damages. A violation of the sanction would, in turn, lead to an assessment for damages by the General Council on the members, while the Board was empowered to do so in relation to partners. If the sums were not paid, SAF reserved the right to sue or expel partners for violating the constitution. Also, damages were to be assessed against employers who disobeyed orders from above on matters other than strikes and lockouts. This applied particularly to provisions governing collective contracts and management prerogatives. Also, members and partners could be forced to resign from SAF or be given notice to leave with six months' warning. Arguments between SAF and members or partners were to be settled by arbitration.

The Collective Contract

During an era of labor unrest, in 1905, SAF revised its rules on collective agreements and management prerogatives. At that time, collective agreements remained the exception within the Swedish labor market. Nevertheless, in February 1905, SAF sent a circular to all its members, stating that those who wished to enter into a collective contract had to submit a draft to the board of SAF and that no contract could be acted on without approval from the board.[17] SAF introduced this provision following discussions with CA, in which they had suggested a need for uniformity in agreements. SAF had estimated that, in 1905, 107 partners (44 percent) were covered by forty-six collective agreements. This was a conservative figure; however, it was not the number of agreements but the discussions with CA that convinced SAF to adopt a different strategy.[18] The employers wanted uniform national agreements, to present a united front against labor's demands and to equalize wages (Scott, 1977). An advantageous tactic for a union is to try to conserve its strength by fighting on a narrow front.

SAF's attitude of a collective approach to the terms of employment applied to manual workers in firms affiliated with SAF. According to SAF's rules, partners were compensated for those workers. No detailed provision was made for salaried employees involving the employers in disputes. Also, the partners and the industry associations in SAF were told that, in addition to board approval for collective agreements, from that point on it was forbidden to use workers from another company in the confederation during a strike or lockout. Thus, it would not be possible to find replacement workers.

The Management Prerogative

SAF had incorporated in its statutes a rule stipulating that employers belonging to SAF who had signed collective bargaining contracts had the right to direct and assign work and hire and fire workers of their choice. Consequently, SAF instructed all of its members to include in their agreements with the unions the clause regarding employers' prerogatives, Paragraph 23, which stipulated that employers themselves held the right to hire and fire and to assign work and dismiss workers. In addition, they were required to add in all agreements with the unions the statement that the employers could employ any workers they chose (SAF, 1990). The provision was included in SAF's statutes as Article 23, "freedom of work" (it was referred to as Paragraph 23 and later also as Paragraph 32 and 35). At that time, Article 23 turned out to be a real bone of contention in the private sector of the Swedish labor market. It led to many conflicts in 1906, and to a threat of a general lockout by SAF. These areas of dissension created substantial turmoil and conflict between SAF and LO. Controversy continued even though there was a clause written into agreements with some unions with a compromise recognizing labor's right to organize.

The December Compromise, 1906-1907

Disputes over wages and hours, which had disrupted the sugar industry and the building industry in Skåne in the south of Sweden, had combined into a threat of a lockout by the three largest employers' associations: SAF, CA, and VF. In response to increased and longer conflicts, a disruptive climate, as well as prompting from the government, SAF was impelled to reconsider its tactics. The employers'

confederation moved toward a new chapter in labor and management relations and a period of reorganization.

Problems in the sugar industry in 1906, which at that time was a powerful element in SAF, subjected SAF's small staff to considerable strain in a year of labor conflict. The board summoned the General Council and sought permission to escalate the conflict. To deal with the situation, the General Council appointed five new board members. They thought that by creating a more representative board, it would be easier to impose lockouts.

In light of continued labor market unrest, SAF soon came to realize that developments called for the recognition of trade unions and for regulating working hours and wages through collective bargaining. Hjalmar von Sydow, a lawyer who would become the managing director of SAF in 1907, made a study visit to Denmark and Germany. Upon returning to Sweden, he drew up a plan for a basic agreement similar to the Danish arrangements and the Swedish Metal Trades agreement of 1905. However, LO would not consent to von Sydow's draft and did not want to negotiate. Anger and frustration arose on both sides.

Consequently, a new tactic was necessary. SAF decided to seek an overall settlement and sent an invitation to negotiate directly to LO, instead of separately to each of the trade unions involved. The appeal was in "the nature of an ultimatum: If the two sides could not meet over the negotiating table, a general lockout would be considered" (De Geer, 1992, p. 35). Although the negotiating role was new to LO, they agreed to the proposal. However, they wanted an impartial person[19] to chair the discussions. The choice was Count Hugo Hamilton, the "impartial person" who had led the negotiations in the engineering industry the year before. According

to SAF's records, the board thought he had "displayed a good deal of talent and success in the negotiations in the engineering conflict" (Hallendorff, 1927, p. 81).

At the end of 1906, a settlement was reached in which the employers agreed to respect the workers' right to organize. Conversely, the workers recognized the employers' right to manage and freedom to select the labor required. A preliminary planning meeting took place on December 11, and meetings continued into the middle of the month. On December 14, the opening day, there were long debates about Paragraph 23 at the negotiators' meeting. The delegations met at Hotel Kronprinsen from December 14 through December 20 (Hallendorff, 1927). Chairman Lindqvist and others represented LO; Dick Östberg represented SAF.

An agreement between SAF and LO, known as the December Compromise, was signed in 1906. The agreement recognized the right of workers to organize and granted them immunity from reprisals as a result of union activity (Hallendorff, 1927, pp. 79-84). In exchange, SAF had accepted a collective bargaining agreement, which stipulated "the right of the employer to direct and assign work and to freely hire and fire workers regardless of whether they belonged to LO or other organizations" (Bernt Schiller, 1975, p. 203). With the inclusion of Article 23, which became well known, SAF established that the employer was "master in his own house by including in its rules an article to that effect" (Johnston, 1962, p. 17).

SAF and LO had concluded an agreement based on compromise; thus, it appeared to contain something for both sides. The agreement represented a victory for employees insofar as their right to organize had been recognized. But in a give-and-take situation, LO conceded to throwing off the principle of the closed shop. Also, according to the agreement, wage levels and especially piece rates were left

open to negotiations. Since the 1890s, LO had pushed for a minimum wage, and the wage-rate issues were connected to trade union policy.[20]

The December Compromise of 1906 between LO and SAF was satisfactory from SAF's point of view, primarily because it stipulated that the employer was the sole judge of the **demand** for labor, and the unions could not control the **supply** by insisting on a closed shop. In this regard, some analysts view the December Compromise as a victory for the demand side, making the employers stronger as they continued to be willing to use the lockout. Indeed, lockouts became more common after the compromise, and public opinion supported the notion that those paying the piper should call the tune (Johnston, 1962, p. 206). However, this equation leaves out the critical role of demands made by competitive international markets. This proved to have a huge impact on both SAF and LO, as well as other major players in Swedish industry.

The compromise also recognized the right to organize and allowed workers to demand an investigation through their union if they thought the employer had used his prerogative to make dismissals under circumstances that could be interpreted as an attack on the right of association. The December Compromise of 1906 had settled the issue by inserting the controversial Article 23 into collective agreements in the SAF sector, at least for the time being.[21]

Reorganization of SAF--1907

The December Compromise was the first time two central organizations representing management and labor confronted each other directly. The initial agreement was followed by a joint recommendation that all parties should settle their

current disputes. By the time the agreement was reaching actual completion, many associations and trade unions were reluctant to accept reconciliation. SAF threatened a lockout to persuade blanket acceptance of the agreement (De Geer, 1992). The December Compromise was completed in January 1907, and peace in the labor market was restored somewhat reluctantly. In the meantime, SAF had to face some turbulence of its own within the organization (Hallendorff, 1927).

Issues surrounding the December Compromise created some internal disagreement at SAF, which led to changes in the organization. As a result, 1907 was a reorganization year for SAF. There were discussions about recruiting and disagreements about including craft workers because handicrafts and big industry apparently had such different interests. The Conservative government wanted to avoid a major conflict in the labor market, and Östberg agreed with a state conciliator and the LO chairman that strikers at Kosta glassworks would get their jobs back even though management had decided not to allow them to return. This event led to a leadership crisis at SAF (De Geer, 1992, classified these events as a "Palace Revolution.")

In an effort to restructure the organization, it was decided to make the board stronger by expanding it to a total of nine members. The expanded board did not go along with the original board's decision to back Östberg, saying it was not "SAF's job to interfere in an employer's freedom of action, and thereby undermine Paragraph 23" (De Geer, 1992, p. 37). Discussions led to the formation of a new board and hence new leadership. Robert Almström, the chairman since 1903, decided to withdraw, and G. F. Östberg, reacting to his rebuff, declined re-election (Hallendorff, 1927).

On May 31, Hjalmar von Sydow became the new director general, and Oscar Carlson became deputy director. von Sydow was a district court judge and secretary at the office of the governor of Stockholm, with chief responsibility for police matters (Hallendorff, 1927). He assumed wider powers at SAF, and the organization assumed a new direction based on its experience of the first five years of tough industrial relations. Over the next quarter century (1907-1931) under von Sydow, SAF maintained a labor market posture based on three regulating principles: (a) confederation, (b) negotiation, and (c) insurance.

During the year of restructuring, thirteen important occupational associations joined SAF (see Figure 6.2). The number of new professional/trade and regional associations recruited to join SAF rose to nineteen by the end of the year (Hallendorff, 1927).

Industrial Group	Swedish Name
Iron and Metal Industry Federation	järn och metallindustriförbundet
Road and Waterworks Employers	svenska Väg och Vattenbyggarnas arbetsgivareförbund
Men's Wholesale Clothing Federation	Sv Grossisternas Herrkonfektionsförbund
Swedish Papermill Federation	Sveriges Pappersbruksförbund
Sawmills Federation	Sågverksförbundet
Stockholm Retail Shops	Stockholm's Handelsarbetsgivareförebund
Cobblestone Manufacturers Federation	Vestra Sveriges Gatstensindustriidkareförbund
Swedish Textile Federation	Sveriges Textilindustriförbund
Swedish Glass Bottle Federation	Sveriges Buteljglasbruksförbund
Örrebro Shoe Factory Association	Örebro skofabrikantförening
Pulp and Paper Federation	Pappersmasseförbundet
West Sweden's Large Stone Industry Federation	Vestra Sveriges storstensindustriidkareförbund
Swedish Cigar Maker's Association	Svenska Cigarrfabrikantföreningen

Fig. 6.2: New industrial groups in SAF, 1907.

Early Reversals

Following the December Compromise, while the employers restructured their organization, a form of guerrilla warfare ensued on the labor market. Recession and growing unemployment during the stormy years of 1907 and 1908 impeded the advance of the labor movement. Demands for general improvements resulted in fixed-period agreements in 1908, 1913, and 1918. Bitter relations developed when SAF used the technique of the lockout on a larger scale.

LO did not have the benefits of centralization, which SAF had established at an early stage, nor did it have comparable financial resources. The trade unions were strapped by the limitations imposed by their constitution, which had a loose structure so that its members could maintain some independence and autonomy. The disadvantages of LO's constitution became evident through trials of strength with the employers' confederation; as a result, LO's constitutional position became the focus of a fundamental debate. Constraints led to internal conflicts and problems concerning discipline. Consequently, problems of internal discipline and coordination were solved as they arose.

In 1907 and 1908, LO had to take part in negotiations along with the unions on disputes that had led the employers to threaten a lockout on a wider front. SAF was aware of LO's dilemma, and its report for 1908 remarked that the organization of workers had not yet become strong enough to take up a big conflict with the existing employers' organizations, at least when economic conditions were not overwhelmingly favorable to the workers. SAF recognized that LO was aware of its position, but leaders at LO had great difficulty persuading its affiliates to toe the line.

LO trade union members were not willing to support dockers or unskilled workers in a big strike because times were bad and LO's constitution prevented forcing its members into sympathetic strikes. The centralization of power on the employers' side allowed SAF's leadership to arrive at agreements that were binding on its members. This was bound to affect the constitution of LO as soon as it was forced to negotiate with SAF on major issues such as the disputes in 1907 and 1908 leading up to the General Strike of 1909. In contrast to its previous position in 1905-1906, SAF, led by Hjalmar von Sydow, refused to compromise.

Disputes increased, and the offensive spirit that SAF demonstrated in the period 1905 to 1909 was evidence that it meant business. SAF insisted on three things: (a) national organizations for trade unions; (b) industrywide, rather than local and craft, agreements; and (c) orderly negotiation procedures.

LO did not have the formal power to do what needed to be done. Financially and constitutionally, LO could not support a major strike. The employers opted for a hard line, and deadlock culminated in the General Strike of 1909. Unrest in the labor market led to a comprehensive but unsuccessful proposal in the Riksdag for legal control of industrial relations.

The defeat of the strike engendered pessimism within the labor movement (Hallendorff, 1927). It also led to considerable soul searching on the part of the trade unions, enfeebled by the defeat of the strike. At the LO Congress in 1909, the question of conditional powers was ripe for discussion. Whereas some argued for centralization, others wanted to maintain the status quo, and still others favored a more centralized arrangement; this dissension resulted in no decision. The opportunity for reform went by without any changes at the Congress in 1912 as well,

due to a lack of consensus about how labor should proceed. The stalemate was due, in part, to declining membership at the time and the general doldrums pervading the labor movement immediately following the defeat of the General Strike of 1909. Thus, the period of self-criticism produced no important constitutional results.

Collective Agreements and Guiding Principles for SAF

Meanwhile, SAF developed its guiding principles based on its formative experiences. This is reflected in a translation of SAF documents at the organization's archives in Stockholm. The documents were signed by Hjalmar von Sydow on December 16, 1910.

Principles for SAF's Operation

1. According to Paragraph 23[22] . . . the employer has the right to hire and lay off workers, to decide on the work and assign the work to be done, and use workers from any union or workers outside unions. The following has been added to the paragraph as a result of an agreement between SAF and LO regarding some local disagreements at the end of 1906 and 1907. "The right to organize should be honored by both parties. Should an employee have the view that he is laid off because he is a member of an organization (union) he should, before any actions are taken, through his organization request an investigation to get an adjustment." The employers will not accept rules regarding whom to fire when there is not sufficient work for everyone. SAF will not accept that the last one in be the first one out.

2. SAF has the clear opinion that foremen should not have to be members of a labor union. That is, if an employer demands that a foreman may not be a member of a union, it should not be regarded as a violation of the right to organize.

3. SAF does not arbitrate grievances when an agreement cannot be reached in a collective bargaining agreement.

4. The normal work hours are 60 per week, and an employer should not let work hours go below 57 unless there are special circumstances.

5. Piece work is the preferred method of payment from the employer's point of view. However, wages should be decided locally, and there should be no income guarantee even for piece rates.

6. There is no agreed-upon principle concerning hourly and minimum wages.

7. Relatively few of the industries represented in the organization have an apprenticeship program. Where they do exist, labor demands a certain ration.

8. In general, no agreements regarding vacations can be approved.

9. Disagreements between parties may not result in strikes, lockouts, boycotts, and so on, before negotiations between the employees, or thereafter between SAF and LO, have taken place. (SAF, 1910)

Central Control

A combination of the guiding principles, the conflict funds, and the organizational structure gave the central body of SAF more power to act than LO. SAF's control also was associated with a means to discipline those constituents who did not comply with SAF's guiding principles.

An important aspect of SAF's early development was the ability to convince members to follow the rules of the organization in order to maintain the guiding principles. A provision regarding disciplinary action stated that anyone going against the common SAF line of agreements could be subject to claims for damages, fined, or expelled from the organization. Table 6.4, from the SAF archives, illustrates the disciplinary actions taken over a twenty-eight-year period. Even without this provision, however, SAF would never have grown into a major influential organization unless the employers realized a gain and a method to achieve it.

In addition to discipline, the financial arrangements gave the organization economic power and supported any decisions that had to be taken swiftly. They

Table 6.4

Cases in SAF When Members/Co-owners Were Notified of Termination or Expelled

Year	Reason for Termination or Expulsion							
	Violation of Article 23		Omission of Fee		Other Reasons		Total	
	No. of Employers	No. of Workers	No. of Employers	No. of Workers	No. of Employers	No. of Workers	No. of Employers	No. of Workers
1908	2	6	1	25	--	--	3	31
1909	2	65	4	38	--	--	6	103
1912	1	12	--	--	--	--	1	12
1913	--	--	1	77	--	--	1	77
1914	2	58	--	--	--	--	2	58
1916	3	43	--	--	--	--	3	43
1919	5	77	--	--	--	--	5	77
1920	20	262	1	105	--	--	21	367
1921	10	119	2	2	--	--	12	121
1922	3	136	18	119	2	143	23	398
1923	1	16	2	14	1	17	4	47
1924	1	12	--	--	1	28	2	40
1925	--	--	2	30	--	--	2	30

Table 6.4: Continued

Year	Reason for Termination or Expulsion							
	Violation of Article 23		Omission of Fee		Other Reasons		Total	
	No. of Employers	No. of Workers	No. of Employers	No. of Workers	No. of Employers	No. of Workers	No. of Employers	No. of Workers
1926	--	--	2	2	--	--	2	2
1927	--	--	1	3	1	7	2	10
1928	--	--	1	2	--	--	1	2
1929	--	--	--	--	1	72	1	72
1930	1	5	--	--	--	--	1	5
1931	--	--	8	141	--	--	8	141
1932	1	80	13	184	--	--	14	264
1933	5	125	--	--	--	--	5	125
1934	--	--	8	46	1	2	9	48
1935	--	--	4	15	26	466	30	481
1936	--	--	1	12	--	--	1	12
Total	57	1,016	69	875	33	735	159	2,566

Source: SAF documents, Stockholm. Information for General Employers' Association from 1924; instruction from Construction Materials Federation from 1925; information from Swedish Construction Industry Federation from 1931.

also provided the members with security and a collective ability to impose lockouts in an effort to make labor more conciliatory during a period of increased labor unrest and growing instability in world markets.

The organization of the labor market by trade unions and employers in the umbrella organizations, LO and SAF, and the reorganization of the labor market were probably the most remarkable changes overtaking Sweden in the nineteenth century. Government policy remained conspicuously absent in this development, and legislation did not impede growth. During an upswing in the economy from the 1890s to 1908, Swedish industry became larger, more concentrated in manufacturing and technology, and more established in the export markets. These developments set the stage early on for the possibility of determining wages and conditions of work through negotiations and collective agreements. However, the ability to organize management and labor into central organizations offered no guarantee of minimum levels of industrial strife.

Conclusion

In the early years of SAF's development, the main feature that emerges is the speed with which the organization realized that it must have power and sanctions over its partners and their collective contracts if it was to be an effective instrument of labor relations. Even though collective agreements were not embraced immediately and willingly by all employers, SAF was able to build a strongly centralized organization from the beginning. By 1905, the essential features of central control were evident. Changes were made in the light of practical

experience--for instance, in the power to decide on lockouts to ensure rapid and decisive action (Johnston, 1962).

A driving force for structure and intense recruitment and organizational efforts was that SAF had begun from scratch and had to show practical results. The men who organized and joined SAF represented various industries from different regions of the country. They were influential in and important to the nation's economy--directors of private firms that would contribute to the nation's prosperity, as well as some who headed up Sweden's defense industry and large mines. Some of SAF's initiators were active in politics at the local level as members of the Upper Chamber in the Riksdag, and others had a background in law.

During SAF's early years, it was able to show its muscle and define two primary goals: the standardization of wages and the establishment of freedom of work. The mechanism for achieving these goals was the process of collective agreements. However, these achievements were not gained without disagreements.

In the past, employment contracts had been based on individual oral agreements, and relationships between employer and employee were part of a patriarchal system, such as that which existed in the Swedish *bruk* and small companies throughout the country. Small businessmen had led the way in accepting collective agreements and responding to changing demands by workers. They were followed by big industrial leaders. Employers must have perceived advantages in joining an association and forfeiting their independence to achieve other gains. A motivation was that, as industry expanded, employers had to compete for competent and skilled workers.

The employers in SAF were willing to collaborate with other employer organizations such as the Metal Trades Employers' Association (VF), founded in 1896 in Gothenburg, and the Central Employers' Association (CA), with members from the building and construction industry and related trades, founded in 1903, one year after SAF. These two organizations represented important sectors in the Swedish economy, and SAF benefited from their experiences and recommendations.

However, SAF leaders did not exhibit enough flexibility to aid VF in 1905, during an escalated conflict and a lockout covering the whole engineering sector over issues of the right of association and prerogatives of the employer. Nor would SAF bend its rules to include CA in the confederation. VF and SAF had different business ideas, disagreeing about the necessity for a centralized structure rather than one that would allow some local autonomy. For CA, the dues were too high, and its members rebelled against insistence on centralization, desiring decentralized negotiation powers instead. In 1918, having difficulty uniting its disparate parts behind a uniform policy, CA finally dissolved.

VF had the highest concentration of workers in the technology sector, the basis for Sweden's industrial exports. Therefore, their inclusion was an important part of SAF's combined strength. Nevertheless, VF and other important employers did not join SAF until 1916, during trying times for industry due to rising prices and World War I.

The breakthrough in an industrywide collective agreement was accomplished by VF, not SAF. In 1905, VF signed an agreement with the Metal Workers' Union, which set a pattern for a major part of the private industrial sector in the Swedish

labor market--that of a negotiation procedure for the manufacturing industry. This was the industry's first national agreement. Thereafter, SAF followed the ground-breaking action undertaken by the Engineering Agreement.

In 1906, the December Compromise indicated that SAF and LO were ready to compromise. This compromise agreement by SAF and LO marked the first time that leaders from the two groups entered into direct negotiations. The December Compromise set an important precedent and contributed toward shaping attitudes about how the labor market would function. The compromise was a cornerstone of Swedish industrial relations.

The economic and political climate tended to underscore the need for compromise whenever possible. The economy expanded until 1908. Then a drop in prices internationally during a recession affected Swedish imports, and price constraints exerted pressure on wages and levels of employment. In addition, the Conservative government encouraged compromise at a time when more people were agitating for universal and equal suffrage. Despite changing times and efforts to find a common middle ground, labor strife, violent actions, and disagreements remained a vital part of a formative era.

In addition, the legal framework, specifically the absence of laws restricting business, such as the 1887 Sherman Anti-Trust Act in the United States, created a climate that made it possible for the government to refrain from regulating the labor market through legislation. This was the case as long as LO and SAF did not do anything illegal and the public was not unduly harmed by a lengthy dispute.

In times of changing technology, the labor market is usually subject to the potential for higher levels of conflict due to adaptation to the international market,

new forms of work organization, and new pressures on product development as well as wage structure. Production techniques were becoming more specialized and more mechanized during a time when new technology was being introduced. Thus, the build-up of large firms caused a chaotic situation in itself. Also, during the formative years, Sweden was not a democracy, and workers exerted political pressure through trade unions and the Social Democratic Party, which was in a weak position in the Riksdag.

SAF and LO tested their ability to compromise on one another with the General Strike of 1909, which left LO enfeebled and SAF triumphant. In the wake of the destructive forces associated with the strike, LO had to reorganize and rethink its internal structure and constitution to deal with a determined SAF, as well as the external market. SAF wanted to reach a uniform central agreement with all LO unions, but it would take another three decades before a central agreement would be achieved in a new era of industrial growth and turmoil during the Depression. In the meantime, Swedish labor organizations were free and unbounded by special legislation to pursue their principal mission, which was to negotiate wage agreements through collective bargaining.

Endnotes

1. About 91 percent of the member companies have no more than fifty employees. Even so, companies with more than 500 employees (.8 percent) employ about 46 percent of the 1.2 million people who have jobs in the SAF sector.

2. Early in the twentieth century, the collective agreement came to be a widespread arrangement for manual workers in Swedish industry. Nationwide agreements for different industries and occupational fields governed the settlement of disputes and prohibited direct action while the agreements were in force. (Collective agreements, although implemented early, were not legally made part of the Swedish labor market system until relatively late, 1928. Later, a "peace obligation" enhanced the

effectiveness of collective bargaining instruments. In a sense, the national agreements came to function as a kind of labor legislation.

3. The 1902 political demonstration by workers in support of the franchise was meant to be a political rather than an industrial expression. It precipitated action both in the metal trades and among other employers to strengthen their organizations at the national and regional levels to focus on questions related to labor relations. After 1908, a committee appointed to investigate extending the activities of the Metal Trades Employers' group suggested that the association be divided into two sections. One would deal with labor questions, and one would deal with other questions of common interest to the members; this idea never materialized. The nonlabor questions, however, were taken up by the Federation of Swedish Industries (Sveriges Industriförbund), which was formed in 1910.

4. For a discussion of political, economic, and industrial democracy, see Einhorn and Logue (1986, pp. 193-208). The authors found that the less formal aspects such as "corporatist interest organizations" and "political culture" are important, unique characteristics. A study conducted by the Department of History at the University of Gothenburg, the CONDIS project, concluded that long-term factors have been more decisive in the process of work democratization in Scandinavia than elsewhere, in addition to its strikingly egalitarian character.

5. Since 1906 it has been known as Svenska Trävaruexportförening, the Wood Products Export Association or Lumber Export Association.

6. This is one attempt that interested SAF VD G. Falkenstöm, which he related in a message at a meeting in Stockholm in September 1902.

7. The Swedish Construction Association (Svenska Byggmästareföreningen) united in 1893. After a few years this group joined the Central Arbetsgifvareförbundet (CA), which was a branch of the Centralorganisationen för Svensk Industri och Hantverk. CA never met the challenge to unite disparate parts into one uniform policy, and the organization was dissolved in 1918.

8. The way the documents are written lacks continuity.

9. Almström was chairman from 1903 to 1907.

10. According to De Geer (1992), SAF "was a child of politics, and its parents came from the protectionist right wing, which was both on the offensive and full of renewed vigor" (p. 27). When he was elected chairman of the board of SAF in 1903, Östberg was not eager to combine the chairmanship of SAF with any political commitments or major party.

11. SAF's finances were based on both entrance fees and annual dues paid by member companies based on the number of workers employed. This was later altered so that dues were based on the company payroll. Most of the funds were transferred to an insurance fund for compensation during strikes. However, according to De Geer (1992), "the largest, and in the long run, the most important

source of financing consists of guarantees which member companies are obliged to lodge with the organization" (p. 29).

12. De Geer (1992) explained:

> Originally, companies were direct members of SAF. From the start there was a slightly vague provision in the rules, that the confederation should encourage the creation of local or industry-based associations. From 1904 it was decided that such associations could also be members of SAF. It soon became the norm for companies to join an association and for the associations to become members of SAF. Companies which did not belong to any particular association were known as SAF's *general group.* (p. 29)

13. The administrative office stayed at Drottninggatan for 30 years. On October 28, 1935, the headquarters moved to its present locale on the water, close to the National Museum and across from the Royal Castle at Södra Blasieholmshammen 4A, which has expanded since then. The first payment for strike insurance was made on October 14, 1906, to Helsingborg Copperworks (Kopparverk) for the sum of 876 Swedish crowns.

14. VF joined SAF in 1917 following a union offensive at the end of World War I. VF later would become SAF's largest group, but the merger required changes in SAF's statutes, and engineering employers got stronger representation on the board of SAF than did most other members. On both strategic and financial grounds, the inclusion of the Metal Trades Employers' Association was a major step forward for SAF. VF had 52,000 workers or one-fifth of SAF's total membership at that time (De Geer, 1992, pp. 46-47).

15. The organizational structure and systems of dues for SAF and CA were different. CA and its groups once again applied to join SAF, and in 1918-1919, after a series of crises leading to disintegration, an agreement was reached between CA and SAF. In 1919, two major groups had been included in SAF; a comprehensive organization had been created for industry and, to a lesser extent, for handicrafts. The most important of the CA groups in SAF, after CA dissolved, was the Swedish Association of Building Contractors (Johnston, 1962, p. 83).

16. Before collective agreements, a patriarchal attitude had pervaded most companies. It was based on "a social differentiation between employer and worker, on mutual rights and responsibilities, and on a broader social relationship than the strictly economic exchange of labor for money" (De Geer, 1992, p. 48).

17. The revision of rules governing the members seemed to give SAF formal control early in its existence, although in practice it operated informally, over the bargaining behavior of its affiliates.

18. For the report of the board with revisions, see SAF (1905, p. 3).

19. Since 1906 the state had placed at the disposal of the labor market parties specially qualified mediators; one was appointed for each district into which the country was divided for that purpose. If the parties were unable to come to an

understanding through district bargaining, they could apply for the services of a state mediator, or they could suspend the negotiations. If negotiations were suspended, the state mediator was bound by law to intervene on his own initiative. Following the formative period in the labor market, if there was a risk of an open conflict breaking out, the established practice for wage disputes that were of major importance to the country was to turn them over to a special mediation commission of high-ranking civil officers and the ordinary state mediator of the district concerned (SAF, 1947, p. 28). The Mediation Act of 1906 was based on the assumption that there were organizations in the labor market that might need conciliation.

20. According to Johnston (1962), it subsequently became a major problem when the unions put forward demands for "workers' security." This is discussed in detail in Chapter IX of his book.

21. It is important to highlight that the compromise did not connote radical thinking at the time, as the acceptance of the instrument of collective agreement had been included in the 1905 Metal Trades Agreement. Also, the Metal Trades Agreement had recognized the right for workers to combine. However, the December Compromise did signify a breakthrough in broader terms. Thus, the maneuvers formed an "attitude" that was a basis for future Swedish industrial relations (De Geer, 1992, pp. 32-35). Moreover, the confirmation of the right of unions to organize labor in return for SAF's demand is considered a milestone in Swedish labor history and a fundamental principle of industrial relations (Lawrence & Spybey, 1986, pp. 10-11).

22. In Sweden, this paragraph has been known alternately as Paragraph 23, 35, and 32. It symbolizes, more than anything else, the employers' prerogatives. There are two parts to the paragraph. One is the right to hire and fire and to lead and distribute work, which must be written into every contract. This is what unions in Sweden had fought against for so long. The other is that foremen were to be kept out of trade unions as they were considered to be representatives of management.

CHAPTER VII

POLITICAL ASPECTS OF THE SWEDISH LABOR MARKET AND THE GENERAL STRIKE OF 1909

Introduction

The political aspects of the Swedish labor market and the General Strike of 1909 are discussed in this chapter. During a critical formative period, 1880 to 1910, the Social Democrats and the trade unions formed an alliance and laid the foundation for a pragmatic strategy that would have a long-term effect on Sweden's economic development. The structure of Swedish society provided the necessary preconditions for the political aspects of the labor market and noteworthy characteristics of political realism.

The years 1891 to 1905 were a transitional period in Swedish politics, an era that witnessed the birth of Sweden's modern political parties. At a time of social and economic changes, when the public was better informed than ever before, energies were focused on the all-important question of reforming the franchise. Rapid industrial expansion and economic growth in the 1890s produced political consequences in the form of increased public pressure for democracy. However, the issue resulted in the Conservative government's submitting a compromise to the Parliament in 1909.

Events that transformed the political landscape of the country spanned an era when democracy replaced aristocracy. The democratization process began early

in the nineteenth century. However, its major objective was not achieved until 1919, when universal and equal suffrage was introduced for both men and women.

Some relative tranquility and a legitimacy of social and political order prevailed in Sweden. This was reflected in the country's relative isolation throughout most of the nineteenth century and the lateness of the major disruptions of industrialization and urbanization. Even though subversive movements in Europe, such as the February Revolution in Paris in 1848, intensified demands for political reform in Sweden, the nobles and monarch opposed this for a long time. They argued that the Four Estates of the Realm, which had existed since the Middle Ages, were a sound foundation for law and order.

A particularly important inheritance was the system of standing committees, which was used in reconciling differences among the four estates–the nobility, clergy, burghers, and farmers. This structure, which became well developed in the nineteenth century, was retained when the bicameral system was adopted in the 1866 reform of the Swedish Parliament, the Riksdag.

> The strong traditional emphasis on achieving consensus within these committees has served to counteract the divisive effects of the political parties in the modern period. Thus, a mechanism for compromising the interests of different social groups was well developed in Sweden even before the appearance of the Social Democrats. (Tomasson, 1969, p. 778)

However, consensus decision making did not quell a call for political reform. After more than sixty years of discussions, a decision was made in the Riksdag in 1865 to dissolve the four estates and to replace them with a new elitist bicameral Parliament. Even though the educational and commercial reforms that took place from 1840 through 1873 created more self-assured groups that had become more economically important to the country, most of the working people and rural

population had no vote at all. Because they were denied political influence, groups of workers posed a threat to steady and stable development for the future.

Sweden was a state governed by a small but responsible upper class who dominated the civil service in the Upper Chamber of the Riksdag. At the same time, the independent farmers were the dominant element in the Lower Chamber. It could best be described as a traditional authoritarian state in which parliamentarism was not recognized and very few adult males had the right to vote. The monarch and civil servants were regarded as the legitimate and natural ruling powers. Sweden was a long way from full democracy at that point.

Indeed, the size of the depressed classes in Sweden, the agricultural proletariat and small farm owners, increased throughout the century, but they had an escape in emigration to America. Thus, they did not create much political disturbance. However, as the *bönder* became more individualistic and profit-minded, efficient farmers, the gap between them and the rural proletariat increased. Despite this widening chasm, as late as the 1880s, "no other people with a comparable level of education seem to have shown such a low degree of political interest; only a minority of those who had the franchise for Lower Chamber elections even voted" (Tingsten, 1941, p. 15).

However, workers and dispossessed agricultural laborers did become politically active at the grassroots level through a vast, nationwide movement that agitated for universal suffrage for both men and women for half a century. From the mid-nineteenth century on, workers and other groups engaged in peaceful social protests, based on the popular movements, *folkrörelserna.*

Against this backdrop, 1889 marked the birth of the Social Democratic Workers' Party (Socialdemokratiska Arbetarpartiet, SDAP), the first national political party of a modern type in Sweden. Subsequently, the Conservatives and Liberals established their respective political organizations.

Due to the strong impact of industrialization, the need for social policy increased. However, the conservative and agrarian elements in the Swedish Parliament, Riksdag, were resistant to change. As trade unionism progressed in the last decades of the nineteenth century, only modest reform measures were passed in the Riksdag, such as protection against hazards in the workplace and child-labor regulations.

As the trade union movement grew in numbers in the 1890s, it struggled to win material concessions from employers. Political action increased as political gains were realized. The SDAP convention in 1897, which followed the fifth Scandinavian trade union convention of the same year, resolved that greater trade union political activity was desirable. The convention's resolution highlighted the need for decent wages and shorter hours. In addition, it noted that "The exploitation of the working class ceases only when the society itself takes over control of the means of production" (SDAP, 1897). However, society did not take over the means of production. The key to emancipation of Swedish workers was political action and the achievement of suffrage.

The political movement for universal suffrage was launched in the 1890s. The long-term result was a strong bond between the Social Democrats and the Swedish Trade Union Confederation (LO) as political allies, two branches of the same tree that remains today. Sometimes socialist leaders described the

relationship of the unions and the Socialist Party in a colorful way. In 1889, Axel Danielsson (1907-1908), a Socialist leader and editor in Malmö, referred to the two branches of the labor movement as inseparable--"like Siamese twins, the life of one dependent upon that of the other" (p. 756). At the time, this analogy was a favorite in describing socialism in Europe.

The workforce comprised one-fourth of Sweden's population when the Liberals organized in the Riksdag in 1900 and pledged to support universal male suffrage in the Lower Chamber elections. Following a three-day political strike in April 1902, orchestrated by LO, which was then four years old, it became obvious to the moderate Conservatives in the Riksdag that a genuine reform of voting rights was necessary.

The year 1905 marked the end of the unsuccessful union with Norway and the emergence of the first real party government in Sweden when the Liberal Party briefly came to power. However, the suffrage reform, first proposed for legislation by a Conservative government in 1907, left women without suffrage and imposed a number of restrictions that were unacceptable to both the Social Democrats and the Liberals, the two parties fused in a quest for democracy. This meant that full democratization in Sweden was not achieved until after World War I.[1]

These important considerations regarding Sweden's economic and political development must be viewed in the context of developments in other industrialized countries. Between 1872 and 1910, much of what happened in Sweden echoed what had occurred in Germany a few years earlier with regard to a trend embracing education, politics, and intellectual life. This trend replaced the previous French

influence in Sweden and in turn was replaced by British and American influences (see Tomasson, 1970).

What is unique in Sweden is that, in the course of a generation from the 1890s to about 1920, one can see the rapid and simultaneous development of organized liberalism and socialism, of parliamentarism and popular democracy, and the transformation to an industrial society. No fact about Sweden's late political development underscores this statement more than the fact that, until 1902, there was no nationally organized liberal party of the modern type. In the Scandinavian context, both Denmark and Norway were more developed than Sweden in the closing decades of the nineteenth century. But thereafter the pace of development in Sweden was more rapid than in the other Nordic countries. "Perhaps nowhere in the world has the full transformation from a traditional society to an industrial democracy occurred more rapidly [than in Sweden]" (Tomasson, 1969, p. 779).[2]

Although there was some relative political and social tranquility as Sweden experienced mature industrialization, historical records reveal a pattern of significant turbulence. This unrest was fueled by a steadfast refusal by the Conservatives and the monarchy to accept deeper levels of parliamentarism and democracy during the formative years of the alliance of the Social Democrats and trade unionism. Mounting tension in the Swedish labor market resulted in the turmoil of the General Strike of 1909.

Preconditions of Political Development

The preconditions of Sweden's apparent calm in changing times can be summarized as follows. Even though monarchical absolutism had been only

sporadic in Sweden, it was never as thoroughgoing as in continental Europe. Unlike England and the continental countries, representative institutions in which even the farmers were represented had existed in Sweden for centuries.[3]

However, in the latter part of the eighteenth century, the nobility's obstinate defense of privilege alienated the small but increasingly important class of wealthy merchants, shippers, manufacturers, and ironmasters and brought about a reaction. In 1772, Gustav III capitalized on the nation's disgust with parliamentary incapacity and executed a monarchical coup. From that date until his assassination twenty years later, the king favored the three lower estates of the four-estate Diet. In contrast to France, where the middle classes beheaded their king and abolished the nobility, preparing the way for a new society, in Sweden it was the king himself who implemented the revolution to do away with rights and privileges.[4]

Because the king could not get noble backing for his actions, he reduced the privileges of the nobles and sought popular support. Subsequently, the *bönder* were allowed to buy landed estates that previously had been controlled by the nobles. The Swedish nobles did not instigate a tradition of commercial agriculture as the English nobility did. Many of them got away from farming altogether and hired themselves out as army officers and civil servants (Tilton, 1974). Thus, when the nobles were deprived of their privileged status and power, the middle classes were in their ascendancy.

During this dramatic time in Swedish history, production and trade grew, and rich merchants and *bruk* owners became rivals for status and influence with the land-owning nobility. Economic power had been shifting toward the "Skeppsbro-nobility" of Stockholm and Göteborg (so named because these merchants strung their

houses out along the waterfront) and the mill nobility of the ironmaking districts (Tilton, 1974). However, the shift in economic power was not reflected in revolution.

Political Aspects of Early Organization

Before the great reform of the Riksdag in 1866, the Swedish Parliament was divided into four estates--nobility, clergy, burghers, and peasants--a reflection of a preindustrial society. After the 1772 *coup d'état* and some decades of royal absolutism, the early form of democratic rule was restored, in 1809. Thus, the old nobility had to concede a greater share of social and political power to the entrepreneurs and to the newly emerging professional men and civil servants. "This new balance of social forces was enshrined in the constitution of 1809" (Tilton, 1974, p. 566). However, the 1809 constitution stipulated that the king **alone** would govern the country and that the Riksdag would levy taxes and share law-making power with the monarch, who could approve or veto legislation.

As the country advanced in economic and social terms, the consolidation of peasant land, initiated in the late 1700s, gained a legal form in 1827. A break-up of villages had positive economic results and paved the way for industrialization. Following a Liberal breakthrough in the Parliament, which had instituted thorough-going commercial reforms (1840s to 1850s) as discussed earlier, the 1860s were the height of liberalism and a weakening of monarchical power. Liberals were influenced by Adam Smith and upheld freedom in world trade and industry and an easing of state restrictions.

Following the 1809 constitution, the next political milestone came when the four-estate Parliament, which had outlived its usefulness, was abolished in

December 1865. It was replaced by a bicameral Parliament in 1866, reflecting a power change in Sweden (Lindström, 1983). The nobility no longer had the same influence as before to justify an estate of their own, as a middle class emerged with Sweden's industrialization (Hadenius, 1985). Many of the emerging new "aristocrats" from trade and industry lacked representatives in the Parliament, but they did not necessarily lack political clout.

After 1866, the Riksdag was divided into the Upper Chamber, which comprised the landed gentry and big business, mill owners, and senior civil servants (most of whom had belonged to the estate of the nobility), and the Lower Chamber, comprising the wealthy *bönder,* with a sprinkling of Liberals, representing the middle class, both urban and rural (see Mörner, 1985).

The 1866 reform recognized the worth of a commercial and industrial middle class, but farmers formed the largest bloc in the new parliament. The Upper Chamber was elected indirectly, on a graded-income scale. The Lower Chamber was voted on in a general election and was linked to property qualifications, which were quite high.

Because suffrage was granted only to those with a certain level of income or wealth, there was just a small number of eligible voters; even fewer could run for a seat in Parliament. Political reform in 1866 included limitations such as an 800-crown taxable income required for voters for the Lower Chamber. Even though wages increased later in the century, the number of qualified voters hovered around less than 30 percent of adult males. Essentially, Sweden's industrial workers had no opportunity to take part in elections until they reached the 800-*riksdaler* income

level, which excluded them from legitimate political participation. Only a small fraction of the population could vote.[5]

The Bicameral Riksdag Reform

When King Oscar II succeeded to the throne in 1872, he inherited the transformation of a four-estate Parliament to a bicameral one from his brother, Karl XV. Oscar regarded the reform as a threat to royal power and feared that democracy and parliamentary rule would gain ground in Sweden. Thus, he opposed the inevitable, onrushing tide. Because the king aligned himself with the Conservatives in opposition to suffrage and democratization, the political struggle was between upper-class and popular political decision making.

Louis De Geer (1818-1896) pushed through Parliament's organizational change when he was the Minister of Justice. De Geer, the director of the Swedish Academy in 1863, later became Sweden's first prime minister in the modern sense of the word. However, to get the bill accepted, he had to include safeguards. At the first meeting of the newly constituted governing body on January 1, 1867, it was apparent that the new formation was not what reformers had hoped for.[6] Therefore, compared to dynamic economic changes, the political scene after the 1866 Reform Bill was in reality not much of a reform at all.

The Roots of Swedish Political Parties

The Swedish political party system had its roots in the bicameral Parliament created by the 1866 reform. This great political event abolished the four estates previously governing the country, and the four-estate Diet was replaced by a two-chamber Parliament with equal rights. In a sense, the changes in the representative

system rounded off the liberal reform period (1840-1866). In the early years of the two-chamber Riksdag, the real power rested increasingly in the hands of free coalitions and political groupings. The coalition of conservatives and moderates included farmers, who were not a political party at that time.

During the first decade after the reform, from 1866 to 1876, political activity was at a low point. Most people were interested in personal and local, rather than national, political issues. There were no election campaigns and no genuine political parties in the modern sense. The well-to-do farmers dominated the Lower Chamber or second chamber, and they formed themselves into the Farmers' Party or Rural Party (Lantmannapartiet). They could outvote the rising number of industrialists and civil servants, and they were not interested in the altruistic reforms urged by the "old Liberals" in the four-estate Riksdag. Rather, they were more focused on improving the farmers' lot.

On the heels of the lackluster reform, the New Liberal Party (Nyliberalerna) emerged in the Riksdag in 1868. This party advocated enlargement of the franchise, universal suffrage for both men and women, and other shocking innovations that would increase the governing body's influence. However, they were unable to rouse the interest of the electorate. This party ceased to exist after a few years because it was ahead of its time.

The Liberals had historic roots in urban radicalism, temperance, and religious dissent, and the group organized themselves in the Riksdag advocating this stance. Members included a number of the most eminent people in the business community, reform groups among professional workers, other intellectuals, large groups within

the petite bourgeoisie, small businessmen, nonconformist farmers with relatively small holdings, civil servants, and workers (Samuelsson, 1968).

During the 1880s, the Rural Party was the dominant group in Parliament until it split into a free-trade and protectionist faction over the issue of tariffs (the introduction of grain from America, which flooded the European market in the 1870s, developed into an agricultural crisis on the continent and in Sweden). A lengthy controversy emphasized the dependence of the lower strata, urban and rural, on the import of cheap grains from the rest of Europe. Prime Minister Themptander, an advocate of free trade, was forced to resign when the majority in the Riksdag went over to the protectionists. The immediate result was a split in the Farmers' Party into the Old Farmers' Party, a protectionist faction, and the New Farmers' Party, which proposed an imposition of moderate tariffs on grain and protective tariffs intended to help industries producing goods for the home market.

Moreover, the free traders did not want employer groups and thought the unions were becoming too strong, whereas protectionists wanted associations. Public interest had been aroused over politically debated issues; that interest was sustained and channeled into a campaign for enlarging the franchise and improving representation in the Riksdag. Therefore, due to the disagreement on economic issues, the Rural Party had no national organization in the years leading up to the 1890s.

Until the mid-1890s, the well-to-do *bönder* (there were different economic levels of *bönder)* controlled the Lower Chamber as the dominant grouping in the Riksdag, where they could outvote the rising number of industrialists and civil servants. The loosely organized group did not field candidates in elections, but it

vigorously opposed higher appropriations for the military and supported lower taxes (including land taxes) for farmers. Later, a progressive income tax replaced the earlier tax structure. Another area of opposition was objection to *indelningsverket,* the imposed military system for farmers. In 1901, a general conscription army replaced the earlier system.

Despite all this, the factions in the Farmers' Party reunited in 1895 to form a large party with conservative leanings. On its heels, the Liberal Party was formed, a small party aiming at a broader franchise, a peaceful settlement with Norway, better education for the masses, and the spread of total abstinence. The Liberals were closely tied to the temperance movement, a cause taken up by both working-class and middle-class members.

Following more than two decades of political apathy, contemporary political issues in the late 1880s and 1890s awakened the public's interest in politics. Organizations were increasingly informing the electorate, an activity associated with the popular movements. The dominant issues of taxation, defense, tariffs, and the union with Norway (formed in 1814) were the focus of parliamentary debates, and the political groupings centered on these major issues. The rise in public debate and anticipation of change were eventually channeled into a campaign for enlarging the franchise and widening representation in the Riksdag.

Transition, 1891 to 1905

At the same time that Sweden was becoming more industrialized and more active in international markets based on products derived and manufactured from its raw material base, "Social Democratic agitators addressed themselves to the

growing class of industrial workers" (Hadenius, 1985, p. 14). In 1889, the first Swedish political party in the modern sense was founded outside of Parliament following eight years of political agitation. This was the Social Democratic Party or the Social Democratic Workers' Party (Socialdemokratiska Arbetarepartiet, SAP) in Stockholm.

Individual socialists and local socialist groups were active in establishing local trade unions, particularly those for unskilled and semi-skilled workers, beginning as early as the mid-1880s. However, before the central federation of labor unions (LO) was founded in 1898, the Social Democratic Party was the only central organization of the working class. Nevertheless, until the late 1890s, party leaders frequently underestimated the political significance of union organizations. At that time, the union movement began to achieve numerical strength when a business upswing gave a strong impetus to union organization. The creation of the trade union center made it necessary to develop a mutually satisfactory relationship between the two central organizations of the labor movement.

The key to the emancipation of Swedish workers was political action, first and foremost the achievement of suffrage, not revolution. However, before 1909, as long as labor was underrepresented in the Riksdag, extra weapons to achieve universal and equal suffrage, such as a strike, were discussed. This meant that the use of a general strike for political purposes could be successful only if the union movement stood solidly behind the Social Democratic Party.

During that time, both the Liberal and Conservative parties were created through a merger of their respective parliamentary parties and their respective national election bodies that emerged during the 1890s (Hadenius, 1985). The

Farmers' Party reunited in 1895 with even more conservative leanings, prompting the formation of the Liberal Party in 1896 as a reaction to the agrarian totality.

Consequently, the period from 1891 to 1905 was a transitional one in Swedish politics and the genesis of the major Swedish political parties. Except for a two-year break, the prime minister during this period was Erik Gustav Boström, a moderate Conservative and a member of the majority Riksdag group that referred to itself as *Högern* (i.e., the right, as opposed to *Vänstern,* the left), those appealing for far-reaching reforms.[7] During Boström's time as prime minister, a breach was occurring in the Swedish conservative movement. Boström wanted protectionism, sound defense, and lasting union with Norway.

Parliamentarism and Democracy

Conservatives

When the political struggle for suffrage had progressed into the twentieth century, the Conservatives were not united in a single party. They were people who were conservative by nature and inclinations, but they did not constitute a political party along the lines that one would recognize today (Elder, 1970). There were conservative elements in both the Upper and Lower Chambers, who tried to influence voters on elections.

In 1904, under a joint campaigning organization, the General Electoral Association (Allmänna Valmansförbundet) was formed for the two conservative parties in Parliament. They took a defensive attitude toward demands for democracy and parliamentary government, but they took the offensive on other issues. Primarily, they demanded a stronger defense system, and they opposed

concessions to the union with the Norwegians. (Sweden's defense had slipped after a long period of peace, since 1814). Some Conservatives were willing to fight the introduction of democracy at any cost.

Liberals and Coalition

Outside of Parliament, a major popular political force in the 1890s was the suffrage movement. It was dominated by the Liberals and supported by the Social Democrats (Hadenius, 1985). The so-called People's Parliament, a mock parliament organized in 1893 and 1896 to engage interest in suffrage, demonstrated against the prevailing limitation of the franchise. By 1896, the Liberals wanted a broader franchise, a peaceful settlement with Norway, better education for the masses, and total abstinence.

In 1896, the Liberals were a small party. Because they did not have a large constituency, they were ready to deal with forces outside the Riksdag to reach their goals. The Liberals wanted to push through provisions for universal suffrage, which would end the traditional Conservative hegemony. Conservatives opposed the extension of suffrage because it would make the Lower Chamber more important. The demand for universal and equal voting rights fused the Social Democrats and the Liberals during the first few decades. Parliamentarism and the introduction of democracy constituted the basis for cooperation between the two parties.

The leader of the Liberal Party, a gifted lawyer by the name of Karl Staaff, had been elected to the Lower Chamber of Parliament in 1896. His former classmate at the University of Uppsala, Hjalmar Branting, the chairman of the Social Democratic Party, was elected to the Lower Chamber the same year. Both men supported the

struggle for democracy and parliamentary government. Although they were from different ideological foundations, they were able to work together inside and outside of Parliament to broaden democracy, a mutual goal. Another basis for cooperation was that the Liberals were closely aligned with the temperance movement, which included supporters from both the middle class and the working class.

In 1900, the different liberal groups in the Riksdag joined to form the Liberal Coalition Party, which had universal suffrage as one of its main aims. Two years later, the Liberal Party, led by Karl Staaff, gained thirteen more seats in the Lower Chamber than the Farmers' Party. Also, the Social Democrats won four additional seats. However, the Upper Chamber was solidly Conservative, and a combined vote of the various levels of Conservatives could easily carry a vote in Parliament.

At that time, the Conservatives were beginning to sway toward the reality of impending reform, especially after a three-day general strike (the political strike in April 1902) and demonstrations throughout Sweden, demanding universal and equal suffrage. At the time, two major factors highlighted the necessity of political reform: (a) there was public outcry for reform as the middle class gained a broader base, and (b) the industrial workers were approaching the income level they required for parliamentary participation.

The Conservatives wanted to guarantee that people with wealth would still prevail, and they put forward such a proposal for reform in 1904. However, Liberals rejected the proposal because it embraced a system of proportional representation. Thus, at this critical juncture, the Upper Chamber had a concise Conservative majority and the Lower Chamber had a Liberal majority, a classic gridlock situation.

While the country was divided about suffrage, national defense was another issue that split different groups of people. The royal family, the military, and some conservative politicians advocated a strong defense system with the same passion that Social Democrats and Liberals showed when working for universal suffrage and the reduction of royal powers. The rightist groups in Sweden saw an opportunity to mobilize public opinion for a better national defense and against social change.

Birth of the Modern Political Parties

Liberals and Conservatives

During the 1880s, industrialization and the attendant urbanization of the population together fueled the first political split, that between rural conservatism and urban radicalism. A breech occurred in the Conservative movement between two groups: moderates who were free traders and nationalists who were protectionists. The moderate Conservatives worried about the growing effect of wage earners' organizations and did not want employers to organize. On the other hand, those who promoted protectionist trade measures thought it was possible to build a labor market on the principles of association for a good and efficient society. The Conservatives, sitting in the Upper Chamber of the bicameral Riksdag following the parliamentary reform of 1866, were imbued with ideas of protectionist industrialists.

During the decades around the turn of the twentieth century, there was no iron-clad division between the Conservative and Liberal parties. The Swedish farmers were, to a great extent, the grassroots of conservatism, joining the industrial bourgeoisie, the civil service, the nobility and the military. (Politically in Denmark and Norway, farmers upheld a Liberal opposition to Conservatives.) The formation

of Liberal parties in Sweden took place among free tradesmen and craftsmen of the cities, supported in the countryside by small farmers and rural craftsmen with the encouragement of the free church and various temperance movements.

The Social Democratic Party

The third force in Swedish politics, which was to become the largest, was the labor movement. In the 1880s and 1890s, increasing trade union activity made the unions a force in economic and political life. The Social Democrats assembled outside the Riksdag, and the trade unions provided the popular base. In 1889, the Social Democratic Workers' Party was founded.

Societal changes and new forms of work organization, such as increased rationalization due to advanced mechanization, as well as a drive to increase productivity due to continued pressure from competitive markets, resulted in an increased political awareness among workers. Also, new factories took on an increasingly significant role in the national economy during the closing decades of the nineteenth century. At the same time, pressures increased due to escalation in urban growth as agriculture continued to become more efficient and a more insignificant sector for international markets. A keener sense of common goals allowed more time and energy to be dedicated to setting the stage for the "working class movement," which developed into a struggle for democracy in the form of a universal and equal franchise.

Trade Unionism, the Social Democratic Party, and the Labor Movement

Since its foundation in the latter part of the nineteenth century in Sweden, the trade union movement developed with a policy of gradualism in its work. Whether or not the unions would become socialist was soon settled, but the issue lingered on as an underlying demand and theme until the 1930s. A more pressing question at the movement's inception was the organizational link between the political and union branches of the socialist movement.

Almost from the beginning of union activity in Sweden, even the nonsocialist union's programs had given an important place to political demands, emphasizing, in particular, the right to vote. Most Socialist Party men and union leaders did not question the unity and solidarity of labor in its political and trade union activities. Political action increased as even modest political gains were made.[8]

The trade union movement and the Social Democratic Workers' Party functioned to some extent as a trade union confederation, although each kept its own identity and organizational autonomy. The Swedish Trade Union Confederation (Landsorganisationen i Sverige, LO), founded in 1898, was a loose umbrella organization of trade unions of industrial workers, which had strong ties with the Social Democratic Party from the outset. According to an official LO publication, "The setting up of the Social Democratic Labour Party, SAP, in 1889 was largely the work of the union groups" (LO, 1978, p. 8). Relations between the two organizations were intimate from the beginning, and they remain so today.

"Initially, only trade unions whose members collectively and compulsorily joined the Social Democratic Party could belong to LO" (De Geer, 1992, p. 16). This

was a mechanism to politicize the trade union movement. However, despite the affirmation in LO's 1898 constitution about compulsory affiliation, the next LO Congress in 1900 removed the compulsory-affiliation clause. In its place, a declaration was made by Hjalmar Branting, the leading Social Democratic politician of the time, that LO should work for affiliation of each trade union with the local party organization and through this mechanism with the national party.

However, the clause in the preamble to the LO rules requiring unions to work for affiliation with the Social Democratic Party attracted criticism. "Under strong pressure from the two largest member unions, the 1909 LO Congress did decide, against the advice of the secretariat, to repeal the Branting declaration of 1900, and the LO constitution was purged of any suggestion of a link with other organizations" (Johnston, 1962, p. 26). Furthermore, the 1909 LO Congress accepted a resolution formulated by their chairman, Herman Lindqvist, which emphasized the solidarity existing between party and unions. The congress considered the Social Democratic Party to be "the natural and obvious vehicle for the political aspirations of the Swedish working class" (Johnston, 1962, p. 27).

The party rules allowed union branches to affiliate collectively with the party through the local community, but a decision of the party congress of 1908 indicated that individual union members could contract out of any obligation in writing (SDAP, 1960). Although the party's formal representation in the LO secretariat stopped in 1900, "there was no clean break in the organizational links" (Johnston, 1962, p. 26).[9]

The percentage of members of the Social Democratic Party who are collectively affiliated through union branches has always been relatively high, and

collective affiliation by union branches has had a significant economic and political impact.

> In 1912, 80 percent of the party membership of 65,000 were collectively affiliated, in 1929 the percentage was 71 percent, in 1933 [it was] 67 percent; since 1945 about 60 percent of the party membership, which has crept steadily up to about 800,000 by 1960, have been collectively affiliated via union branches. (Johnston, 1962, p. 28)[10]

The political party and LO have been ideologically and organizationally linked since their inception, and LO is viewed as one arm of a bipolar SAP. Absence of serious ideological or religious differences within the Swedish working class enabled LO to avoid the challenge of any strong rival for the union loyalties of manual workers. The consistently high level of LO density among industrial manual workers strengthens it as a political pressure group, and even though LO often stresses its political nonallegiance, it is at all organizational levels closely connected to SAP. However, there is no official recognition of cooperation with the Social Democrats in union rules. Few trade union officials have served in the government, and relations that exist at the national level are informal.[11]

Political and Social Emancipation

LO was a central and unifying organization that developed in close cooperation with the political movement of socialism, although in the very early stages trade unionism rather favored liberalism. (The era of liberalism in Sweden lasted only one generation, from the 1860s to 1890.) The Labor Party, founded in 1889, organized the workers before the LO was formed in 1898, comprised mainly of manual workers. Both worked for social emancipation and for mutual goals, namely economic and social democracy. LO was intimately linked to the Social

Democratic Party, particularly in the struggle for universal and equal suffrage in the early days, and the eight-hour work day.

Political influence for the working class and the masses was constrained in the Riksdag because the elective franchise in the Lower Chamber was based on requirements of a minimum income or property qualification. Moreover, the Upper Chamber steadfastly resisted labor influences. At first, the Social Democratic Party was unable to gain much political influence as its constituency did not have the legal right to vote and influence political change. "The party fulfilled many of the functions of a coordinating central body for the unions and at the same time it had to draw the unions into political activity in order to gain numerical and financial strength for the franchise struggle, which was a powerful uniting influence" (Johnston, 1962, p. 24).

As industry expanded and agriculture diminished, the rise in the number of workers pressured those who had political power to squeeze in the growing union movement, which was being refigured from a fighting brigade to a mass or popular movement, and above all to address their needs. There was a public outcry for reform, political participation, and democracy. Therefore, before the advent of parliamentary democracy in 1909, it was important to organize workers.

Swedish Socialism, Gradualism, and Suffrage

The Swedish trade union movement was inspired by movements in Europe, and Social Democratic Party ideas stemmed from classic European socialism. However, the Swedish version was modeled on the German Marxist social democracy rather than Franco British utopian socialism. In contrast to its German brothers, SAP established ties with temperance lodges and at times even with

nonorthodox churches in the countryside. Because of this, Swedish social democracy gained a good deal of sympathy in rural areas. The study circle, the lodge or the trade union, was perceived as the environment most conducive to producing a complete human being. The individual was important, but only within the collective setting of the organized group.[12]

Early forms of socialism must be seen as an ideology of protest held by unattached young intellectuals and self-educated workers against the paternalistic and hierarchical social system in which they found themselves. During the 1880s, radical socialist and liberal ideas gained circulation in Sweden. These ideas were espoused by a number of writers, of whom August Strindberg was the most famous. In that decade, Sweden opened the door wide to radical influences from Norway, Denmark, England, and Germany that quickly undermined the foundation of the old paternalistic order. Every other country in western Europe, even Germany, had progressed further in expanding the franchise than Sweden.

The Social Democratic Party, from its inception as a mass-based collectivist movement dedicated to the transformation of Sweden's socioeconomic and political system, pursued a gradual program of change rather than ideological dogmatism. Often the rhetoric was confrontational, although the actual message of the Social Democrats was peaceful. The step for ideological moderation in promoting long-range goals of radical reform was taken in 1889 with the party's decision not to initiate violence as an instrument of political change when the founding congress resolved that:

> Sweden's Social Democratic Party--in its efforts to organize the Swedish working class for its conquest of political power--will make use of such means that correspond to the people's natural sense of justice. The contemporary

> program which we have formulated, and for which we are working, is the best proof that we, for our part, are by no means striving for a violent revolution. (Tingsten, 1941, pp. 21-22)

A salient feature of LO is that, throughout the decades, it has exhibited a clear characteristic of gradualism rather than radicalism, originally feared by so many. Ideas about the necessity of revolution and violence did not become part of the Swedish form of socialism. Political tension focused on one source of conflict, the struggle for universal suffrage and political equality at the beginning of the twentieth century. From the beginning, Swedish politics tended to gravitate toward the middle.[13]

Revolution as an option to provide better conditions for the working class was rejected. Instead, the campaign for suffrage marked a shift in the relationship between the Social Democrats and the trade unions, as can be seen in the following discussion.

SAP Leadership

During the formative years of organizing the Swedish labor market, joint trade unions rose to a recognized position in Swedish society. At the same time, from the 1880s onward, there was a growth of various employers' associations, which resulted in consolidation and a dominant umbrella group. Due to the increase in trade unionism, LO and the labor movement, the Swedish Employers' Confederation (Svenska Arbetsgivareföreningen, SAF) was organized into a confederation of employers in 1902, as a counterbalance to trade unions (SAF, 1983).

Following the formation of the central organization representing business and employers (SAF), some trade unions in LO and others in the Social Democratic

Party were demanding that the trade union movement achieve its political aims more rapidly, with stronger pressure in the form of strikes to reach the goal of political democracy. Possibly strikes could achieve the political aims of the working class and its leaders more hastily. The chosen route of revolution or reform would ultimately depend on the party leadership.

The Social Democratic Party found the struggle for universal suffrage to be the most expedient way to carry out a peaceful transition to socialism in its early years (1889 to 1911), rather than revolution. Party leaders strategized that the desired transformation of society could take place only after they had gained political power in the Riksdag. In association with the formal organization of the trade union movement in LO, the struggle for universal and equal suffrage became the dominant driving issue for the Social Democrats and the organized labor movement, during the first few decades following the party's inception in 1889. Nevertheless, the Social Democrats did not have enough political power in the Riksdag to stand alone and launch an offensive. However, the extension of the franchise was high on the political agenda for the Liberals, as well.

The chief aim of the Liberals was to push through a provision for suffrage, which would end traditional conservative hegemony. It was a complex task due to the political developments that had taken place in the nineteenth century. Consequently, the Social Democrats formed an alliance with the Liberals before World War I. Moderate Social Democrats worked side by side with the Liberal Party to bring about parliamentary reform. (For a discussion of this development and how it related to management, see Lawrence & Spybey, 1986.)

Therefore, at the turn of the century, the divide between the political parties consisted of a separation of some Liberals and Social Democrats on one side, opposed by various types of Conservatives on the other. The main issues on the political agenda included taxation, defense, tariffs, the union with Norway, and extension of suffrage.

Following the organization of Sweden's first political party, the Social Democrats, in 1889, two other parties followed: the Liberal Party in 1902 and the Conservative Party in 1904. The political struggle would determine who would guide the country in the future and make its major decisions, the king or a democratic Parliament. It was essentially a struggle between the political left and right against a background of mature industrialization.

Sweden and the Norwegian Union

In 1905, an old source of conflict was removed from the political agenda amid a show of national unity when the union with Norway, which had originated in 1814, was peacefully dissolved. Large numbers of Norwegians had emigrated to other lands because of poor economic conditions, as in Sweden. While Sweden developed into an industrial nation with landed nobility, Norway remained primarily agricultural with an independent small farmer class.

The union of Sweden and Norway had not been popular. Both countries shared the King of Sweden as their sovereign before parliamentary democracy. The king was opposed by groups in Norway, who thought he favored the Swedes. The opposition pressed for an independent Norway. In 1905, Swedish King Oscar II (1872-1900) refused to appoint Norwegian consuls to foreign cities. Angered

members of the Norwegian Parliament responded by declaring the independence of Norway and established a monarchy under Haakon VII (1905-1957).[14]

Leading up to the peaceful dissolution,[15] both Scandinavian countries had undertaken military preparations. But they opted instead to begin an era of cooperation based on mutual trust and respect at the same time that international tensions were increasing in Europe. This separation is remarkable because it is one of the few instances in modern history of a state allowing a discontented subject national to claim independence without resorting to armed force.

The Road to Parliamentary Democracy

In the meantime, due to the gridlock situation in Parliament, King Oscar asked Karl Staaff to form a government. In 1905, the first pure party government came into power under Liberal Prime Minister Staaff. The Liberal victory marked a shift from the concentration of power in the advisors to the king. Traditionally, the Conservative element had aligned themselves with the king in opposing suffrage.

With the Norwegian crisis out of the way, successive governments were led to introduce some measure of reform. In 1906, Prime Minister Staaff put forward a proposal for reform of the franchise. Staaff's proposal was rejected by the Upper Chamber, and after the king rejected his appeal to put the issue to the electorate, he resigned in 1906. Staaff was superseded by Rear Admiral Arvid Lindman (1906-1911), an industrialist and former naval officer, who formed a minority Conservative government.

In 1907, the Lindman administration purchased half the share of the Grängesberg iron-mining company in Lapland, with an option on the remaining half.

Lindman demonstrated that he was shrewd enough to recognize the vast importance of iron ore for the Swedish economy (Scobbie, 1972). Also, the potential of hydroelectric power was highlighted when a plant was built in 1906 at Trollhättan, located north-east of Gothenburg on the west coast. In 1909, the Lindman government set up the Waterfall Board (Vattenfall) to supervise the development of Sweden's hydroelectric power, which would be a boon to industry and households alike. Thus, in the first decades of the twentieth century, Swedish Conservative leader Lindman created a moderating influence during the transition to a democratic form of government.

However, the reform proposed by Lindman's Conservative government in 1907 left women without suffrage and included restrictions that were unacceptable to both the Social Democrats and the Liberals. Even before the institution of suffrage reform, the general elections in 1908 brought thirty-four Socialist representatives into the Lower Chamber of the Riksdag, doubling the Social Democratic contingent (Blake, 1960). It was necessary for both chambers to accept the reform because it was a constitutional issue.

In 1907-1909, the first reform introducing universal male suffrage for the Lower Chamber took place, while retaining the property requirements and a graded voting scale for the Upper Chamber. This was a tactical maneuver by the Conservative government to avoid a more radical solution. The crucial aspect for the Conservatives was the introduction of a proportional representation system, not the majority vote (first past the post) advocated by the Liberals. In 1909, a law was enacted to provide for universal male suffrage in elections to the Lower Chamber,

a reduction in property qualifications for members of the Upper Chamber, and the introduction of proportional representation in both chambers.

Hence, the Conservatives could still exert a major influence on public affairs, even if theirs was no longer the largest party. In fact, the Conservatives stayed in power with the aid of farmers. When the Liberal coalition won the most seats in the Riksdag, the reform bill was passed in 1909. The election following reform was a setback for the Conservatives.

By 1909, a modern party alignment had been established as Sweden looked toward a new century. It consisted of:

1. The Conservatives (later *Moderaterna),* supported by farmers, industrialists, and the upper middle classes.

2. The Liberals (later *Folkpartiet),* supported by old radicals, the Temperance and Free Church movements, small farmers, and tradesmen.

3. The Social Democrats, supported by industrial workers, trade unionists, and some radical/reform intellectuals.

Techniques of Challenging the Status Quo

In the early stages, the Social Democratic Party acted as an unofficial trade union center and provided a coordinator function. In the simplest form of cooperation between the party and the national trade unions, the national unions provided contributions to support agitators and organizers sent out by the Social Democratic Party, emissaries to arouse interest in unionism and socialism and establish locals in various trades and industries.[16] The link that held the national labor unions together, which is the level at which the party played its most important

role before LO was organized in 1898, was their common opposition to the employers as a class and to the whole fabric of social authority. Without parliamentary power and the franchise, workers had to react to the dictates of the establishment.

The modern Swedish political parties congealed at a time of increasing worker unrest. Despite the peaceful dissolution of the Swedish-Norwegian union in 1905, and the December Compromise concluded by SAF and LO in 1905-1906, domestic struggles focused on the labor market. Sporadic strikes from the earlier period were replaced by collective action on a larger scale, in an era of increased labor market tension and a recession, and wage cuts that were initiated during the 1908-1910 depression. The whole period leading up to 1914 was one of considerable turmoil.

Even so, the Social Democrats and the trade union movement were able to increase their level of influence through political means once they had established a broader base in the Riksdag, where the fight for full democracy and the eight-hour work day would continue after the 1909 compromise reform. Although the trade unionists and LO suffered a severe setback in the fallout from the General Strike of 1909, Socialist voters turned out in full force at the 1911 polls, and the Social Democrats were able to increase their numbers in Parliament. One of the major reasons for this development lay in the party leadership.

The direction that the Social Democratic Party would assume was closely linked to its leadership--those actively challenging the status quo, including August Palm, Hjalmar Branting, and to some extent the brilliant author August Strindberg. In 1881, August Palm began to agitate for Swedish trade unions affiliated with the

Social Democratic movement. Hjalmar Branting, the intellectual leader of the party and the first Social Democrat to sit in the Riksdag, became the party chairman and served in that capacity for thirty years.

Early Leadership of the Social Democratic Party--Two Dissimilar Faces

August Palm--Agitator

Social Democratic agitators addressed themselves to the rapidly growing class of industrial workers. In 1881, August Palm (1849-1922), a tailor who had lived in Denmark where he had been in contact with Marxists, went to Malmö and became the first Social Democratic agitator in Sweden. Palm set up his political office in Stockholm, and in 1885 he founded the socialist paper *Socialdemokraten* (the paper lasted until 1958, when it was known as *Morgon tidningen,* the morning paper) with Axel Danielsson as co-editor. The next year they were joined by Hjalmar Branting (1860-1925), who was only twenty-six. He was the first Social Democrat to become a member of the Cabinet, in 1917, and in 1920 he became the first Social Democratic Prime Minister of Sweden.

During the 1880s, Palm traveled around the Swedish countryside to rouse the workers in the struggle against oppression. He convinced some of them to form trade unions and local Social Democratic organizations, as well as to start newspapers as an organ of the labor-class movement. In his efforts to awaken the workers, he initially gained little ground. Although there was a growing number of trade unions by 1885, they were not inclined to identify with Palm and socialism, but gradually that opposition was overcome. In the middle of discussions about

consolidating separate trade unions, the Social Democratic Workers' Party was officially born in 1889, after eight years of political agitation.

In 1889, the trade union's Central Committee met in Stockholm to discuss the economic state of workers and tense situations regarding low salaries (Hallendorff, 1927). The discussion, chaired by O. Larsson, who had been elected to the Lower Chamber in autumn 1887, focused on the need for separate labor organizations to join together and pursue better wage conditions and the possibility of some share in company profits. In their view, employers continuously pressed for the lowest wages and at the same time desired the best workers (Central Committee, 1989). One of the goals of the labor movement and the party was to achieve better material conditions for workers.

Later, a Scandinavian Trade Union Congress in Gothenburg declared that private systems run by the trade unions were obstructing the establishment of a more effective system of an integrated, potentially stronger, national trade union organization and prevented the "spread of happiness and contentment" in society (Scobbie, 1972, p. 87). The private and local systems of trade unionism were superseded by the establishment of LO in 1898. Thereafter, a central organization of workers could mobilize behind political agitations, in a way taking over the role of Social Democrat agitators who had addressed themselves to the rapidly growing class of industrial workers.

Although August Palm "played a major role for the party as an 'alarm clock,' beyond that he lacked the skills required to lead it" (Hadenius, 1985, p. 14). Soon Palm was relegated to the background.

Party and Labor Press: Power of the Pen

Several socialist newspapers were first published in the 1880s and 1890s when the party was still not represented in Parliament. Three such papers were *Socialdemokraten, Ny Tid,* and *Arbetet.* These became particularly significant forums in which to disseminate ideas as the Social Democrats addressed themselves to a growing class of industrial workers. Since 1883, Hjalmar Branting had been on the staff of *Tiden,* a democratic daily paper whose contributors included Adolf Hedin and August Strindberg, with whom Branting became well acquainted.

Branting and Strindberg, both men of changing times, criticized the Establishment and were themselves criticized by it. In 1889, Branting was sentenced to three months in jail for writing an article that was critical of King Oscar II and led up to the Norwegian union crisis. In addition to the sentence, he was fined 500 crowns, a rather large sum for the times.

Strindberg faced a charge of sacrilege by the Lutheran state church when he published his short narrative sketches, *Giftas (Marriage),* a masterful commentary in a light, ironic vein on the difficulties that arise in those marital relationships that do not take sufficiently into account both economic and biological considerations. The little volume, with stories somewhat like little gems of satiric art, created a big stir in Swedish society (Gustafson, 1961). Although Strindberg was acquitted in the ensuing court case, from that time on he chose to spend a good deal of time abroad. In Switzerland, Strindberg found an environment where he could work and be productive with more freedom, beyond the captious gaze of his Viking counterparts. Strindberg and Branting worked to reverse the status quo from a different vantage point, which generated unique and lasting consequences for changing times.

August Strindberg

August Strindberg (1849-1912) satirized the class-ridden Swedish society of his period with his masterful pen. One of Sweden's literary giants, the prolific Strindberg was a brilliant dramatist, novelist, poet, sometime journalist, civil servant, photographer, painter, historian, scientist, and inventor. He introduced the Modern Breakthrough into Sweden.[17]

Strindberg acquired valuable journalistic experience while he was eking out a precarious existence following the second period of his university studies at Uppsala. In his articles in the radical papers *Aftontidningen* and *Socialdemokraten,* he attacked the political, literary, and religious scene in Sweden.[18] He also worked at the Royal Library in Stockholm, where he had access to a variety of fascinating historical documents. They sharpened his interest in the past and became the point of departure for a lifelong literary preoccupation with historical figures and events (Gustafson, 1961). At that time, historical records were beyond the grasp of the general public.

Later in his career, Strindberg turned to writing history and created bitter controversy with professional historians. They challenged his work, both highlighting his factual errors and doubting his general historical soundness. But the strongest reaction among historians was no doubt against Strindberg's position that a folk-cultural approach to Swedish history was more appealing than an account based largely on political and military considerations. He widened his circle of critics when he belittled the great nineteenth-century historian-poet Erik Gustaf Geijer, whose aristocratic thesis that "the history of Sweden is the history of its kings" had been almost axiomatic in some Swedish historical circles.

Strindberg satirized the many sides of Swedish contemporary life in his outstanding narrative, *The Red Room,* recognized by most of his era as the Red Room at Bern's Restaurant in Stockholm, where an irreverent group of young Bohemians, artists, and assorted intellectuals met.[19] Strindberg was part of this distinctive group until his marriage in December 1877 to Siri von Essen. *The Red Room* was acclaimed as Sweden's first modern novel, and it opened the doors for Strindberg to publishers and theaters and assured him of a reading public.[20]

On the other hand, *The Red Room* slammed a fair number of doors, as well. In his observations of Stockholm life in the 1870s, Strindberg lashed out in all directions, striking blows with equal vigor at "political chicanery and religious humbug, bureaucratic irresponsibility and social injustice, philosophical pretentiousness and educational reaction, journalistic opportunism and theatrical intrigues" (Gustafson, 1961, p. 6).

The rebellious and gifted Strindberg defied accepted patterns of thought and conduct, a stance he maintained with undiminished vigor until his death in 1912. Strindberg never gave in to his critics and added a great deal of literary merit to changing times. Strindberg's unique insights were part of something new in Swedish literature. He became one of Sweden's greatest authors and occupies an important place in world literature.

Hjalmar Branting--Politician and Party Diplomat

Hjalmar Branting (1860-1925), known as the "grand old man" of the Social Democratic Party and serving as its chairman from 1907 until his death, was a moderate Marxist revisionist who believed in the class struggle. (For a description

of his role within the context of the Swedish Model, see Parent, 1970, pp. 231-253 [in French].) The son of a professor, Branting completed a university education at Uppsala and expressed a strong passion for justice and equality. As a member of the *haute bourgeoisie,* he knew many of the dominant people in Swedish political life at that time.

Unlike Strindberg, who occasionally proposed revolutionary ideas, Branting was always moderate in tone as he pursued his quest to shake the status quo. For three decades, Hjalmar Branting was the chairman and intellectual leader of the party that identified itself with the working-class struggle, the Social Democrats. Although he was not the first to introduce socialism to Sweden, Branting was the most influential in steering the nation toward reform rather than revolution. As a moderate Marxist, a revisionist who admittedly believed in the class struggle, he fought those who advocated extra-parliamentary measures to bring about reform.

Branting was a strong voice for the workers' cause and the party goals as editor of *Socialdemokraten,* a Social Democratic political party organ in Stockholm, from 1896 until 1902. He cogently argued for change in Swedish society in the form of greater political and economic justice. Moreover, he broke with those who advocated revolution to speed up the struggle for class equality and rejected illegal and violent methods to expedite the change process and bring about reform. He preferred to be undogmatic and cooperative with the bourgeois democracy in order to further the aims of the working class (Scobbie, 1972).

Under Branting's leadership, the party officials were not opposed to collaboration with the nonsocialist parties.[21] The moderates in his circle were ready

to work side by side with liberalism, in opposition to radical advocates of class warfare.

Cooperation with the Liberals, the other party symbolizing the Left in that era, created a new form of mutual dependence between the unions and the party. The Social Democrats organized their support outside of the Riksdag. In 1891, when the first party congress decided to support the liberals in the new suffrage movement, Hjalmar Branting was elected to the Riksdag with the aid of the Liberals, as the first Social Democratic representative (Tomasson, 1969). As a small party with a goal to widen the franchise, the Liberals were willing to cooperate with the Social Democrats as the latter gradually gained parliamentary influence. However, they opposed violent means to gain political aims and the use of the political strike. The Liberals were cautious about social reform that would benefit the working class.

SAP leaders disassociated themselves from those who would seize power through violence. This characteristic was developed mainly through the guidance of the party chairman, Hjalmar Branting. Instead of revolution, Branting advocated reform. The struggle for universal and equal suffrage became a dominant issue during the first few decades of the party's existence. The Social Democrats, following the lead of their party chairman, made a nonrevolutionary transition to democracy possible by adopting a moderate, conciliatory stance as opposed to class warfare (Tilton, 1974).

Branting reasoned that change would occur only when the Social Democrats gained political power. He realized that strikes and violence would prejudice the suffrage issue; hence, he tried to placate the middle class. The party had made

suffrage the capstone of its reform goals, before education and certainly in preference to the revolutionary Marxism of its origin.

Branting's intellect and personality were of a different caliber from Palm's. In superseding Palm, he became the leading figure in the Social Democratic Party with a particular vision for the future. Because of his leadership and influence, the Social Democrats adopted a reformist orientation rather than becoming a revolutionary opposition party; thus, they became a party of the government. Branting's leadership would have a lasting influence on the future of Swedish socialism and make a significant impact on the future economic development in the country. He was very much the pragmatist.

Labor Unrest and Uncertainty

After 1907, the international economy entered a difficult period; wages in Sweden stagnated. Strikes and lockouts plagued industry throughout 1908 and 1909. Strikes were not illegal, but an 1899 law forbade peaceful picketing; therefore, there were violent exchanges.[22]

The most notorious, bitter conflict was the *Amalthea* Incident, which took place in 1908. Workers in Malmö bombed the ship *Amalthea,* which had English strike breakers on board, killing one person and injuring twenty others. Stevedores had been brought in from England during a struggle about control over work on the docks. (The stevedores on the docks had demanded a work monopoly, and SAF threatened them with a general lockout; SAF, 1967.)

This brutal act was perpetuated by the administration of the radical faction in the Social Democratic Party, the Young Socialists, and their leader, Hinke

Bergegren. Branting and the main body of the party disapproved of the action and the radical faction. However, the public did not distinguish between the two groups under the mantle of social democracy. The public's fears were fueled by the popular press, which often portrayed the Social Democrats and the labor movement as revolutionary elements in Swedish society. The *Amalthea* Incident is legendary in the history of the Swedish labor movement.

The General Strike of 1909

During times of recession, there were tough labor conflicts. The situation in the labor market became more intense for numerous reasons associated with recession, unemployment, and industrial relations in Sweden during its early and unsettled conflict stage. Economically, the dock workers were very important to business and the export industry. Industrialists were threatened by the trade unions' organization of dock workers because they were dependent on a steady flow of shipments to keep afloat. Following a year of commercial crisis, a worsening of the international economic situation led to a reduction in production costs as well as in wages in Sweden; this, in turn, triggered a wave of strikes and lockouts. SAF decided on concerted action and effected a large-scale lockout. An impending strike was more an issue of mounting tension than a singular focus on suffrage.

In addition, the leadership at SAF had changed; thus, 1907 was a reorganization year for the confederation (Hallendorff, 1927). The new managing director was Hjalmar von Sydow, a lawyer. Although he bore the quaint old title of circuit judge *(häradshövding),* he had worked as an assistant chief constable and had served as acting chief of the Stockholm police department. Within a short time

he replaced the tough patriarchal industrialists who initially had dominated the employers' organization with young, well-educated men trained in law. Thus, early in the history of labor-management negotiations on wages, both sides of the bargaining table were manned by specialized professionals, albeit those on the labor side were without formal training.

SAF offered security to members through its insurance scheme. The leaders also had contacts to secure financial assistance to guarantee its financial backing. Any efficient development of the lockout and the insurance service it provided would clearly bring LO into the center of disputes.

When SAF threatened a general lockout in 1908, LO decided against a general strike, but the militant Young Socialists and their newspaper, *Brand,* urged mass action (Scott, 1977). A series of small disputes led up to a gigantic clash and major battle, the General Strike of 1909, and tested SAF's tactic of standing firm with its position. However, a quick response to a series of conflicts in different industries in the form of a comprehensive lockout extended the battle lines over large sections of industry. The employers' side backed SAF's decision while facing the other side with powerful opposition.

On August 2, 1909, SAF ordered a general lockout involving 100,000 workers. Two days later, LO replied with a call for a general strike, which built up to a peak to involve 300,000 workers (at that time, of the half-million workers in Sweden, 160,000 were members of LO). In SAF there were 160,000 workers, and in member employer organizations, there were 75 to 100,000 workers.[23]

The General Strike of 1909, the largest strike ever attempted, was watched with keen interest around the world. Employers were able to hold out because they

had access to an abundant inventory of manufactured goods, due to the lower demand and recessionary times. A key related factor was that the railway workers did not strike in sympathy. Thus, mine owners and manufacturers were able to export products because they could move excess stock to market and earn income while not producing. Military personnel and police were sent to Stockholm to escort the transport of foodstuffs and medical supplies during the tense month of conflict in connection with the General Strike of 1909 (SAF, 1967).

In addition, the Conservative government was steadfast and refused to negotiate during the strike. LO's strike fund could not support a long strike, and the funds rapidly diminished. As a result, by September, defeat was apparent to everyone. But the Metal Workers continued the struggle through November, and negotiations finally were broken off in December. The strike lasted for five weeks. There never was an agreement to go back to work. SAF's right to hire and fire was consolidated, and the foremen were taken out of the trade unions.

The employers' prerogatives were protected. Previous experiences had helped to mold SAF's self-image and reaction pattern. As shown in Table 7.1, LO's growth in the first five-year period was relatively small, and there was no strong growth tendency. When SAF was organized, LO's membership started to rise, from 1902 to 1904. Then LO had another growth spurt between 1904 and 1908. After LO's defeat in 1909, however, it lost half its membership. There was a significant decline in membership with the strain of the General Strike of 1909 and as a result of the 1908-1910 depression.[24]

Table 7.1

Membership in LO, 1899 to 1910

Year	No. of Federations	No. of Local Associations	Total No. of Members
1899	16	664	37,500
1900 end	21	787	43,500
1902	24	797	39,500
1904	30	1,172	81,700
1906	30	1,172	144,400
1908	28	2,172	162,400
1909	27	1,829	108,000
1910	27	1,576	85,200

Source: Hallendorff (1927), p. 15.

Agony of Defeat

The General Strike of 1909 was the most dramatic event in Sweden's labor history. Calling off the strike meant that it had failed, a devastating blow to the youthful Swedish trade union movement. Without any gain in material benefits from the major conflict, several trade unions were forced to give up their work, and several national labor organizations collapsed; the collective resources had been depleted. Some labor unions lost half of their members. The aftermath of the General Strike of 1909 took its toll on disillusioned members.

At that critical time, most LO members realized that a regulated negotiation procedure was the only viable alternative to compulsory arbitration. For others, the disappointments of the General Strike fostered agitation for more radical methods for workers to gain ground. An anarchist faction distrusted the conservative state

and a reformist approach to bargaining. However, after they opposed members of the Social Democratic Party in 1909, the dissidents were finally expelled.

The significance of the strike was that it fully tested the strength of both the young labor market organizations, SAF and LO. By 1911, LO experienced a membership reduction of more than 50 percent. The unions suffering the greatest losses among those who retreated were those representing miners, unskilled factory workers, and women. The groups that most recently had joined the trade union were first to leave (De Geer, 1992).

Reconstruction of LO and the Industrial Union Principle

SAF's strong stance had a powerful influence on the trade union movement, and the big clash left LO weak and divided. Leading up to the major conflict, LO's organization of workers in the early stages had not been strong enough to take up conflict with the existing employer organization, at least when economic conditions were not overwhelmingly favorable for the workers. Workers had demanded a raise during a depression.

Before LO formed in 1898, the organization of the unions was not systematic. It was organized mainly by craft, and only two unions, in sawmills and textiles, were organized on an industrial basis. Soon it became clear that an explicit organizational plan would have to be devised, but LO did not have the necessary tools to introduce a compulsory provision to organize by industry rather than craft.

To confront SAF's central structure and strong financial resources, LO needed financial support in cases in which the unions attacked. In the first decade of the twentieth century, LO had not gathered enough financial strength to take the

offensive. In addition, trade unions had a tradition of local organization, and "the constitutional powers of LO were limited by a cautious desire to preserve a good deal of local autonomy" (Johnston, 1961, p. 38). To meet SAF on more equitable terms, LO needed to be stronger and more powerful in relation to unions. One option was to adopt organization along the lines of the industrial union principle.

Much of the pressure within LO to change to the industrial union principle of organizing workers by industry rather than craft, which is how LO started, reflected attempts by employers to establish industrywide collective contracts. However, SAF made the request because they wanted to have only one union of manual workers to deal with. Not being a union idea, this was met with stubborn resistance.

Originally, unions had been built up along craft lines. In the old trades, the division according to craft was strictly adhered to; sometimes this meant that unskilled workers were not admitted. In other cases, however, efforts were made to unite all workers in the same industry in one union, regardless of occupational training (a principle of organization that has since gained more ground). In 1906, the LO Congress had formally recognized the industrial union principle as an alternative to the craft principle of organizing workers. But the recognition of this principle was opposed by the Iron and Metal Workers' Union, which was organized on the basis of material worked upon by its members.

Thereafter, when LO soon found that the industrial union principle worked better to increase membership and considered organizing along those lines, opposition within LO's ranks continued. However, in contrast to their position in 1906, the Metal Workers quickly reversed direction following their experience with

the 1908 round of engineering-industry negotiations. Consequently, the influence of the powerful Metall group acted as a catalyst for change.

The pessimism that defeat engendered within the labor movement found expression in much soul searching at the 1909 LO Congress. LO had the option to allow a union to be organized by craft or industry and maintained that it was prudent to fix on one or the other. This option came up for a decision in 1909. There was much to be said for the division of union organization along industrial lines in LO's Congress minutes.

The LO secretariat evolved a tactic of gradualism and appointed a committee to study the question. The secretariat realized that it was technically difficult to do away completely with craft unions. Boundaries were not always clearly defined because of diversity of industry and trade. The proposal was for one union for each industry, but it was not made compulsory because the secretariat sensed that there would be too much opposition following defeat in the large strike. Instead, it was made a guiding principle to be brought about as soon as possible. The reorganization plan produced in 1912 provided for twenty-two industrial unions. At that time, most of the twenty-two were house-building unions; the others were split between iron and metal working unions (Johnston, 1961).[25]

Political Aspects of the Strike

The General Strike was harmful to union organizations and extended into the political arena, even though there was an increase in votes for the Social Democrats. Eventually, some workers joined a new syndicalist organization, dividing LO into Moderates and Syndicalists.

The Workers' Central Organization was formed in 1910, after the major conflict of 1909, but it never won very great adherence (peak membership was 37,400 in 1924, mainly from building and forestry). Syndicalists wanted decentralization, and they were hostile to collective agreements; instead they advocated direct action.[26] The Syndicalists intended to strike without notice and surprise employers into submission following the initiation of industrial action. However, the Syndicalists never became powerful enough to attract significant numbers of adopt the general strike as the primary apparatus for the social and political struggle. SAF and LO both viewed them as a thorn in the side of those seeking smoother collaborative methods to solve conflicts in the labor market with a minimum of disruption. SAF was strongly opposed to dealing with syndicalism groups.[27]

Trade union leaders had conducted the strike with great discipline, and defeat dealt a heavy blow to the trade union movement. But under the prudent direction of Hjalmar Branting and his political friends, the labor movement soon recovered its prestige and went on to reap the benefits of the franchise extension granted in 1909. The political absence of anti-social legislation made a big difference. The state executives chose to compromise in the face of reality, making concessions to Liberals and Social Democrats on such issues as the franchise, which helped to blunt labor radicalism.

The campaign for suffrage and the acceptance of parliamentary methods by the Social Democrats made dubious the efficacy of the general strike as a political, weapon. Branting had realized that a general strike as the ultimate weapon could force opposition to any and all reform. The power struggle on the economic front in

the form of escalated labor conflict provided ample documentation that the General Strike of 1909 produced considerable costs in terms of membership and funds.

Even though LO lost strength in numbers, it quickly gained an advantage in political influence as SAP became more powerful in the Riksdag following the strike. It is significant that during the period from 1895 to 1909, when universal male suffrage was first passed in the Riksdag, the Social Democrats experienced a rapid growth in electoral support. Party membership increased from 10,000 to 133,000. Because of Branting's moderation, LO gained members, and by 1908 the Social Democrats had increased representation in the Lower Chamber. The growth of socialism, which paralleled the development of manufacturers, focused on the need for reform measures and the passage of social legislation.

Both labor and management had been successful in establishing their organizations and operating rules and consolidating their membership, thus providing the all-important forum for dialogue and the possibility for agreement rather than being compelled by legislation. Those gains were substantial and did provide a strong foundation in the longer view. To some extent, the success of the December Compromise gave way to the painful realization that not until 1917 would LO regain the membership numbers it had reached before the 1909 strike. In reality, labor was weakened for two decades following the strike spanning the interwar period. Despite the renewed struggle, however, the December Compromise remained a desirable alternative in labor-management relations.

Conclusion

Two important aspects of political development were in place as Sweden industrialized, which provided the basis for political parties at the end of the nineteenth century and the beginning of the twentieth century. First, there was an established maintenance of balance between the crown and landed aristocracy; second, the weakening of the landed aristocracy led to a subsequent openness to bourgeois attitudes. These particular Swedish political developments prevented the establishment of an aristocratic bourgeois coalition against the workers and peasants. Moreover, "the state made virtually no attempt to hinder the organization, growth, and activities of the trade union or socialist movements as did almost every country in Europe other than those of Scandinavia and Switzerland" (Tingsten, 1941, vol. I, p. 15).[28]

Political-reform legislation prepared the way for further activity on the suffrage issue without achieving full democracy. The 1866 reform recognized the worth of a commercial and industrial middle class, at a time when farmers formed the largest bloc in the new parliament. Due to efforts by the Conservative government, the 1909 reform allowed the Conservatives to keep intact their position in the Upper Chamber. Neither reform passed without strong popular pressure. The 1909 reform was stimulated by a broad suffrage movement, a demonstration strike, and the union crisis with Norway. In addition, the property qualifications embodied in each act lost their meaning because of the growth in per capita income.

Also, by the end of the nineteenth century, a heightened national social conscience, as well as a peaceful settlement of the Norwegian crisis with the dissolution of the Swedish-Norwegian Union in 1905, paved the way for successive

Conservative coalitions and Liberal governments to introduce some measure of economic reform. In 1906, legislation was adopted that restricted the expansion of land by private enterprise (large timber companies) in reaction to more than thirty years of land acquisition by small farmers.

By 1909, modern political party alignment had been established in Sweden. The Conservatives drew their support from large farmers, industrialists, and the upper middle classes. The Liberals were supported by the old radicals, the Temperance and Free Church movements, and small farmers and tradesmen. The Social Democrats were supported by industrial workers, trade unionists, and some radical/reform intellectuals.

Although there was an upward trend in the Swedish economy leading up to the first decade of the twentieth century, there were many fluctuations. As workers were becoming more organized into trade unions and considerably more powerful, they were less willing to accept deteriorating employment conditions when an international recession threatened. When the international economic situation worsened in 1908, depressing wages in Sweden, a wave of strikes and lockouts broke out, which publicly confirmed worker dissatisfaction.

During the conflict, the trade union objected to accepting a national agreement on wages, and Paragraph 23, which stipulated the right to lead and distribute work and to hire and fire, was to be written into every collective agreement. Trade unions would fight this over the years, but in the first decade of the twentieth century, they distrusted the state and did not want to replace the structure they had, which yielded some gains without resorting to legal action.

There had been discussions about a General Agreement at SAF as one option during the heated conflict. Collective agreements had increased with the acceptance of Paragraph 23 and the December Compromise, but the collective agreements were valid only for a single work place. SAF had rules and guidelines but little to say about what would be regulated in the agreements. A general agreement would partly replace local or industrywide agreements and would make LO responsible for all agreements at all levels. When the idea of a general agreement reached an abrupt dead end, it was shelved, to be revived three decades later.

In the wake of the destructive forces associated with the General Strike of 1909, LO had to reorganize and rethink its internal structure and constitution to deal with a determined SAF and the external markets. Following the strike, the growth of the trade union movement, in which LO could pit the collective strength of the workers against the employers, was delayed for many years.

The General Strike of 1909 was a major turning point in Swedish industrial relations, and it brought a halt to the early period of cooperation. However, in the international perspective, by 1910, Sweden was considered to be a more strike-plagued country than most (Forsebäck, 1980).

The decade after 1910 was a long, arduous struggle to rebuild the shattered organization. In 1912, LO Chairman Lindqvist envisaged that, by 1917, LO might be able to consider becoming an attacking organization, but this proved to be an optimistic forecast for a cautious Swedish trade union leader. For many years, the conditions in the labor market were unclear, with employers holding the stronger position.

By the beginning of World War I, Swedish labor organizations were free and unbounded by special legislation to pursue their principal mission, which was to negotiate wage agreements through collective bargaining or, if need be, by open conflicts. Industrial relations were comparatively peaceful from 1914 to 1918, when Sweden remained neutral during the war. In contrast, the postwar era brought unemployment, wage cuts, and industrial strife, recreating a climate of bitter relations. Until developments in the 1930s provided a more stable economic and political base, industrial strife and political and economic uncertainty would continue to be ongoing and challenging issues in Swedish economic development.

Endnotes

1. In 1921, the first Swedish democratic election with universal and equal suffrage attracted 1.7 million voters, three times as many as the previous parliamentary election (see Hadenius, 1985, p. 30).

2. According to Tomasson (1969), all the criteria proposed by social scientists for successful modernization were present in Sweden in the highest degree. These included long-term political unification with a high degree of loyalty to the state, political decision making on a rational and secular basis, a well-developed national administration, an emphasis on performance in the governmental bureaucracy, and a high level of literacy in a single language.

3. According to historical records, the precursor of the Swedish Parliament was held in 1435, when the Swedes were engaged in throwing off Danish rule. Firm rules did not evolve until after 1600, when the four estates represented the nobility, clergy, burghers, and peasants, the main "special interest organizations" of that era. The peasants *(bönder)* were freeholders; they were able to remain personally free and to maintain their freedom for a variety of reasons, most notably through participation in the lowest estate of the four-estate Diet in the late-medieval era and onwards. Before King Gustavus Vasa (1523-1560), royal power and the aristocracy were unusually weak. However, the power of the nobility, made up of military officers and public servants, grew with successive wars. Nevertheless, from 1680 onwards, with the support of the four-estate Diet, large portions of the aristocrats' lands were expropriated. Sweden got an authoritarian monarch followed by his son Charles XII, who became a military dictator. After 18 years of war fought on the opposite side of the Baltic, Charles was killed in 1718. Thereafter followed an early experiment in parliamentarism from 1720 to 1772, with negligible monarchical power. See Mörner (1985, p. 249) for a summary of political events to 1930.

4. Gustavus made many enemies. He was considered a tyrant, particularly among the nobles. On March 16, 1792, an officer and nobleman, Jacob Johan Anckarström, shot Gustavus at a masked ball in the Royal Opera House in Stockholm (depicted in Verdi's opera); the king died thirteen days later. Anckarström was the only one of the conspirators to be executed. Following three days of flogging in public places in Stockholm, he was beheaded near Skanstull, on the outskirts of the city. This was the last time a political offender was executed in Sweden.

5. According to Hans De Geer (1992), at the time of the reform in 1866, only 5 percent of the population were eligible to vote in the election to the Lower Chamber, meaning every fifth man of legal age could vote before the onset of Swedish industrialism. Knut Wiksell, a highly respected economist, pointed out that a working-class family paid taxes, both direct and indirect, even if they could not qualify under the 800-*kronor* minimum.

6. Scobbie (1972) wrote:

> Only some 6,000 people in the whole country were eligible for the Upper House, and of the 125 members elected over half were aristocrats; about half the members were high-ranking civil servants or officers, and well over half owned estates. They were, moreover, elected for a nine-year period and returned successively, only a small proportion of the chamber being elected annually so no violent changes could be envisaged. (p. 83)

7. Until 1918, the great dividing line in Swedish politics was drawn between the right and the left--those who wanted to retain class society and those who demanded democracy and equal rights for all Swedish citizens. From 1920 onward, the main dividing line was between the socialist parties, Social Democrats and communists, on the left, and the liberals and conservatives on the right, a grouping that remains today. See Andersson and Weibull (1980).

8. Emphasis on greater political action by trade unions is clear in Hjalmar Branting's welcome address to the Party convention in 1900. See SDAP (1900, p. 21).

9. SAF documents reveal that in 1947, "a trade union may thus decide that its members shall automatically and collectively join the Social Democratic Party unless an express reservation be made against the decision by the individual member" (SAF, 1947, p. 20). Today, cooperation and solidarity between SAP and the trade union movement are manifested in a variety of ways. As of 1978, a third of LO's members made the decision at the local union branch level to affiliate collectively with the local Social Democratic organization.

> Collective affiliation is entirely a question for members of local branches to decide. Individual members are entitled, without reasons given, to 'contract out' of such an affiliation. There are no longer any regulations in either LO or union rules dealing with collective affiliation. The compulsory provisions of this were deleted in 1909. (LO, 1978, p. 8)

10. According to Johnston (1962), "The right of a union member to contract out is estimated to be exercised by less than 1 percent of the members affected by collective affiliation" (p. 28).

11. There are strong political and financial ties through collective affiliation; thus, cooperation is secured at the top level. Ties between SAP and the trade union movement have proved significant in determining union attitudes on two main issues: (a) governmental intervention in the negotiating machinery of the labor market, and (b) the choice between eking out material gains, e.g., retirement pensions, through collective bargaining or legislation.

12. For a discussion of this development see Ambjörnsson (1988). In his work about temperance and the workers' movement in the early twentieth century in Holmsund, a coastal community in northern Sweden centered on the local sawmill and the port, Ambjörnsson wrote,

> The temperance movement was the first popular movement to emerge in Holmsund. . . . Founded in 1884, . . . by the turn of the century it comprised around 600 persons out of a total of about 2,800. The revival movement was next, with a mission founded in 1891, followed by the Salvation Army, and a mission associated with the Evangelical National Missionary Society. The latter grew out of a long-standing tradition of village prayer meetings, Bible study groups and Christian sewing circles. The workers' movement came later, with the first trade union local formed in 1905. The majority of the founders of the first temperance lodge, *Skärgårdsblomman,* flower of the archipelago, were sawmill workers and craftsmen along with their wives and daughters. (p. 4)

13. According to Tilton (1974), circumstances in Sweden permitted a gradual evolution toward democracy--nonrevolutionary democratic modernization. "Thus Swedish democracy does not owe its origins to a revolution but to a series of reform acts in 1866, 1909 and 1918 extending the franchise in a way reminiscent of the English Reform Acts" (p. 567).

14. Prince Karl of Denmark became the first monarch of an independent Norway since the Kalmar Union in 1397; the son-in-law of Edward VII of England, he took the Norwegian name Haakon. In 1913, the king's veto was abolished and Norway achieved universal suffrage when direct elections were substituted for indirect ones. The first women to vote in general elections and to sit in the parliament of a sovereign state were Norwegian women.

15. Sweden had a record of peace and no invasion since 1814 and the end of the Napoleonic wars when one of Napoleon's famous marshals, Jean Baptiste Bernadotte, became the successor to the royal throne of the Kingdom of Sweden. He was succeeded in 1818 by King Karl Johan Bernadotte, or King Charles XIV John, who reigned until his death in 1844.

16. The Swedish Metal Workers Union (Metall) is an exception to this generalization, although it made contributions in the early years. Union historian

John Lindgren (1938) concluded that the leaders of Metall came to view party organizers less satisfactorily than the union's own.

17. The outstanding Danish cultural personality of the times, Georg Brandes, tried to get his fellow Danes to explore the ideas of English and European philosophers and scientists who were reshaping popular concepts. In his famous lecture in Copenhagen in 1870 on "The Main Streams in Modern European Literature," he heralded what was known as the Modern Breakthrough. Brandes declared himself to be against "authority, traditions and prejudice" (Scobbie, 1972, p. 100)--a cultural radical, in fact. He urged authors to take an active interest in society and to debate social problems.

18. In 1860, Jews were given the same right as other citizens to own property, and in 1861 Swedes of different persuasions from Lutheranism were given the right to hold public services. Lutheran ministers were not accustomed to having their authority challenged.

19. Bern's Restaurant, which houses the Red Room, is located in the center of Stockholm across from the Royal Theater (Dramaten). In the 1980s, it was renovated, based on the original architect's plans.

20. According to Gustafson (1961), "*The Red Room* became inevitably the clarion call to a new generation of authors, all of whom recognized Strindberg as the master" (p. 5). Strindberg displayed "a combination of high good humor and devastating inventiveness, which is the mark of only the greatest satirists" (p. 6).

21. Today, in Sweden the nonsocialists are referred to as bourgeois parties, without the negative connotation that it has in English. For the current political configuration of the bourgeois and Social Democrat coalitions, see Hancock (1972). The Swedish party system outwardly is characterized by its multiplicity of parties--a tripartite cleavage consisting of the New Left (New Left Communists), the Social Democrats, and the nonsocialist bloc encompassing the Center, the Liberals, and the Moderate Party.

22. The Åkarp Act forbade all efforts to persuade people to convince others to take part in union actions such as strikes. A government committee was appointed to investigate employment-contract legislation and the questions of conciliation and arbitration. In 1901 they submitted their findings. Official arbitration was viewed with misgivings on all sides. The proposal for legislation failed in 1903, and despite objections from some industrialists, a State Conciliator's Office was established, which played a role in establishing labor peace over the years, sometimes more successfully than others. Two people from SAF, R. Almström and G. Östberg, objected to the changes. They would later head up operations at SAF (see De Geer, 1992; for legal aspects see Edlund, 1986, 1988; see also Casparsson's, 1966, discussion of the early years).

23. For the most comprehensive account of the General Strike of 1909, see Schiller (1967).

24. According to Johnston (1961), LO membership has shown a steady increase throughout its existence, except for 1901 to 1911 and 1921 and 1933, when membership declined. LO's membership has proven remarkably resistant to the usual explanation of union membership fluctuations being correlated with the business cycle. LO tried hard in interwar years to promote the interests of badly paid groups, e.g., farmers and forestry workers.

25. According to Johnston (1961), LO maintained a cautious and pragmatic policy, but the lines of communication had been established within the trade union movement from the top of LO to the primary unit of organization in the workplace--the shop floor. SAF compelled LO to adjust the organization and the constitution to suit the needs of the economy, and the threat of legislation was always influential. "But cohesion of LO is not purely ideological; a strong strain of materialism has pervaded its attempts to organize the unions in a manner favorable to the production" (p. 67).

26. For an analysis of Swedish syndicalism, see Åman (1938).

27. The October Revolution in Russia in 1917 had an effect on the Swedish labor movement, but the trade union branch succeeded in staying out of the battles between the Social Democrats and the rebellious Left socialists and communists. In 1917, the left wing broke away and became a bona fide Communist Party by joining the Comintern (see Olsen, 1984). The moderates joined the Liberal government in coalition from 1917 to 1920, but there was no coalition in the 1920s (see Anders, 1975).

28. Tingsten's thousand-page work appeared in Sweden in 1941 and has remained the most thoughtful and extensive authority on the origins and development of Swedish social democracy.

CHAPTER VIII

THE EMERGENCE OF A NEW PARADIGM IN MANAGEMENT IN SWEDEN AND CHALLENGES OF THE MODERN ERA AND THE FUTURE

Introduction

This last chapter is a summary of the most important contemporary events regarding management and industry--the critical components of organizational change fostered by the introduction of new technology in the workplace in the 1970s in Sweden and a changing work force, as well as increasingly competitive international markets. These changes were part of Sweden's industrial history and expanding economy and had a major impact on society:

> As the historical process of a society unfolds, individuals change their values and expectations concerning work roles. This changes the parameters of organizational design. Conversely, changes in technology bring about changes in values, cognitive structures, lifestyles, habitats and communications which profoundly alter a society and its chances for survival. (Emery, 1981, p. 11)

Almost a hundred years after the early stages of industrialization, during the modern period of social and technical changes that emerged in the 1960s, a new spectrum of values relating to working life was introduced in Sweden. The new values embodied three significant developments affecting how Swedish business enterprises, those competing in the international export markets, would be reorganized. These three developments were as follows: (a) the whole organization was decentralized, (b) the design of technical systems was based on new principles,

and (c) business leadership was regarded as a process of generating new ideas throughout the organization.

New forms of work organization and organizational change were introduced and disseminated in the late 1960s and the 1970s, when managers shifted toward a more flexible system within the business organization, known as participative management. Comparatively speaking, the trend occurred early in Sweden, developing from new demands domestically and increased competitiveness in world markets experienced by growing Swedish firms, leading up to the worldwide oil crisis in the 1970s.

In this context, it is important to keep in mind that no single way of managing is best for all firms or industries. In fact, no nation exhibits management practices that are equally suitable for all types of firms or industries. However, there are certain values and cultural patterns and traditions that are driving forces, which could be termed Swedish management philosophies, operating within the realistic constraints and opportunities in dynamic international markets.

For many Swedes over some decades, Henry Ford personified American efficiency. However, just after the mid-twentieth century, new technology opened the door for the reorganization of work, allowing for a technical system that accounted for the integration of the social and technical aspects of work, a socio-technical, open-ended process. It was primarily micro electronics that provided the opportunity for new flexibility in industrial production and a departure from functionally specialized work based on the classical scientific management mode. There was no longer a demand to organize technology functionally, but in a more fluid pattern promoting integration.

Sweden was the first country to abandon the traditional assembly line in the automobile industry, a work and production process associated with Ford Motor Company in Michigan. The new technical systems, which incorporated team assembly, were introduced in 1974 at a new Volvo automobile manufacturing plant located in Kalmar, in the south of Sweden. The less rigid and compartmentalized structure demanded increased employee participation.

According to Rolf Lindholm (1987), who pioneered efforts to promote the socio-technical aspects of production and industrial change in the technical department of the Swedish Employers' Confederation (SAF), the new managerial perspectives in Sweden during the 1970s were as revolutionary as the changes fueled by industrialization a century before (see Lindholm & Norstedt, 1975, and Lindholm, 1987, for example). In Lindholm's view, the new directions in business management in Sweden were extraordinarily significant for Swedish society as a whole. Lindholm concluded that Swedish companies were presaging social changes on the same scale as those that occurred in the early twentieth century. These changes were as significant in their broad sweep of transformation as the previous late, but rapid, industrialization of Sweden, when it had been basically a backward, agrarian, rural economy. New developments in business and industry were creating shifts throughout society, and new technology opened doors for continued change. "Historically, industry has been in the forefront of the evolution and the organization of society. . . . We must not forget that technology is our servant, not our master" (Lindholm, 1987, p. 3).

These changes in production processes were not exclusively Swedish, although changes at Volvo, for example, preceded similar shifts at General Motors.

Reorganization and increased employee participation required overcoming some traditional attitudes that could no longer prevail in the competitive global markets.

In the United States, United Auto Workers (UAW) Vice-President Irving Bluestone provided some insight into worker participation through his role in the development of the UAW-General Motors 1973 National Agreement. When asked about attitudes following the agreement, which emphasized employee involvement, Bluestone stated that the "human resources of a nation are of paramount importance." However, he identified an obstacle to attempts to increase participation at the workplace: "Management hires people from the neck down, and traditions, customs, and practices are hard to overcome" (Bluestone, 1983).

In the meantime, a new breed of business managers emerged in Sweden, such as those described by the President of Scandinavian Airline System (SAS), Jan Carlzon (1987), in his book *Riv pyramiderna* (Moments of Truth). Carlzon proposed new management goals at a time when the airline was losing its market share. He advocated that the traditional organizational pyramid at SAS, where the company was directed from the top level of management down to the broad base of the employees, should be turned upside down. This reversal would allow management to support and empower the front line, the key staff who had direct contact with passengers on a day-to-day basis. The creativity and thinking power of employees had to be attracted toward achieving the new goals; thus, it required a change in the organizational culture. Significantly, business organizations develop their own corporate cultures, and those cultures do not bend easily. Geert Hofstede (1980), professor of organizational behavior, defined culture as

> the collective mental programming of the people in an environment. Culture is not characteristic of individuals; it encompasses a number of people who were conditioned by the same education and life experience. . . . Culture refers to collective mental programming . . . [which is] often difficult to change; if it changes at all, it does so slowly. (p. 54)

Carlzon was asked about his attitudes regarding human resources and driving management philosophies in Sweden. He said he wanted to demonstrate that the SAS employees were "something very valuable, and this has created a security among people which makes them perform, and they demand to perform. This is one of the main reasons we are effective and competitive today" (Carlzon, 1988). One result was a flatter business organization, resulting from increased levels of decentralization in the organization, and a more competitive market position for SAS. Carlzon transformed SAS's bureaucratic hierarchy and reoriented the company toward a business-travel market by empowering front-line workers to make SAS a customer-driven business.

Management in Sweden

The way in which firms are managed and choose to compete is affected by national circumstances. Many aspects of a nation influence the ways in which firms are organized and managed. Some important aspects are (a) attitudes toward authority and (b) norms of interpersonal interaction or attitudes of workers toward management and vice versa, related to the institutional structure and culture, such as social and religious history. In Sweden, most industries have a high technical and engineering content; intricate and complex products demand a highly disciplined management structure.

The mix of top executives in Swedish firms reveals a historical bias toward technical engineers. Managers with economics and business degrees are a phenomenon that emerged after the 1930s, by which time many of the important Swedish firms had long been established. Today, the largest proportion of managers with technical degrees is found in the iron and steel industry (87 percent) and in the engineering industry (70 percent) (Porter et al., 1991, p. 42).

Particularly significant as an aspect of Swedish management is firms' orientation toward competing globally. In this respect, managerial and union attitudes play an important role. In addition, travel is a long tradition and a way of life in Swedish firms, which do well competing in industries requiring far-flung global strategies involving sensitive relations with national governments and firms. International expansion of enterprises contributed to the high status of foreign subsidiary managers. The president of a subsidiary was a pioneer, and his status was correspondingly high. In Sweden, foreign assignments never have been regarded as destructive to career opportunities, but rather a sign of approval and trust from management at headquarters. Porter (1990) found that, in this regard, Sweden differs in several important respects from other countries (domestic orientation of other countries is discussed in Porter, 1990).

Also, technical education abroad has been common among Swedish industrial managers. As discussed in this dissertation, Swedish practical international experience--particularly in Germany and England and later in the United States--already was widespread at the turn of the century. These early contacts in foreign countries stimulated an international outlook by Swedish managers. In some cases, these contacts provided technological ideas or market knowledge crucial for

comparatively early internationalization of Swedish firms. Also, according to economist Sune Carlson (1988), when he was a student at the Stockholm School of Economics in 1932,

> if you were a good student you never stayed in Sweden, you went abroad, and it was the same with the Royal Institute [in Stockholm]--the best students went immediately abroad. So I went to Chicago because I wanted to study economics. My other friends went to study public accounting or other subjects, before they continued their education at home. They might get a master's degree from Columbia University in engineering or on the management side at the Harvard Business School, or most worked for American companies for a few years for practical experience, so American management has had a great influence.

Goals of firms and those of individuals reflect commitment of capital and human resources to an industry, and long-time horizons from shareholders and employees. "In Sweden, owners and managers tend to stay committed to their mature engineering industries. With limited growth potential in home and nearby markets, Swedish firms have grown into global firms instead of diversifying out of their core industries" (Porter et al., 1991, p. 43). These factors help explain the step-by-step approach to the internationalization of Swedish industry.

New Technologies

Work and what it means in terms of output, as well as what it entails in terms of well being, has been a focal point for research in economics, sociology, anthropology, and psychology. More recently, it has become a major issue in the newer applied fields of management, organizational theory, and industrial relations. A persistent theme that runs through the literature is the significant loss to society within the typical authoritarian, hierarchical bureaucracy. Both theory and experience indicate that the authoritarian workplace results in social costs generated

by reduced labor productivity and increased worker dissatisfaction. "Generally, management preserves a legitimized authority, defending it with the misplaced rationale of elitism, i.e., the presumed functional superiority of managers" (Alexander, 1975, p. 43).

The use of new technology in the workplace requires a new form of adaptation. During the twentieth century, productive capacity expanded faster than demand in industrialized countries as mass production increased. The production of large quantities of standardized goods necessitated seeking new markets or expanding old ones to avoid economic fluctuations. If recession occurs, all of the expansion and investment in mass-production facilities and new technologies becomes meaningless if expected profits are not realized.

Cross-country and cooperative research projects resulted in reduced costs and mergers, and joint ventures contributed to further development of the international organization of work. Wage systems were based on identical work processes, where the same raw materials were transformed into the same products by the same workers with the help of the same machines. This type of production, which occurred in Western industrialized countries during the twentieth century, and most intensely during the postwar era, led to a particular type of organizational choice based on multiple layers and a division of the production process into small components, part of a rather rigid system and a highly structured, multilayered business organization.

At the same time, there was a demand from workers and researchers to make work more human. The problems associated with human management emerged most clearly in the management of assembly lines. This was most noticeable in the

conveyor-belt assembly of automobiles in the 1950s and 1960s, stemming from Henry Ford's introduction of the continuous-flow conveyor for assembly of automobiles in the early twentieth century. Known as "Fordism," this method was an attempt to reduce transport costs in automobile assembly. Conveyor chains had already transformed Chicago slaughterhouses before the Ford plant in Dearborn adopted them. The logic of the continuous-flow line was well understood in the early phases of industrialization.

An important aspect of Swedish multinational development and the continued internationalization of Swedish industry is the management and organizational change that occurred as Sweden moved from traditional forms of work organization, known as Taylorism. Fragmentation of tasks and workers' being viewed as part of the machinery are cornerstones of Taylorism (Dundelach, 1982). In Western industrialized societies, Tayloristic principles filtered down through all levels of society in authoritative and hierarchical structures, which shaped the way society regarded itself and the role of the individual. Historically, the subdivision of tasks and specialization of the Tayloristic mode of scientific management have produced a work situation that, for most workers, is boring, repetitive, monotonous, and stultifying. According to Rolf Lindholm (1988), Vice-President of the Swedish Employers' Confederation (SAF), industrial engineers often did not think about whether or not jobs were routine or boring or lacked creativity.

Traditional forms of organization of work emanating from Taylor's methods were most apparent in Sweden in the late 1940s and the 1950s. In 1911, Taylor's book *The Principles of Scientific Management* was published in the United States; two years later, it was translated and published in Sweden. Basically, Taylor's

theories about the organization of work were based on the man in the planning room, whose specialty under scientific management is to plan ahead, demonstrating that work invariably becomes better and more economical through a subdivision of labor. Each act of each mechanic should be preceded by various preparatory acts done by other men. The division of tasks, specialization, systematic analysis of the work cycle measured in time-and-motion studies, predecided time limitations, and careful follow-up all became the basis for a dramatic injection of efficiency into American industry.

Few persons have had as great an impact on the practical application of organizational theory as did Frederick Taylor. He became famous throughout the industrialized world for new ideas on the organization and management of work in American companies, leading to his being called the inventor of "scientific management." Taylor's ideas spread quickly, and these new principles became accepted as part of standard managerial procedures. Into the 1960s, in Sweden and elsewhere, virtually all the development of organizational knowledge stemmed from these ideas. To be sure, since Taylor's day, many new theories on how to organize, manage, and control work in companies have emerged, but most of them have been constructed on essentially the same foundation. According to Swedish professor Sune Carlson (1988), American management techniques were influential, "which is why Taylor meant so much in Sweden. We were very much influenced at the early stages by Taylorism and rational planning. Later on, I would say, basically because of the war, we became interested in industrial psychology and physiology, and so on."

After World War II, there was a shift in interest from the purely technological side of management to the physiological and psychological aspects. Carlson (1988) stated that an important part of Swedish scientific work was Värmland's Arbetsskog, a region in Sweden, and the forest industry there.

> During the war we were dependent on wood, not only for heating but also for transport. All cars were run on wood, so the production of timber became very important. The streets of Stockholm in the autumn were filled with wood in the middle of the street. Practically every wide street was filled with wood, and by the spring one could see how it melted down. This meant that work in the forest became very important. Studies were conducted on the working conditions of the lumberjacks at Uddeholm in Värmland, where there was a combination of paper mills, electricity production, and steel mills. A group of engineers and physiologists started to measure the amount of energy used by people cutting wood by measuring the combustion in the lungs. They measured the energy utilized by a human and compared it with the performance they could get from a machine doing the same job, working toward a productivity curve. The experiments found that the forest workers were using 8,000 calories a day. The scientists and experts found that the people were eating pork and butter, basically, and that their families were starving because the workers were eating everything. This accounts for the medical people and physiologists being part of the study and their intervention.

Carlson found the "quite fascinating" studies, called *Värmländska skogarbetsstudien,* to be a revelation about how the human body worked. "I regard [the studies] as one of the most important contributions of management science," he asserted.

Many of the activities surrounding the shift from mechanical Taylorism to an undertaking of the psychiatric, psychological, and physiological problems of the production process were a result of the war experience. Joint-production committees were used directly in Sweden, and according to Carlson (1988), "the shift went to the head of management philosophy."[1]

Carlson went on to explain that, in 1952, Gunnar Wästerlund presented his dissertation, and he became a professor of industrial psychology in Stockholm. At

that time, Carlson had left to take a position with the United Nations. After the publication of his book *Executive Behaviour,* people in Sweden became interested in high-level training of management. Carlson later became a consultant at SAF in this area.

Toward New Forms of Work Organization

Eventually, there began to emerge a new paradigm of increased participation in the workplace, which challenged the traditional bureaucratic "Tayloristic paradigm" in practically all Western countries. The multilayered, highly structured corporation often provided a framework that promoted alienation, worker discipline, and the related problems of absenteeism and high turnover. The solutions to such problems often favored employers, who could decide unilaterally on such questions. These solutions frequently led to further increases in the fragmentation and predetermination of tasks, and the search for newer groups of workers willing to accept the increasingly impoverished jobs.

In general, authoritarian, hierarchical management techniques have prevailed in most factory settings in industrialized economies in the twentieth century; those in authority discipline workers and treat them as subordinates and as children, rather than as adults (Gardell, 1983). This form of management prohibits those who are the most familiar with the work from contributing to its improvement.

Other alternatives started to emerge, based on experiments in England in coal mining and increased productivity resulting from group work. The shift to a new paradigm and a redesign of work in Sweden came through Einar Thorsrud[2] from Norway and Fred Emery, who collaborated with Eric Trist at the Tavistock Institute

of Human Relations. The two Tavistock social scientists conducted studies in coal-mining pits in England, which made it clear that the productive system was a socio-technical system (the people and the equipment). This became known as the principle of joint optimization during the postwar period, from the 1950s through the 1970s. Their "action research" was a reaction to changing times. Emery (1966) stated,

> It has been clear for some time that the conditions of life in industry constitute one of the major problems facing modern industrial civilizations, the ethos developing there having become increasingly autocratic at a time when it was recognized that the major ethos prevailing in the main areas of nonwork life should be relatively democratic. (p. 1)

A vital change occurred in management philosophy; it entailed a shift from the machine as the center of productivity to the human aspect, the worker, and the use of technology as a support in manufacturing. This shift brought about an organizational change resulting in a new paradigm for management. This critical change often is described in Sweden as increased democracy in the workplace and a form of participative management, which leads to greater job satisfaction, increased performance levels in the organization, and higher productivity, all of which combine to make industry more competitive and efficient.[3]

In the 1960s, problems of work organization were becoming more intense in Sweden, both for employees and employers, due to structural changes. At the same time, it was becoming easier for employees to avoid unpleasant jobs, and this generated more problems for employers. Nevertheless, by the 1960s, workers were becoming more highly educated than ever before. They were also becoming more demanding, desiring more alternatives than in the past, viewing themselves as mature adults and capable of exerting more control in the workplace. A push for

more worker participation and the introduction of new technologies in the 1960s and 1970s required a redesign of work in the production process and that management change and seek a new paradigm.

At the same time, technological change no longer was oriented toward larger and larger company size as knowledge-based activities and technological changes gave smaller firms a new lease on life through computerization, which provided more flexibility. The production of goods on a large scale appeared to be inflexible, however; this inflexibility was most apparent in oil, steel, transportation equipment, and consumer durables. Small firms were able to adapt to change quickly and meet atypical needs of the market. Flexible manufacturing systems in metalworking allowed for small-batch production, as opposed to large-batch or continuous production. The small-scale flexible production firms had different policy needs based on a supportive environment, good infrastructure and transportation, training, and retraining, which combined to affect multinationals operating across national borders.

Inflexibility in production of steel and transportation equipment hindered Sweden's competitive position in the international market. In the late 1960s, when major multinational firms such as Volvo were hit with record-high levels of turnover and absenteeism and signs of labor unrest, steps were taken to develop new forms of work organization. Thus, in the comparative framework, the need for a renewal of the work organization and a demand for more flexible manufacturing systems were addressed quite early in Scandinavia. During the 1970s, in particular, new technical equipment radically changed the work process and consequently the basis of the organization of work. This led to a reworking or in many cases the

abandonment of the traditional work organization, which was supported by changes in the organization of the work process and production, where quality control was incorporated into the production departments. The technical choice was demonstrated through new solutions permitting radically new forms of work organization.

Because all advanced Western industrialized nations share state-of-the-art technology within capital limits, the interface of the social and technological aspects in the workplace has caused revolutionary changes, not only in production processes but also in corporate organization. An elaboration of the socio-technical perspective of the organization of work in Sweden also included the whole system and the actor determinations. Within a rather short time, work was not restricted to the work organization alternatives within the framework existing in the early 1970s, but it was expanded to take into consideration how the scope of action can be changed and widened in order to make new forms of work organization possible. In his study of work organization and autonomous groups, Sandberg (1982) argued that "the practical implication is that a policy for autonomy at work, job satisfaction and effectiveness cannot restrict itself to the individual and group levels. It must also take into consideration long-term issues such as market policy, technical development and personnel policy."

Advanced Factors of Production

Advanced factors of production include highly educated personnel, such as graduate engineers and computer professionals or graduates of university research institutes in sophisticated disciplines. These developments demand high and

sustained investments in both human and physical capital. To achieve these advanced factors of production in the home environment, sophisticated human resources and technology frequently are integrated into the design and development of the firm's products and processes, as is the capacity to improve these over time through innovations. These activities are best performed at the home base, where they can be integrated into a complete range of firm activities.

In the manufacturing sector, technical and organizational changes have been a reality for Sweden to remain competitive in international markets. Investment in new technology and human capital have been important components of this Swedish industrial pattern.

Implications of New Technology--Postwar Developments

Scandinavian experiments in work satisfaction--principally reorganization--in the mid-1960s, and the variety and duration of these experiments, have provided much of the data used by researchers and proponents of work redesign. The high rate of labor turnover and recruitment problems of industry in the early 1960s were interpreted as signals for action. The strength of the social democratic parties, traditionally sensitive to workers' needs, was an important driving force for change. Smooth working relations among unions, government, and management--that is, smooth compared to the adversary relationships between labor and industry in the United States--helped launch practical experiments in relatively short order. The Ford Foundation (1976) found that some 500 workplaces in Denmark, Norway, and Sweden featured one or another form of work enlargement or enrichment.

At about the same time, concerns for Quality of Work Life[4] and increased participation in the workplace surfaced across the Atlantic, growing out of increasing dissatisfaction among workers. "Worker alienation," "blue-collar blues," and "middle-American malaise" quickly became clichés, which tended to oversimplify the problem in the United States and sometimes elicited superficial solutions. During the 1960s, social unrest seemed more the norm than did the traditional patterns of social relationships, both in the larger community and in organizational life. According to a Ford Foundation (1976) report,

> Alienation became a byword in the United States during the 1960s. It was used to describe the distress of young people who no longer felt comfortable at home, at work, in school or college; the resentments of whites who were unprepared for school integration and the entry of blacks and other minorities into jobs and neighborhoods hitherto closed to them; and, finally, it stuck as a label for restiveness in the workplace, particularly in the mass-production industries--a restiveness that expressed itself in high rates of absenteeism, turnover, and a noticeable irritability in manual workers, particularly younger ones. (p. 7)

When similar symptoms surfaced among Swedish workers, it was interpreted as a demand for a more humane workplace. Swedish demands focused on three areas:

1. Physical conditions--a better work environment with less noise, less heat, and better safety.

2. Job enlargement--more varied tasks, particularly in the traditional assembly line, where the tasks often were monotonous and involved a short cycle.

3. Job enrichment--a voice in decisions that governed the workplace, particularly the production process and job design, related to industrial democracy.

Steps in the direction of work redesign had begun in Sweden in the late 1940s. Sweden's political, economic, and institutional structure made it possible to

bring about significant policy changes, with a direct and relatively quick impact on the local level.

> By the mid-1960s, both SAF and LO had a rather clear picture of the nature of work organization problems--in the case of SAF, primarily through observation of actual events in companies, but to some extent also through information and evaluations supplied by scientists, and in the case of LO primarily through the reports commissioned from researchers. (Sandberg, 1982, p. 172)

At that time, SAF was looking with increased interest at using groups as the basis for work organization as well as for wages. Also, a number of researchers wanted to alter the traditional type of work organization.

Because of these developments, conditions were ripe for the initiation of experimental activities based on principles deviating sharply from the rigidities of the Tayloristic tradition. At the time, experiments had already begun in Norway, but conditions for change were probably more favorable in Sweden. An awareness of the problems facing Swedish firms, particularly in the automobile industry at Volvo, was the first step in formulating ideas for solutions.

In 1972, the closing of the General Motors Lordstown plant seemed to mark the end of an era in the United States. Within a few months of the plant closing, Volvo announced that the radically new concept for the Volvo Kalmar automobile assembly plant heralded the dawn of a new era of human management, focusing on autonomous groups of teams--the socio-technical system. As in the past, influences on change came from external sources--the United Kingdom and Norway.

Social-Technical Systems and Quality of Work Life

Origin of the Concept

Action research and pioneering work in the British coal mining industry in the 1950s provided the foundation for the evolution of the socio-technical concept. The concept emanated from the Tavistock Institute in London and the field that is known as Quality of Work Life, which was introduced by Louis Davis at an international conference held at Arden House in 1972 (Davis & Cherns, 1972). The following is a discussion of the chief theoretical underpinnings of the concept and its practical development in the field.

The socio-technical concept relating to the business organization and production systems arose in conjunction with the first of several field projects undertaken by researchers at the Tavistock Institute of Human Relations in London. These projects concerned the British coal mining industry, during the time of postwar reconstruction. Technical and social systems were factors considered in these research projects. It was postulated that relations between the two systems should constitute a new field of inquiry (Trist, 1981).[5]

Coal was the chief source of power in England, so a good deal of industrial reconstruction depended on a plentiful and cheap coal supply. But productivity failed to grow along with increases in mechanization. Researchers at the Tavistock Institute undertook "action research" with many organizations in the 1950s. After studying the work organization at the Haighmoor mine in South Yorkshire, they concluded that productivity increased with group work. This finding demonstrated that there was an alternative to Frederick Taylor's concept of scientific management, which had been pervasive in industry in Western nations.

The Tavistock Institute of Human Relations

Researchers at the Tavistock Institute--Eric Trist, founding member of the Institute, and Fred Emery, the field officer--chose to elaborate a major design alternative to Taylor's one-way view. These pathfinders made an organizational choice and got their first glimpse of "the emergence of a new paradigm of work," in which the best match would be sought between the social and technical systems based on group work for production. There would be no traditional managerial controls over the primary work group, which must be granted a measure of autonomy to reach its potential. A fear of letting go of traditional managerial controls is linked to a disbelief in the capability of such groups to regulate themselves. It is supposed that control must be exerted from the outside and from above.

A new approach to the work group, particularly in productive enterprises, was developed by Tavistock researchers as a result of studies that challenged the customary social-psychology and sociology approach of separating the human from the technological side of work in order to study the distinctive features of the system (Emery, 1978).[6] In this new approach to studying the work group, the human is related back to the technological, and it is the socio-technical system as a whole that is the object of study. Alternative modes of work organization can exist for the same technology, giving the possibility of an organizational choice. Increased worker participation in the production system and the redesign of work demanded that management change.

According to Emery (1978), Taylor's paradigm continued unchallenged as a common-sense concept of the world of work. The theory of productive systems, based on experiments by Trist and Bamforth in Britain's coal mining industry in the

postwar era, would have relegated the socio-technical systems approach to just another theory, except that

> the crack in Taylor's egg appeared after researchers Trist and Wilson joined forces with Shepherd, general manager of the Number One Area, East Midlands division of the National Coal Board (UK). When they had successfully carried out the Bolsover Colliery experiment it was no longer just a theory. (Emery, 1978, n.p.)

The turning point for the theory of productive systems was based on this experiment:

> It was only a single set of experiments in one mining area, one basic technology, one culture. Nevertheless, it was critical. It demonstrated in the world of work that a real possibility existed of an alternative paradigm. . . . Dissatisfaction with the prevailing paradigm has not, at least in science, ever displaced it. There was ample dissatisfaction even before Charlie Chaplin produced his masterpiece of *Modern Times.* Despite this, the 1950s were a heyday in the diffusion of Taylorism. (Emery, 1978, n.p.)

Emery (1978) wrote that, "From being a mere theory to a real possibility is a big jump, but more big jumps are needed before the hairline crack in the egg opens far enough to lead to its rotting away" (n.p.). It had been shown that it was possible to create a social system where the workers themselves were involved in their tasks and performed them in groups, and in these groups they took responsibility. Alienation in the workplace resulted from

> the activity and the difficulties and basic dissatisfactions men had with their tasks. It seemed to become increasingly difficult for men in an ordinary industrial setting to themselves determine the appropriate rate, pace and style of their work, and to determine their own target setting. In the extreme case, the man had been time-and-motion studied to the point where he knew which tool he had to use, how many and what kinds of motions to employ, the pace at which to make the motions, etc. He was, in fact, <u>controlled</u> all the way through. At the time, this method of organizing the production process was still being widely used in industry. (Emery, 1966, p. 7)

In the autumn of 1949, Eric Trist studied autonomous work groups in the Yorkshire Haigmoor seam, where teams of eight men interchanged tasks on a particular shift and each shift took over where the last had left off. The research

team found, when examining task involvement (i.e., that there are tasks which by their nature tend to engage people's interest and carry them through ordinary tasks), that it was possible to create an extended social structure in which people can achieve technical solutions related to work through effective self-managed groups. "It was possible to create an extended social structure in which people can achieve this provided there is an adequate body of shared knowledge of tasks and roles" (Emery, 1966, p. 8).

In England, Wilfred Brown took a position of leadership in this respect when he became Chairman and General Director of Glacier Metal Company just before World War II. He believed that more democratic conditions should be created inside the company than were currently present in industry at large. "Some experiences of this kind were gained during the war when the Government [British] ruled that joint production committees (intended to realize the potential creativity and initiative of ordinary industrial employees) should be set up between management and workers" (Emery, 1966, p. 1). Brown wanted to enlist the aid of social scientists to pursue his idea, and as a result the Tavistock Institute engaged in a study of the company. That study, which was published in 1951, was one of the most sustained efforts ever made by social scientists involved in creating a democratic, representative structure in a modern industrial organization. But it became clear to some of the Tavistock team of researchers that the essentials were not being covered.

> Despite recognition of the very impressive democratic structure of representation, work councils and so forth, it soon became clear to some of the Tavistock team that this was not getting at the essentials. The fundamental problem as they saw it was the gap between men below the foremen, and those above. Where representatives were taken from among the men, they soon found a gap between themselves and the rest of the workers. (Emery, 1966, p. 1)

Eric Trist from Tavistock was the first to point out that the problems in the industrial setting, which were being explained in terms of the social system of the factory, had their roots in the technical system.

> In the factory, the very tasks the men were doing led to constraints and pressures upon the social system, and in a sense, further evolution of that social system could only come about by taking the technical system--the very engineering economic requirements--into account. (Emery, 1966, pp. 1-2)

This was demonstrated while Eric Trist was studying a long-wall coal mining pit in Yorkshire, trying to

> analyze a coal mining system in which full account was taken of the demands arising from the technical system, how they were related to the way men organize themselves, and how the formal methods of coordination, supervision, etc. were established over the work. In doing this, he made it quite clear that, when dealing with this sort of system, we are dealing not with a social system but with a socio-technical system, thus exemplifying what has since come to be known as the principle of joint optimization. Any attempt to optimize for one without due regard to the other will lead to sub-optimal overall performance, so even if an effort is made in an industrial situation to follow the traditional pattern, i.e., to optimize the technical system, and hope the social system will somehow sort itself out, then sub-optimization is certain to result. This is also the case when attempting to optimize each system, but independently, ignoring the interaction effect. (Emery, 1966, p. 2)

Following the Yorkshire study, Wilson and Trist were involved in a study of coal mining in the Midlands (Trist, Higgin, Murray, & Pollock, 1950). The general manager, an engineer, was invited to the Institute to study the effects of the introduction of a new technology, continuous mining machines, into the pits. This technology would eliminate a whole range of operations involving separate skills. But it became clear to Trist and Wilson that the coal mining teams had to be reorganized, and

> [by] applying emerging principles, [they] were able to show that some types of social systems provided a much better match to the technology than did others. They saw that it was possible to attempt joint optimization--to modify and match both technical and social systems in order to obtain the highest

> and best overall performance that one could reasonably expect for the component parts. Not only did actual production increase considerably, but worker satisfactions, as measured by both subjective and objective indices, were substantially increased. In this way, they showed that it was possible to overcome the more traditional job design procedures, i.e., the machine theory of organization, and create more appropriately matching social and technical systems with substantial gains all around. (Emery, 1966, p. 3)

Based on the premise that there was an organizational choice, system-based group work, the primary work group would not be controlled by traditional managerial controls but by measures of the autonomy and capability of semi-autonomous groups to regulate themselves. "Autonomous work groups provide the conditions for a problem-solving rather than simply an executive type of management: the creativeness of both is interdependent" (Trist et al., 1950).

Therefore, systems arose from the consideration that any production system requires both a technical organization and a social system to govern the relations among those who carry out a task. Thus, the interrelationship is crucial for releasing the potential effectiveness of the organization. That way, the interdependence and complementary aspects can achieve joint optimization of the two systems, or the functioning of the organization as a whole.

Socio-technical systems focused on worker autonomy and demanded more education and training and the redesign or re-engineering of work. It became necessary to develop workers' capacity to handle a wide range of roles, thus increasing variety for both workers and the organization and creating the conditions for self-regulating groups.

However, the Tavistock experiments and innovations leading to a new paradigm in management had their birth pangs. A. T. Wilson was one of the Tavistock researchers closest to the work resulting in a theory of production

systems. In 1955, he addressed a meeting of the Institute of management on some contrasting socio-technical production systems. He recalled that, after the lecture, a well-known industrial consultant said to him, "I must tell you that I'm sure you're saying something important, but I haven't a clue what it is" (cited in Emery, 1978, n.p.).

The Path-Finding Role of the Norwegian Industrial Democracy Project

In 1957, Fred Emery left the academic world in Australia to lead the Tavistock DSIR study on the possibility of democratizing work within the general trend toward automation. (Emery thus returned to Tavistock. He had been on a sabbatical leave for earlier studies at the London Institute). Further advances in the transformation of work had to be built into the primary work system as part of the overall organizational design of industries and firms. Soon the Tavistock group found that British industry did not seem to have any particular interest in engaging social scientists in more of their type of work. The first break came from abroad:

> At the end of 1961, we were approached by an Institute similar to ours at the Technical University of Norway, the Institute for Industrial Social Research. It seemed that both the Norwegian Trade Union leadership and the Employers' Federation, with the support of the government of the day, were interested in the cooperation of social scientists on just such a project, which they brought to us under the label of "industrial democracy." (Emery, 1966, p. 9)

A United Nations study had shown, vis-à-vis the Common Market, that Norway was more or less maximally using all of the resources with the exception of their human resources. The need to realize this potential was very strongly felt by the leadership of all sections of Norwegian society and was believed to be very urgent. A sudden demand for workers' control erupted in the left wing of the

Norwegian trade union movement; neither the Confederation of Employers nor the Confederation of Trade Unions thought they understood what it was about. The organizations asked the Institute for Social Research at the Technical University of Norway to conduct an inquiry into the matter.

> Given the political pressures, Einar Thorsrud, the Director, who had close contacts with the Tavistock, felt the inquiry would be better undertaken in association with a group outside Norway, which had accumulated relevant experience. Accordingly, he invited the Tavistock to collaborate. Very soon Emery and Trist became, along with Thorsrud, part of a planning committee composed of representatives for the two Confederations. (Trist, 1981)

The tasks were to work out a jointly evolved research design, with the key stakeholder in each step as a basic component of the design. It was proposed that it was necessary to secure the direct participation of workers in decisions about what was done at their level. According to Emery's (1966) account:

> Einar Thorsrud, from the Norwegian Institute, spent some time talking to the Employers' Federation and the Trade Union leaders, and it seemed that they were thinking more or less along our own lines. They very genuinely want an effective joint participation. In the initial stage of this joint Tavistock/Norwegian study . . . while the interim study was under way, we continued our negotiations for the principal part of the study, sounding out the commitment of the leaders of the various sides. Their requirements were that social science should have an effect across Norwegian industry (excluding shipping at that stage, because this is effectively beyond the aegis of the Employers' Federation and the Trade Unions). . . . Our big problem at this stage was our very limited social science resources. . . . It was clear that we would have to employ engineers and train them up.[7] (pp. 9-10)

In the 1960s, science-based industries were "the leading part" of the Western industrial system. They functioned as the principal change-generators and brought about many other innovations, either directly or indirectly. Western societies at the time were beginning what is often referred to as the "second industrial revolution."[8]

The happening that kicked off the extended social field of changes in the primary work systems and whole organization levels occurred in 1961 in Norway,

where little modernization of industry had taken place, in comparison with other Scandinavian countries. Economic growth had slowed down, the largest paper and pulp company was bankrupt, and Norwegian firms were being taken over by multinationals. In other respects, the small country began to feel that it had lost control of its own destiny, and the environment became what Emery and Trist called "turbulent."

The Trade Union Congress and the Confederation of Employers in Norway agreed to finance jointly a research project in cooperation with the Tavistock Institute of Human Relations. The theoretical frame of reference was mainly that of socio-technical analysis developed by the Tavistock group, described briefly by Emery (1969):

> Improved conditions for personal participation might represent a different and perhaps more important basis for democratization of the workplace than the formal systems of representation. The human resources must in fact in a country like Norway with limited natural resources be the major basis for standing up to competition in a new market situation. Whatever shape this market will take, it will not be one in which the economic and social structure of a small country will be left untouched. (p. 2)

It is clear from the archival documents at the Tavistock Institute that Thorsrud, Emery, Trist, and their colleagues were tremendously enthusiastic about the role of the social scientist in influencing the more traditional job-design procedures (i.e., the machine theory of organization) and in creating a more appropriately matching social and technical system with substantial gains all around, increasing productivity and job satisfaction simultaneously. They viewed their research project in Norway (often referred to as the "Industrial Democracy Project" in English, but otherwise known as the "Cooperation Project") as a "radical scientifically based response to the central human and organizational dilemmas of modern industry." Traditions of assembly-

line production leading up to the 1960s "do not quietly go to rest as new ways emerge, they've got to be firmly buried" (Emery, 1969, p. 1).

The contextual conditions permitted a series of four major socio-technical field experiments involving work restructuring to be launched and three of them to be sustained. But widespread diffusion did not take place in Norway. "The diffusion took place in Sweden at the end of the decade, when the Norwegian results created great interest in the employers and Trade Association" in the 1970s (Trist, 1981, p. 26).

> A new generation of Swedes, better educated and more affluent, refused by absenteeism and turnover to do the dullest and most menial jobs. The importation of Southern Europeans created social problems. Something had to be done. Managers and unions took up the Norwegian approach and adapted it to their own purposes. (Trist, 1981, p. 126)

There was cross-fertilization of philosophy and approach to the reorganization of work when Thorsrud was invited to Stockholm to meet with a Swedish delegation interested in parallel studies in Norway. The Cooperation Project, headed by Thorsrud, focused on cooperative and organizational relations within companies.[9]

The New Paradigm in Sweden

The new form of work organization that has evolved over time in Sweden is, to a significant degree, a result of the influence of Rolf Lindholm. In the early 1960s, Lindholm and Hans Lindestad, industrial engineers at the Fagersta steel company in Bergslagen, participated in discussions about group-based work and movement from piece-rate pay systems. Later the changes were extended throughout the entire company (Sandberg, 1982). This fundamental change in the organization of

work at Fagersta is significant because it was the Swedish forerunner of many other experiments.

In 1969, the Swedish Trade Union Confederation (LO) and the Central Organization of Salaried (white-collar) Employees (TCO) made an agreement with SAF establishing a joint council for cooperation in work reform. To ensure maximum freedom in experimentation, they agreed that results would not become the subject of conflict or negotiation. The other requirement was that all experiments pay equal attention to productivity and worker satisfaction.

SAF first wanted groups as the basis for production. Second, they wanted groups as the basis for wages. Finally, they wanted to alter the traditional type of work organization and management as a science. Experiments focusing on work motivation were taken up by SAF's Technical Department, and they were launched and supervised by company managers and staff personnel. This was part of the Development Council for Cooperation Questions and its subgroup for research, Utvecklingsrådet for sammarbetsfrågor, in 1966. At that time, Lindholm and Lindestad had left Fagersta, becoming key persons at the Technical Department, where they carried out a battery of experiments regarding group production.

Lindholm guided SAF through more than 500 experiments on the new forms of work organization. The directives were from the central organization, but the experiments were done mostly at the local level. SAF conducted training courses for supervisors of new forms of work organization.

Inge Janérus (1991), LO ombudsman, explained the chain of events in Sweden as follows:

> In the late 1960s, we were searching for a new content to be put into an agreement that we envisioned would supersede the Works Council Agreement. We were asking for other procedures, but we needed an idea for changes, such as the socio-technical ideas. Influence was from Norway in the late 1960s, and Einar Thorsrud. Rolf Lindholm was the pioneer of the same ideas in management in SAF. During this time there was contact between LO and SAF about the evolution of similar ideas, and in the early 1970s we did get toward a change for the framework of labor relations and implementation of new ideas. SAF wanted a more flexible use of the contents, but we wanted a worker-led reform. SAF and its Technical Department utilized the Norwegian model and work experiments, but we did not draw conclusions about them. The cooperation between SAF and LO about these new ideas broke down more or less around 1975-76. Certainly whatever we did agree on in joint activities had an impact and brought in new ideas in a period of time when management was beginning to search for alternatives.

When asked how it all started, Janérus responded:

> It started as a contribution from the Technical Department at SAF to solve the problem of wage treatment for straight industrial piece work, and less control of the pace by management. SAF wanted an easier way to control the level of pay and link it to the method of production. They realized that the flow of production was more important than individual performance. Performance measurements were not so much individual. And then we [LO] started the campaign--a major "democratizing of work" as we labeled it--and found that we had tremendous support among the membership. . . . There was certainly a competition for power between the organizations at the same time that we tried to establish some cooperation and consensus within LO. The car industry established themselves as a leading industry, and Volvo made a more sustained effort than Saab. The major factor involved was when Volvo built the new factory in Kalmar, which brought very rapid change with the new assembly plant. The top-down approach was not the whole thing. It was the division of labor that was sort of beating the technological system which had strategic importance, and they [the automobile industry and Volvo] began to tackle this problem. The inclusion of socio-technical systems or the concept was not the problem; it was the diffusion of it.

By 1973, between 500 and 1,000 work-improvement projects of various kinds, small and large, were going on in many different industries.[10] The experiments in Saab-Scania's gasoline-engine assembly plant in Södertälje and Volvo's Kalmar plant became the best known internationally.

The Volvo Assembly Plant in Kalmar--The 1970s

The logic of automobile assembly was the keystone to prevailing twentieth-century concepts of human management (Emery, 1975). Before the 1960s, in Sweden, the conventional automobile plant used a conveyor belt, and the automobile was constructed one part at a time. This was known as a "mechanically powered line" or simply "the line"; workers were stationed alongside the line. In the traditional line system of production, the line controls the work, the pace, and the activity of the people on it. The production system in automobile assembly is arranged like a gigantic materials inventory, in which materials handling is mechanized to the maximum extent.

The system is efficient in some respects because it keeps materials-handling costs low, and the jobs at different stations can be highly specialized or standardized, reducing training costs. One disadvantage is that the specialized work can become frustrating and monotonous, creating stress. The work pace is set by the line, and the worker must chase the work, forcing him to keep up.

The ongoing modernization of products, production structures, and enterprise structures have been supported by both management and trade unions in order to develop an internationally competitive automobile industry in Sweden. Limited domestic markets and economies of scale are the primary forces behind increased internationalization of this industry.

In the 1970s, significant changes occurred in Sweden's automobile industry, one of the country's most important industries. Volvo, one of the top three players in the automotive industry in Europe, was experiencing worker unrest and dissatisfaction. Volvo is known throughout the highly competitive automotive

industry for making one of the first attempts to implement group production and adapt technology to people. In 1969, Volvo responded to absenteeism and worker disillusionment by instituting a major reorganization in the structure of the corporation and in the methods of accomplishing the work. The corporation was broken down into divisions and smaller companies, and within three years, the top staff at Volvo was cut from 1,800 to 100 people, creating a type of "flat" organizational structure.

Volvo surveyed workers at its Gothenburg plant to determine what type of plant design they needed to promote efficient production and assembly methods and at the same time increase job satisfaction. The results were then directed to the architects, engineers, and researchers from the University of Gothenburg, the west-coast city where Volvo's corporate headquarters and automobile and truck plants are located. The showcase Volvo plant was built through this bottom-up approach; it opened in 1974 in Kalmar, a historic and conservative community south of Stockholm. Volvo decided that, at the Kalmar plant, jobs should be designed in an ergonomically sound manner so that equipment, premises, and working methods suited the people's needs.

Four major changes at Volvo were as follows:

1. The plant was designed to accommodate group production rather than an assembly line.

2. Investments were directed at improving the physical work environment to promote health and safety.

3. Jobs were organized in more human ways. Through job enrichment and job design, monotonous tasks were automated; those that could not be automated were enriched. Job rotation provided variety.

4. Personal development included education to upgrade workers' skill levels.

The final plant design was for a hexagonal facility with adequate space for twenty teams that would work together as a group in collective units. There were 600 workers at Volvo's Kalmar plant and only one shift.[11]

The new method of production implemented at Kalmar was group assembly. The automobile body moved to the workers on an automated guided vehicle or carrier, doing away with stationary assembly with its short and boring work cycles (Lindholm & Norstedt, 1975). The work cycle had been extended to more than twenty minutes. (Later, at the new Volvo plant at Uddevalla, which opened in 1988, the work cycle lasted fifty-five minutes.) The technology at the Volvo plant had been designed to accommodate human needs, using ergonomic design and eliminating unnecessary psychological and physical stress. Technology was viewed as a tool to make work more interesting, and at the same time to make production more efficient. Autonomous work groups provided the conditions for problem solving rather than deferring to an executive type of management. The creativeness of both was interdependent.

What was different about production at Volvo's Kalmar plant? Employees, not materiel, were the focus of the production system. People worked in teams, and production was a group effort. Materials were moved by carriers, which were controlled by a computer and/or workers; the carriers for the automobile body followed a magnetic strip implanted in the factory floor. The pace could be set by the

workers, who worked on the product while it stood still. The workers were responsible for the quality of their work. If a worker identified a problem or a flaw, the car could be directed back to the appropriate team, via the carrier, for correction. Workers thus had the possibility to increase self-esteem through immediate feedback, and to produce the best product possible.

Each team or group was responsible for a particular segment of production, such as the electrical system, upholstery, and so on. Job rotation within the team alleviated monotony and increased workers' skill levels. Buffer zones at the end of each team's station provided a point of hesitation in production. These buffer zones made it possible for workers to decide among themselves how best to organize the assembly and determine when they could take a break. Team efforts allowed for job flexibility and reduced worker stress.

The production teams regulated the work and decided the best method of completing the task. Job satisfaction was further enhanced because of participation, group effort, and worker responsibility. Worker participation was encouraged, not only at the point of production but through the work councils,[12] which provided the apparatus for working out co-determination. The flow of communication at Volvo and the climate provided a means for finding satisfying solutions within a short time; the flat organizational structure enabled decisions to be made at the shop-floor level.

An important outcome of abandoning the assembly-line production method is that eye-to-eye contact among workers now can occur. A quiet work environment enables workers to talk to one another (in 1983 and subsequent visits, the loudest sounds came from the speakers that employees had installed in the plant so that they could listen to music as they worked). The longer work cycle allows workers

to stop between tasks. Research in the areas of stress related to pace and alienation has shown that productivity decreases and job dissatisfaction increases when social-psychological factors are overlooked (Gardell, 1983).

Sociability is an important part of the work process because it is a platform for workers to decide how to do the work. By organizing the work themselves and getting feedback, workers can realize "joint optimization" of the social and technical components of production and assembly. (Time-and-motion studies of the past had overlooked the value of an environment that allowed for the exchange of ideas, opinions, and suggestions.)

Doing assembly work on nonmoving objects results in better control of quality and increases opportunities to automate, thereby increasing flexibility and an ability to handle different product versions or models. The automation of handling and stockroom/store activities allows the inventory to be delivered "just in time," reducing the cost of materials on hand.

The changes initiated at Volvo are part of an ongoing process. The production mechanism becomes an organic business system. The old view of production is regarded as a mechanistic process, which must foresee what will happen, plan operations, and control those operations and the people involved, and at the same time disengage the production from the stock (materials needed for production or assembly).

Management at Volvo. Essential features of successful change and innovative job design, as well as decentralized organizations, are commitment from management and the allocation of adequate resources. A major goal at Volvo was

to decentralize decision making through higher levels of employee participation and to flatten the traditional organizational pyramid, thus using the potential of each employee rather than concentrating authority at the top of the hierarchy. By discarding power and involving workers, management can capture the vitality of employees and increase job and company performance.

Pehr Gyllenhammar (1977), CEO at Volvo (later chairman of the board) when the Kalmar project was undertaken, is known as a pioneer in new forms of work organization, including decentralization and destruction of hierarchical management pyramids. A staunch spokesperson for participatory management, he advocated that leadership is crucial in the new work environment and that participation demands more, not less, from workers. This type of leadership is illustrated in Figure 8.1.

Task-Oriented Leader	Relationship-Oriented Leader
Initiates structure, includes maintenance standards and meeting deadlines	Shares decision making and checks with employees
Issues rules	Solicits advice and opinions from employees
Promises rewards	Makes employees feel at ease--treated as equals
Provides information	Shows support and concern for employees in all phases
Decides in detail what should be done and how to do it	Expresses appreciation for good work
Assigns employees to tasks	Stresses importance of job satisfaction
Threatens punishment	Maintains and strengthens employees' self-esteem

Fig. 8.1: Comparison of task-oriented and relationship-oriented leaders.

Source: Adapted from Bass (1981), p. 312.

The business organization can be understood as an adaptive system. According to Gyllenhammar (1977),

> Management needs to find ways to capture the personal involvement of each employee. Management cannot be based on power. In any show of power, the employees today will "win" and management will "lose," though the inevitable result is that everyone loses. Instead of an adversary game, I hope we can rewrite the rules to make business the kind of game in which everybody wins. (p. 103)

Gyllenhammar thought that Volvo had to take a decisive step "to alter its advanced production technology so that it could provide interesting and satisfactory jobs for those working in manufacturing" (Lindholm & Norstedt, 1975, p. 17). Because Swedish labor had changed Volvo, other companies had to adapt to the new situation to be competitive. A commitment to the development allowing changes on the shop floor placed more emphasis on labor issues; as a result, work was made more humane and efficient than in the past.

An important study of Volvo, ten years after Kalmar was launched, revealed that the plant was both innovative and profitable. Although it sometimes is difficult to measure satisfaction levels in an industrial setting, workers at the Kalmar plant expressed higher levels of job satisfaction on an industrywide and a company basis (Agurén et al., 1984). The Volvo group, an important firm for Sweden's economy and Sweden's largest industrial group in the 1980s, reported record growth in 1987, a 20 percent increase over the 1986 figure (the food and truck divisions produced their best results on record to date in 1987). At that time, the United States was the largest export market. The American market is centered primarily on upscale Volvo passenger cars.

The type of socio-technical system adopted at the Volvo plant and the more flexible and participative production process are part of a new development based on innovative manufacturing technologies, which have the promise of changing the way in which companies compete and of helping companies become more competitive in world markets. The new technologies and innovative design of work will lead to changes in the organization and the nature of the work at all levels, requiring new forms of evaluation and unique styles of management. In the modern view, production is an organic process that is constantly changing and has an inherent ability constantly to adjust to regulation and external conditions of business by developing an awareness of commercial demands. The products, production, and distribution are bundled together in a commercial system, which leads to more effective production.

A study about the role of knowledge in work life by a group of researchers in Sweden indicated that technological resources lead to various questions directly connected with the use and development of human resources, whereby technology becomes a support to creativity and human competence rather than a way of replacing it. "People are the company's most important resource" is no longer just a tired cliché. "Radical changes in external conditions have a dramatic effect not only on the strategic management of operations but also and at least as much on tactical issues and the way the work is done throughout the organization" (Ekval et al., 1990).

Management in the "new world of business" includes organizing for knowledge formation, the role of technology, and strategies for creating value.

Today new technology operates not only by automating but also be creating information that can be recycled to produce new ways of acting. Thus, a coupling of information technology and new production technologies followed the 1970s, including Just in Time (JIT), flexible manufacturing systems (FMS), computer-integrated manufacturing (CIM), and computer-aided design and computer-aided manufacturing (CAD/CAM).

The Stockholm-based research group argued that, today, it is difficult to allot actors in the new production systems to functional slots such as production, marketing, and purchasing, or to label them as producers, customers, wholesalers, retailers, or suppliers. This is because contemporary international business is driven not only by technological factors but also be societal forces, such as life styles and values, accompanied by an emerging sharper differentiation and fragmentation of the markets. People are exposed to more information, resulting in development through personal creativity. Thus, social and technological changes have left companies working on what is essentially completely new solutions. This has made it possible to design offerings in the international market that add to customers' own value-creating process as business becomes more knowledge intensive and competition among companies frequently is a question of knowledge.

The Modern Organic Process

The modern-day technological revolution indicates not merely another phase of industrialization, but systemic changes resulting from the conjunction of new technology and the emergence of a new organizational paradigm. From the

potential and practical point of view, therefore, technology is viewed, not as an object but as a relationship. The introduction of new technologies--new tools that are used and controlled by people--creates a new relationship that involves managing technological change as well as the relationship that is changing. This relationship takes on a new meaning when it is attributed to the organizational level. The effectiveness of the organization is determined by the way in which the organization is able to manage two types of highly interdependent relationships: (a) the relationship between the organization and its various environments (i.e., open systems) and (b) the relationship between people and technology (i.e., the socio-technical system).

New and Old Organizational Paradigms

In the 1980s, a new organizational paradigm based on the principle of joint optimization replaced the technological imperative, which reduced man to merely an extension of the machine. In the traditional organization, each member has first to compete with and defend himself against everyone else. The new paradigm, by contrast, gives precedence to coping with the manifold interdependencies that arise in complex organizations. It values collaboration between and collegiality within groups, encouraging the establishment of a negotiated order in which multiple and mutually-agreed-on tradeoffs are continuously achieved (Trist, 1981). This shift in doctrine in management is depicted in Figure 8.2.

Old Paradigm	New Paradigm
The technological imperative	Joint optimization
Man as an extension of the machine	Man as complementary to the machine
Man as an expendable spare part	Man as a resource to be developed
Maximum task breakdown, simple narrow skills	Optimum task grouping, multiple broad skills
External controls (supervisors, specialist staffs, procedures)	Internal controls (self-regulating subsystems)
Tall organizational chart, autocratic style	Flat organizational chart, participative style
Competition, gamesmanship	Collaboration, collegiality
Alienation	Commitment
Low risk taking	Innovation

Fig. 8.2: A shift in doctrine in management.

Source: Trist (1981), p. 42.

Toward a New Paradigm in the United States--Some Highlights

According to American United Auto Workers (UAW) union leader Irving Bluestone (1983), who developed the 1973 General Motors/UAW national agreement that made Quality of Work Life part of the democratic operating policy (Ford and Chrysler took similar action in 1979 and 1981):

> Quality of Work Life, which is job satisfaction and self-enhancement, adds to the growth of everyone involved in production: productivity, quality, absenteeism, turnover, grievances (by solving problems within early on), and discharges. Through Quality of Work Life, it is possible to move away from disciplinary measures and treating workers like children. Punishment and discipline are costly. The action should be to find the causes for absenteeism rather than just punish. Theory X and Theory Y collide due to different ideologies. The barriers are the traditions, customs, and practices, which are hard to overcome. Middle management, especially, is resistant and slow to change. Patience is not part of the American labor-management vocabulary. Quality of Work Life takes planning and time. It is not a quick fix and quick to show up in quarterly reports and bottom-line figures.

Bluestone (1983) conceded that the Quality of Work Life movement was spreading and had been adopted by such companies as AT&T, U.S. Steel, Ford, and General Motors, as well as the Union of Electrical Workers, but that the AFL-CIO was ambivalent about it.[13] Bluestone summarized the problems:

> The management-rights clause, management's prerogatives, backed with discipline--do as you are told--do as management wants--historically this has been the theme, built on Taylor's scientific management, which breaks down a job into its simplest tasks. The union attempts to democratize the workplace. Workers should be paid for the areas they know best. The Nissan study surveyed workers and management to see who knew the method of production the best, and the study determined that workers knew the process 100 percent. There is a conceptual double standard, with separate parking lots, two cafeterias, privacy of paychecks. Pay should be based on skills [knowledge] mastered.

Bluestone (1983) asserted that the essential foundation of labor-management relations had to change dramatically to face the future and global markets:

> Democracy in the workplace is essential, and global competition in the future will no longer allow the United States to dominate the world economy. Therefore, labor and management must allow for issues of mutuality of interest, and understand the need for joint action and establish a cooperative labor-management relationship. The world is smaller due to transportation and communications, and the international marketplace does not allow for those who do not value their human resources. A humanist approach to labor at the point of production does not allow for adversarial relationships between labor and management. A holistic approach which incorporates an ideology that values human resources is essential to the success of a nation that depends on a world economy. Can labor and management utilize human resources with the aid of technology to make the necessary decisions based on an elevation of the consciousness of management to cooperate with labor in a joint effort to meet mutual goals? Quality of Work Life can be the operative mechanism to achieve that goal.

By the 1980s, the debate in the United States centered on such interrelated issues as competitiveness, employment security, and even the nature of work itself in a modern, high-tech facility.[14] A decade after Bluestone characterized the AFL-

CIO as ambivalent, Dennis Chamot (1985), an associate director of the AFL-CIO with a Ph.D. in chemistry and an MBA from Wharton, remarked that "the introduction and use of new technologies at the workplace is a topic of great and growing concern to employers and employees alike" (p. 9). When comparing Sweden and the United States, Chamot observed that there seemed to be differences between American and Swedish "values":

> Chief among them appears to be a real concern for the welfare of individuals, which naturally extends to the workplace and the quality of work performed there. Jobs not only must provide a decent income, but also should be responsible and intellectually satisfying to the greatest extent possible; if new technology brings major changes, then adequate training must be provided, and above all, representatives of affected employees must be actively involved in all stages of the process of change, from initial planning through final implementation and evaluation. (p. 7)

Chamot concluded that Sweden could be regarded as a world leader in development and in the introduction of new workplace technologies and new forms of workplace organization.

Inge Janérus (1991), LO ombudsman, pointed out that:

> In Sweden we have been exposed to this area [participation and industrial democracy] longer, although one can still find an awful lot of work which has a rigid application of management in Sweden, such as what is remaining of our textile industry, in the assembly part of the electronics industry, and components production and woodworking.

According to Lars Lidén (1991), managing director of Esselte, a large Swedish multinational producing office equipment for the industrialized world, Sweden was a newcomer to industrialization because Britain had industrialized a century before. He stated, "We have to realize that we are a newcomer in some ways, and we had restructured our business within Sweden and within Scandinavia

before many of our competitors in North America or Western Europe had done the same."[15] Lidén said that the decentralization pattern, the dominant management pattern in Sweden today, was related to the problem of finding young, educated people to work in industry because they would prefer to work in other fields. The problem was to motivate people and make it interesting for young "boys and girls" to work in industry. He stated,

> We formed fairly small units, and that means also that it is easier to motivate people, giving greater responsibility with experience. It must be more difficult in huge units, such as car companies, because then you can never test people with a complete management function, which has been a success for us. It takes a long time to build up an industry!

Lidén predicted that, even though Esselte had a Swedish origin, in the future it might be more suitable to have the headquarters in Germany or London. Also, as part of the European Union, it might be easier for the company to stay in a country with an international language. (Even though most Swedes speak English, which is part of the required curriculum at Swedish schools, the language is not universally spoken throughout Europe.)

Inge Janérus (1991) from LO commented on the current situation in the industrial setting. He said that a more regulated labor market might have developed in Sweden, "not like the United States steel industry with all of its regulations, but more in that direction," if Swedish workers had not had the benefit of the welfare state. That is,

> If workers do not see that they will be taken care of when changes are taking place, then the trust will deteriorate and they will try to secure their interests. Then they will resist change. Negotiations and obligations for the future have already changed. Work life does not look like it did! Leading actors in the process of decentralizing the labor market are in the large manufacturing

companies--Volvo, Saab, SKF--those companies which are in control of engineering; that is the largest group within SAF. So the major problem for these companies is not that the labor cost is too high; the major problem is that the major cost for the post office is too high, or the hotel workers, or in the shops. If workers without particular qualifications have similar wages as manufacturing workers, then the manufacturing industry cannot compete for good labor. This egalitarian structure is part of wage solidarity. To break away is to decentralize and make the pay structure less transparent. This means dismantling the whole framework for labor. Volvo in Belgium is more competitive with the supply of labor. The reason is the way the other workers are paid in Belgium. When it comes to absenteeism, in Sweden there are more reasons for workers to be absent which are legal than in Belgium, such as parental leave. Officially, we [LO] have taken a positive stand on that--decentralization of the labor market. We have a lack of competition on the labor market in Sweden in many areas, and the most meaningful element to manage a competition policy is to open up the markets.

The Swedish Model of Industrial Relations

Sweden has sought a "middle way" both politically and with regard to efforts by labor and management leaders to organize the labor market. The Swedish Model of industrial relations was the general term used to describe conditions on the global market. Often during the expanding economic era, during the decades following World War II, the model was viewed as one to embrace and replicate. However, the implication that the rest of the world should replicate Swedish ideas without due regard to some of the fundamental cultural differences tended to distort the model, overlooking its historical context.

Union demands and employer organizations' requirements were in balance for a long time, and the model served well in a growing industrial environment. It was not until the late 1960s and early 1970s that the business environment changed due to (a) changed values, (b) student demonstrations that started in Paris, (c) demands for heightened democracy in the workplace, and (d) economic stagnation.

The complexity of changing times in the 1970s resulted in a shift from voluntary agreements to legislation in an era of new influences and more intense competition in world industrial markets. During the 1970s, an era of economic downturn, a significant amount of labor legislation displaced the tradition of agreements, indicating the influence of trade unionism in the social, economic, and political structure. The most significant labor laws enacted during that time were:

1. The Security of Employment Act (1974), protecting against arbitrary dismissal and demotion and thus ensuring job security.

2. The Employee Participation in Decision Making Act (1977), enabling unions to increase their influence with regard to personnel policies, work organization, questions arising from computerization, and information problems. This Co-Determination Act requires employers to negotiate with employees regarding major changes.

3. The Work Environment Act of 1978, taking into account both the physical and the psycho-social environment. Safety stewards are elected by local union members, and they are entitled to halt any work they judge to be dangerous and prevent resuming work until improvements are carried out or the National Labor Inspectorate gives the go-ahead.

At the same time, there was mounting criticism about government intervention in the labor market, internally and from abroad, as well as a broadening of the welfare state in Sweden. However, some business leaders such as Jan Carlzon (1988) expressed the following viewpoint:

We can say very negative words about our social welfare programs and our negotiations and MBL [the Co-Determination Act of 1977], etc., but there is no law which does not reflect something that does not already exist in society. And what the laws say is that we want to pay respect to human beings, and see them as something very valuable. This has created a security among people which makes them perform, and they demand to perform, and this is one of the main reasons we are effective and competitive today in heavy industry. It is interesting to see that the cost of a project or product is very low compared to the United States, for example, and that in our small-scale operations we can still be competitive with the number of big industries in this country, which has no relationship to the population. This building [the SAS headquarters in Stockholm] reflects a philosophy of the service organization in every detail. We have a philosophy to support the front-line people, not the directors. We have built the building, made up of nine buildings, with an arcade, a "main street," which symbolizes the overall objective and strategies, so it is a way of building to materialize up to now the philosophy that was just words before. We have activities in the street, the arcade in the middle of the building, and we have a street manager who creates activities in the street like small chamber orchestras, exhibitions, small choirs, harpists, and so forth. We want to discuss with our people, and create the future, to create an ambiance in a working place which aesthetically gives good vibrations for a result. We have worked together and been motivated together, not by fear but by love. So I think that we have something in our society, which is not only educated people, and that people have the same economy; it is more in the attitudes of the people themselves. This, I think, is extremely interesting, and I think that too many countries, and particularly the United States, are managed by fear. For me, . . . everything in life boils down to or is motivated by two factors, fear or love, and by fear you tell people they are not worth anything. We cannot say that people are the most important resource and invest zero maintenance in people while investing an incredible amount of money in machines. To say that people are the most important resource is easy, and I won't say that we have succeeded. This building is a good example. Of course, we could have built a simple square block, but we would not have the efficiency that we have if we had.

Internationalization of Business and Politics

Swedish industry and multinational development provided the financial basis for the coexistence of social democracy and capitalism.[16] Lars Lidén (1991), managing director of the Swedish multinational Esselte, was asked whether or not the labor government, which had been in power for almost 50 years--since the early

1930s--had provided a workable business environment. He found this an interesting question and responded as follows:

> We have had Social Democrats in power since 1932, and they have not been very socialistic; they have been pragmatic. One could say that, in some ways, everyone in this country is more or less a Social Democrat. A whole attitude has developed in this period, and even the Tory Party in Sweden is not very much right wing compared to Britain or Germany. But of course what has happened in Eastern Europe, especially since 1989, has changed things very much, and now for the first time the Social Democrats are really in trouble. Of course, they formed Sweden the "middle way," but it is not very easy to be in the middle way when the left part of the pattern suddenly disappears, and that is their problem. The collapse of the State-owned, centrally controlled society in Eastern Europe, socialism then has been affected also. However, it was the Social Democrats in Sweden and Finland in 1945 who fought the Communists, but nevertheless they had the ideology that industry should be under government ownership. Now that system has proven to be such a disaster when it has collapsed, and this must affect the Swedish Social Democrats. I know so many politicians in this country who are very much concerned about what will happen because the whole attitude has changed, especially for the Communists in this country, and some of them are fair enough to admit that this is really a fact. When they saw on television in 1989 that country after country in Eastern Europe separated, and then it was followed by the first free election after 45 years of domination when the Communists had tried to indoctrinate children from childhood up, nevertheless the Communists were swept away and it was a shock to them, and of course this also affects the Social Democrats. Now for the first time there is a new pattern, and rather than the Social Democrats having 45 to 50 percent of the vote, the Gallup figure shows only 30-percent support. It is interesting to see what this will mean to the trade unions, because the trade union movement has always been one side of the Social Democratic Party, one political leg and one trade union leg, and together they have been a formidable power. It was almost hopeless to fight them.

When asked whether the decrease in the power of the trade unions would have a negative or positive influence on business, Lidén (1991) replied:

> The trade unions and the Social Democrats were successful enough to solve the problems after the world crisis in the early 1930s. . . . They started to build up a new country, and they did it in a very pragmatic way and were successful. They kept Sweden out of the war and, of course, especially during the 1950s, we were very successful in this country as well as in the 1960s. Therefore, it was almost compulsory that the Prime Minister come

> from the Social Democratic Party, and everything except that development would have meant an earthquake. I knew the opposition leader for the Liberal Party for many years, Professor Betil Olin, a world-famous economics man and a professor at the Stockholm School of Economics, and the situation for him was hopeless. They [the Liberals] could not come to power, they could fight the left wing of the Social Democrats, who wanted to go further to nationalize industry, and he was successful in that sense, but he never had a chance to reach a government position. The trade unions in Sweden were very successful for a long time, but their problems actually started when we, in the late 1960s, gave legal rights also to the employees from the public sector to negotiate and go on strike. That meant that, for a while, the balance of power that had been between employers and employees changed suddenly because if people from the public sector go on strike they cannot, so to say, kill the State. The State will survive, but if they are too well paid, it will kill cooperation on the labor market. This meant that trade unions from the public sector became the leaders in wages. It should have been the export industry that was the wage leader, but after a while it was actually the trade unions from the public sector, and this meant that inflation started to grow. Now the attitude has completely changed since the 1980s, and we know that we must fight inflation. Otherwise, big companies will leave this country, and that is problematic for everyone, but especially for the Social Democrats, because they have helped the trade unions and have been so dependent on the trade unions, got their money from them, etc.

Some of the countless factors affecting corporate business today in Sweden include various important institutional developments, such as the emergence of the European Union and the changes in Eastern Europe, which have major implications for business and management development. With the opening of new frontiers, soon national boundaries will have less importance in the intricacies of international commerce and change.

The Exchange Rate and Inflation

Due to Sweden's vulnerable position linked to its dependence on changing and sometimes turbulent world markets, policies to avoid future economic crises must be linked to a long-term perspective, although reality demands that Swedish

authorities respond to short-term dips in international markets. The Swedish economy has operated under various monetary and fiscal policies, with both fixed and floating exchange rates. Following the end of World War II, most industrialized countries agreed among themselves to adhere to an international monetary system based on fixed but adjustable exchange rates. This was known as the Bretton Woods agreement, which established the International Monetary Fund, in 1944. According to that agreement, strict regulation of the capital market set the parameters for macroeconomic policies and low international capital mobility. Thus, during the "golden years" of the 1950s and 1960s, Sweden operated under a fixed exchange rate.

The monetary policy was designed to achieve two domestic functions: (a) to maintain a low interest rate and funnel credit to the government and housing sectors and (b) to achieve low international mobility, which meant difficulties in borrowing abroad and resulted in a highly constrained fiscal policy in Sweden. Another characteristic of those decades was a stable political situation in Sweden, which facilitated a responsible budgetary policy with a rather long-term perspective. In addition, during the 1960s, a more flexible system, which was described as the Scandinavian model of inflation, was adopted as the basis for Swedish wage negotiations (this is described in Lindbeck et al., 1995). The fixed exchange rate and inflation abroad thereby came to operate as an anchor for domestic wage and price formations.

Pressures at the end of the 1960s pushed the Bretton Woods agreement toward collapse in 1973. Sweden left the system in 1977 to peg the value of the

crown to a basket of trading partners' currencies, and the commitment to a fixed exchange rate became weaker. Sweden shifted to an exchange-rate cooperation, the so-called "snake" in the European Community (Lindbeck et al., 1995).

There have been dramatic shifts in monetary and fiscal-stabilization policies in Sweden within the last few decades. The framework for the stabilization policy was transformed for a number of reasons as the international credit market woke up following the oil crisis of 1973. The 1970s were characterized by an unusual combination of inflation and stagnating economies, as well as unique disturbances such as the oil-price shocks and international economic instability involving inflation, stagflation, and balance-of-payment disequilibrium. Several other countries faced the same kinds of disturbances and stagflation tendencies as did Sweden, so the disruptive factors could be regarded as an essentially international phenomenon. However, according to Erik Lundberg (1994), head of the National Institute of Economic Research from 1935 to 1955, who eventually became Sweden's most prominent economist:

> In the case of Sweden, these internationally induced disturbances have been aggravated by a misdirected stabilization policy and an unfortunate series of misjudgments in wage policy. The change in government in the autumn of 1976 when the Social Democratic regime, which had been in power since 1946 lost to a Liberal-Conservative coalition, is considered another "random" disturbance. Thus, all this should not necessarily be attributed to some kind of systematic malfunction, but to accumulating coincidences, originating in far-reaching and unusual external disturbances. (p. 279)[17]

Swedish economic policy focused on the traditional goals of full employment until the 1980s, when there was a shift to a form of monetarism known as norm economics. The policy shift placed an emphasis on structural change and the battle

against inflation. Commitment to a rigid, fixed exchange rate had a negative effect on exports, creating a situation of weak international competitiveness due to an overvalued currency and resulting in competitive disadvantage. These new developments ultimately meant that the only degree of freedom for monetary policy to maneuver was to devalue or revalue the currency, the Swedish crown. When the Social Democrats regained office in 1982, they devalued the currency by 16 percent, and the crown was devalued again in 1992.

> Except for the period after November 1992 and two short periods in the interwar era, Sweden has maintained a fixed exchange rate for the past 120 years. To peg the exchange rate against one or more foreign currencies is--for a country like Sweden--identical to formulating a medium-term target for the domestic inflation rate. A small nation heavily dependent on trade can only temporarily depart from the inflation rate in those countries to which it has pegged its currency. The average inflation rate for these countries implicitly defines a target for the domestic inflation rate. As long as the exchange-rate commitment remains credible, this target will function as a guidepost, or an anchor, for the inflationary expectation in the economy. Inflationary expectations are reflected in millions of economic contracts into which households, firms, and organizations enter each year. Agreements on wages, prices, and interest rates are typically expressed in terms of current kronor or percentage, but they must be assumed to aim at a desired real outcome. A wage contract that aims at 2 percent higher purchasing power requires an increase of nominal wages of 4 percent if the inflation rate is 2 percent, but an increase of 10 percent if the expected inflation rate is 8 percent. A well-defined and generally accepted nominal anchor is extremely important, because it coordinates the inflationary expectations reflected in all these contracts. (Lindbeck et al., 1995, pp. 23-24)

In November 1992, the Riksbank was forced to abandon fixed rates and let the crown flow freely, as opposed to being linked to a "basket of currencies." Because of a shift to a variable exchange rate, monetary policy also changed direction, focusing on the European Union currency, the ecu. All of these shifts followed a period when every Western industrialized nation faced economic

restructuring. Currently, there is an ongoing discussion within the European Union to implement a European monetary union, in order to eliminate the effects of exchange rates on trading within the European Union.

Current Challenges to Economic Growth

Economic growth and labor productivity have been sticky challenges during the last two decades. In the 1950s and 1960s, growth in the economy as a whole, GDP per employed, increased about 3.3 percent per year. The corresponding figure since 1970 has been about 1.1 percent, making it lower in Sweden than the average of the OECD during the last two decades, or about 0.6 percent per year (Lindbeck et al., 1995, p. 9). As a consequence, Sweden has lost its previously high position as one of the world's richest countries.[18]

One reason why expanding the sustained economic growth is so important and challenging in Sweden is the country's demographic features, which, although not unique to Sweden, are not to be overlooked. Swedes have one of the world's highest life expectancies and one of the lowest birth rates. The age structure of the population indicates that the relative proportion of elderly citizens in the 70- to 90-year range has expanded more rapidly in Sweden than in other countries. (There is a strong relationship between national age structure and the rate of private savings. Middle-aged citizens without dependent children tend to save more than pensioners and families with children.) A number of important competitors such as the United States, Germany, and Japan will experience a similar upward shift in their age structures and a corresponding rise in costs for health care and pensions. Also,

Sweden's nonparticipation in World War II resulted in an increase in public-sector expenditures and the rate of household savings in comparison to several of its key trading partners--Germany, for example.

A special demographic feature of the Swedish economy in a high labor-force participation rate, for both men and women. There are 5.5 million Swedes of working age (16 to 64 years), with an active population of 4.3 million (49 percent of the total population) constituting the labor force. Sweden has the world's highest female labor-force participation rate in the world. This high female participation rate has resulted in a relatively short average work week. A full-time job normally means forty hours per work week, but the average work week in Sweden is thirty-six hours, as only 60 percent of women working outside the home work full time (1995 statistics). Most female workers are concentrated in the public sector.

As a total work force, Sweden has the world's largest public sector. (All citizens and residents are covered by national health insurance, and doctors, nurses, and health care workers are considered part of the public sector.) LO economists Dan Andersson and Per-Olof Edin (1995) argued that the fact that "the Swedish public sector is so large is both a precondition and a consequence of women's high employment frequency" (p. 11). Seventy-eight percent of adult women in Sweden participate in the work force (1995 statistics), as compared to 61 percent in the European Union. The 17-percent difference is accounted for by women working in the Swedish public sector. LO's comparison of the number of employees, excluding the self-employed, in relation to the total work force revealed that Sweden has the

highest level of private-sector employment in all of Europe (Andersson & Edin, 1995, p. 12).

Curt Nicolin (1991), who formerly headed up SAF, stated:

> The public sector elected to have many part-time workers, and for many women half-time work is a good combination, [with] a certain time for family and a certain time for their job. . . . If they can spend half the time, then they still can prepare their children. A man does not normally have the same caring feeling as a woman, I think. So that is one of the reasons we have many women in the public sector. We have many women doctors, and they are very good, but we do not have many women managers in business. . . . Probably two-thirds of men would instinctively prefer that; I think only generations can change that feeling. We have two words in Swedish--they are *jämlikhet* and *jämstaldhet.* The first is equality, but you cannot say that a man and a woman are equal; therefore, we have a word called *jämstaldhet,* which means that they have equal value, but it is not a good translation. You need to live in Sweden for a long time to really understand.

Contemporary Trade Policy and Modern European Market Integration

Sweden traditionally has pursued a free trade policy, and commerce with other countries has been an important driving force behind its development into an industrialized nation with a high standard of living, enabling Swedish industry to specialize and expand. The liberal trade policies in Sweden have promoted imports, competition, and structural change.

In 1995, Sweden entered the European Union (EU), a customs union that has a common trade policy in accordance with the Treaty of Rome. The EU came into existence with the ratification of the Maastricht Agreement in 1993. Sweden's membership in the EU will have important implications in a number of policy areas and marks a significant step in Sweden's postwar history.

Sweden supports the process of strengthening the open multilateral trading system within the framework of the General Agreement on Tariffs (GATT) and its successor as of January 1995, the World Trade Organization (WTO) in Geneva. Countries belonging to the EU account for more than half of Sweden's exports and imports. The European Free Trade Association (EFTA) is another important group of countries, to which Sweden has sold about one-fifth of its exports. Norway decided to join the EU and will remain an important trading partner in the EFTA group. After the EU and EFTA, the United States is Sweden's third-largest foreign market. Fast-growing markets for Swedish exports are found in East Asia, especially China, South Korea, and Singapore. Other important markets include central and eastern European countries, as well as the Baltic States and the Generalized System of Preferences (GSP) for less-developed countries.

Industry is currently dominated by the engineering sector, and employment is dominated by the metal and engineering trades, which are concentrated in southern and central Sweden. Aside from transport equipment--trucks, cars, and so on (mainly Saab and Volvo)--mechanical engineering is the most important subsector of this industry, followed by electrical products and metal goods. Motor vehicles, machinery, and telecommunications equipment are the most prominent export items. Recently, the pharmaceutical industry (primarily Astra and Pharmacia-Upjohn) has become more important for the export market.

The European Union

Sweden's free trade agreement with the European Community (EC) and the 1992 European Economic Area Treaty are among the important milestones to Sweden's membership in the EU. In 1989, the president of the European Community Commission, Jacques Delors, stated in a speech to the European Parliament in Brussels that the European Free Trade Association's cooperation with the EC would be reshaped in a more substantive way. Delors stressed that the EC's plans for a frontierless internal market still had priority and that in the future full advantages of cooperation with the EC could go only to member countries. At that time, many Swedes continued to view the country's participation in building a more unified Europe with cautious optimism (Viklund, 1989).

After the Berlin Wall was dismantled in 1989, the Swedish government announced in October 1990 that, in its opinion, Sweden should apply for membership in the EC. In July 1991, Social Democratic Prime Minister Ingvar Carlsson submitted Sweden's membership application. The Maastricht Treaty was signed in February 1992, and ratified in 1993, by an enlarged group of twelve nations, transforming the single market into a European Union.

In February 1993, actual negotiations began in Brussels. Thirteen months later, on 30 March 1994, an agreement was reached between Sweden and the EU member states, pending a referendum in Sweden. The accession treaty was signed at the EU summit in Corfu, Greece, during the summer of 1994. Sweden was represented by then-Prime Minister Carl Bildt, a Conservative.

On 13 November 1994, the issue of Sweden's membership in the EC was finally resolved by a national referendum, when 52.3 percent of the voters voted yes, thus approving the accession treaty by a close margin following a heated domestic debate, which is still ongoing in Sweden (the turnout was high--83.3 percent of eligible voters). On 1 January 1995, Sweden became a member of the EU; Finland and Austria joined on the same date. Thus, the EU expanded from twelve to fifteen member countries. Sweden's membership signifies the culmination of a long period of economic integration and cooperation with the EU. The EU's population of 370 million offers further expansion opportunities for Swedish multinational enterprises (European Community, 1991).

When asked about regulatory legislation and monopoly and the role of the Social Democratic government and the EU, Janérus (1991) stated:

> It is a historical reconstruction. The Social Democratic policy for economic growth has been an investment in the large companies, recognizing that they are small in the world market. . . . The export industry is not competing with each other and competing in the world market at the same time, so we have been facilitating the reduction of competition. . . . But obviously we have to realize that the market mechanisms are going to be freed from the national government's policies of their own. The major economic policy will be developed in Brussels, and it will take much longer before the central government in Brussels will react to the needs of individuals. The political system will become frozen for quite some time, and it is not a question for politicians to withdraw and become less active. . . . The issue of mobility of labor is rather interesting since there is so much space in Sweden, and the rest of Europe is so crowded.

According to Nicolin (1991), membership in the EU means positive changes in the power of the labor government in Sweden. However, it also means that

> we would to a certain degree lose our national virtues. Of course, we have a lot of national pride in this country, as most countries have, and that has to be subordinated in a certain way. We will probably find that we will have

foreign owners, not only corporations, but also land and buildings. We will not be to the same extent master in our own house, and we will have to accommodate in situations which we do not really like.

When Inge Janérus (1991) was asked about what he thought had been the most positive development in the 1980s, he responded:

> I would think the change that has taken place in the informal part of work management--relationships in management and authority. When I was young, workers were fearful; even if there has not been much change in the legislation, these changes served as vehicles to speed up the change in the informal relationships, the way people interact in the workplace. I should mention what we can see is an emancipation of women; finally, it is beginning to take effect. But the first part of that process, which is establishing her employment so that she can be independent, means more pressure in the workplace. Most families have to have support to cope with work and families. Work is more human. If one looks back, then it is quality.[19]

Conclusion

The purpose of this study has been to examine the dual processes of industrialization and internationalism within a historical frame: (a) preconditions, (b) the business and economic climate, and (c) the institutional framework to support multinational activity, including the character of labor-management relations in Sweden and finally organizational change. Economic growth and continued internationalization of industry offer an immense scope for further research. As we look toward the year 2000, Sweden must be viewed, above all, in terms of its special historical development.

Endnotes

1. Much of the direction in management Carlson attributed to the Harvard Business Project. He noted,

> The professors at Harvard had nothing to do, so they went to the War Department in Washington and said, "Can we help you in some way?" The

> War Department responded that they could train officers. Also, they could basically retrain people--engineers had to be trained. . . . The war had ended, and the Army did not need any more people; therefore, industry had to be mobilized for entirely new purposes . . . all part of the war experience.

2. In 1969, Bonnie Carrol of Cornell's School of Industrial and Labor Relations conducted a survey of the major contributions to the literature and listed 122 titles of books and articles. Since then, there have been many more writings related to increased worker participation, participative management, "empowerment," and so on. One of the most prominent among the group of writers was Einar Thorsrud of Norway's Institute of Work Psychology, whose work concerned the changing culture on the factory floor. Thorsrud was formerly at the Institute of Industrial Social Research in Trondheim, Norway, and in 1969 he was at the Work Research Institute in Oslo.

3. The pioneers in work psychology were Abraham Maslow and Frederick Herzberg. During World War II, Maslow wrote about a hierarchy of needs, running the gamut from physical to social. He maintained that these needs manifest themselves in the workplace and must be addressed there. In 1959, Herzberg wrote *The Motivation to Work,* which became the basic academic work influencing subsequent research in this area.

4. Quality of Work Life implies opportunities for creating relationships on the job. In this context, a difference has been noted between the North American and North European schools of improving the quality of work life through humanization of work, job restructuring, and so on. The dominant objective in North America is to make individual jobs more interesting by providing workers with an elevated challenge, which grew out of earlier "job enlargement" and "job enrichment" movements. But in Sweden and Norway, the dominant objective is to make group work more rewarding by allowing groups to function as self-contained social units, such as semi-autonomous groups fostered by cooperation among the members of the work group.

5. Eric Trist was a founding member and later chairman of the Tavistock Institute. He worked at the Institute for twenty years, during a time when some of the major advances in the socio-technical field were being made. In 1969, Trist went to the School of Management at UCLA where, with Louis E. Davis, he developed the first graduate program in socio-technical systems at a university. The same year, Trist moved to the University of Pennsylvania to work with Russell Ackoff in creating a new interdisciplinary doctoral degree in Social Systems Studies.

6. Emery (1978) recalled that, following empirical studies such as *Democracy at Work,*

> It had become clear that the emergence of a workable alternative to bureaucratization poses many wider challenges [than how to humanize work]. Challenges to those whose power rests on bureaucratic pyramids, including

trade unions, and social-democratic parties. Challenges to those who have sought better conditions for their communities or sections of their fellow citizens and have eventually given up because "the system" seemed impregnable. Challenges to the social science academics whose claim to fame rests on assuming the inevitability of bureaucracies and then building a little theory on that base. Challenges to the younger academics who feel that universities and colleges should be helping their communities find their way out of the quagmire of bureaucratization into which they have drifted. (n.p.)

7. When Tavistock was brought into the Norwegian Industrial Democracy project, it was up to Emery to carry on the theoretical role initiated by Eric Trist and to be the primary consultant in methodological matters, as well as efforts to align new developments in factory automation with wide-ranging efforts of social scientists to find workable matters. Emery thought there was very little help in those days from Norwegian and British academics as they were not interested in the subject matter. Theoretical contributions came from Louis Davis, then professor of industrial engineering at Berkeley, for the criteria of job design. They got the concept of joint optimization from a paper by Nehemiah Jordan on connections between man and machines in automated systems (Emery, 1978).

8. Documents at the Tavistock Institute archives reveal that, at that time, Fred Emery (1978) was aware "that there were moves, particularly in the Colleges of Advanced Education in Australia, to establish courses of the theory and practice of humanizing work" (n.p.) as part of the new paradigm that evolved from socio-technical systems. Emery thought there might be a danger that such courses could have any sense of the amount of theoretical labor needed to bring a new scientific paradigm into existence.

9. Thorsrud (1978) regarded terms like "democratization of the workplace" and "humanization of work" too ideological and too closely related to certain political views. In his context, he identified the main issues as (a) joint consultation of different levels of the enterprise with varying degrees of influence from sharing information to sanctioning policy, (b) employee representation on the board of the enterprise or on similar decision-making bodies, [and] (c) direct influence over the organization of work and conditions of employment. Shared power and a strong trade union presence were basic conditions for democratization of work in Scandinavia.

10. In his study of autonomous work groups, Thomas Sandberg (1982) found that, of the many hundreds of experiments in what he called the SAF sector, only a small number were documented. Forty-four brief descriptions of experiments in the engineering industry were published in 1974 by the Development Council. Sandberg found in his study of the development of autonomous work groups, which first occurred in Sweden in the 1970s, "The practical implication is that a policy for autonomy at work, job satisfaction and effectiveness cannot restrict itself to the

individual and group levels. It must also take into consideration long-term issues such as market policy, technical development and personnel policy" (p. 201). Sandberg, now a professor at the Royal Technical High School, Sweden's MIT, found from a comparison of the only Norwegian and the three Swedish national change programs, that work-organization problems and solutions are built on the presumption that the change activities must be locally based. SAF carried out work experiments that were locally initiated, carried through, and evaluated. In Norway, the more central structure blocked diffusion, although diffusion was not an easy process in Sweden.

11. During a study visit to the Kalmar plant in 1983, I observed that work had been organized in an innovative way, which was aimed at reducing physical and mental stress. The environment was bright due to windows and natural light, clean and quiet, with good ventilation. The morning was spent viewing the assembly from beginning to end--the automobile bodies had been sent over by train from Gothenburg. There was a common dining room where our group met with representatives from the trade union, the foremen, and the engineers, as well as the personnel manager/information officer, Gustave Bloomberg. It was explained that the plant activity was at a lower level than usual as they were getting ready to close for the mandatory five-week summer vacation. In the afternoon, we met with the same people and representatives from the union "work council" after company presentations from the various management areas. There appeared to be a good deal of agreement by both labor and management with a definition of Quality of Work Life. Success and failure were carefully monitored, and an effort was made to correct shortcomings. Management at Volvo was aware from the very beginning that the Kalmar plant was being watched by other industrialized nations, particularly the automotive industry in Japan and the United States. According to Gustave Bloomberg, there were some people who would have been happy to see the innovative plant fail.

12. Work councils have been required by law since 1948. They include representatives from management and labor, the forerunner of the Co-Determination Act of 1976-77.

13. Bluestone (1983) had been to Sweden three times. To him, Kalmar looked like a plant that was built because Volvo was having so many problems. However, the workers were an essential element in planning the new Kalmar plant in the early 1980s, and in finding solutions. Bluestone regarded Europe as being further ahead than the United States, and avant garde with regard to keeping a nation of workers healthy with a more holistic approach to human resources, which he stated are "of paramount importance to a nation." Bluestone said that South Africa and the United States were the only countries without national health insurance (in 1983). He also said that there was a shrinkage in the manufacturing base in the United States; the industrial sector is 28 percent and the public sector 73 percent, and unions now have 20 percent membership, so unions will have to tap the service and public sector, clerical workers, for membership.

14. A study on contrasts in worker participation in Sweden and the United States indicated that the problem of resolving high absenteeism and turnover is the best example of the degree of divergence of views with regard to employee participation in the two countries. "To the Swedes, participation, implying classless cooperation between workers and managers, is a basic tenet of a passionately held faith, an earnest goal that is almost universally shared" (Foy & Gadon, 1976, p. 72).

15. Lidén's firm started to internationalize and was gradually built on a tradition of decentralization when the company was formed through a merger in 1913 of ten local graphics companies. They had to "restructure the group" and form a "new organization" so that there was no internal competition. Then part of the group could go abroad. Because the domestic company generated a lot of cash, it

> needed to internationalize, thus gradually build up a new internationalization, and then a new pattern emerged. We were lucky actually when we acquired companies. It was after the first oil crisis in the mid-1970s, and it was fairly cheap at that time to acquire companies in the United States. The P/E ratios were quite low compared to five to ten years earlier, and even though Sweden had currency regulations at that time, we succeeded in making a lot of acquisitions from Stockholm and in building up this new group of companies. If you go out and ask them [those in the new companies in other countries] if they feel like Swedes, they will, of course, say "No." I think it is very good for them to have that attitude because it is not necessary for them to be closely connected with Sweden and Swedish tradition. (Lidén, 1991)

16. Scase (1977) compared Swedish and British industrial development and class inequality, and identified the effects of Social Democratic policies on patterns of social and economic inequality. Scase argued that the Swedish Social Democrats' working-class goal of egalitarianism was also the goal of other Swedes, whereas there was no coherent class-based movement in Britain.

17. Lundberg asserted that the golden decades of the 1950s and 1960s led to severe disturbances and disequilibria in the 1970s, which brought with them fundamental disorders--psychological, political, and economic--which may have worsened the efficiency of the Swedish Model. He predicted that the model could possibly renew itself when conditions returned to normalcy.

18. A small change in the annual growth rate that persists over a long period has significant consequences for the standard of living. In March 1993, a commission of independent academics appointed by the government, the Ekonomikommissionen or Economic Commission, delivered their report. They also had the document translated into English in a book published by the MIT Press, with the ominous title *Turning Sweden Around,* "in the belief that many of the economic problems in Sweden already exist or may emerge in other highly developed countries" (Lindbeck et al., 1995, p. vii). According to the respected members of the commission, "Deficiencies in the economic environment of firms and households may not only

waste resources at every point of time; they may also hamper the accumulation of resources, and hence productivity growth" (p. 8).

19. Janérus stated that there were four female elected officials at LO and "one on our board, which is made up of presidents of affiliated unions. Only one out of fifteen is a woman, so we have nothing to be proud of." Parental leave is with pay for eighteen months, which can be shared by the two parents. Child care is a part of the national system.

APPENDIX

Abbreviations and Acronyms

AB	Aktiebolag--limited company, joint stock company, corporation
ABF	Arbetarnas Bildningsförbund--Workers' Educational Association
AGA	Svensk AB Gasaccumulator
AMS	Arbetsmarknadsstyrelsen--Labor Market Board
ASEA	Allmänna Svenska Elektriska Aktiebolaget
ASSI	AB Statens Skogsindustrier--National Forest Industries
EEC/EC/EU	European Economic Community, European Community, European Union
EMU	Economic and Monetary Union--single currency
EFTA	European Free Trade Association--Austria, Finland, Iceland, Norway, Sweden, and Switzerland (1990)
GATT	General Agreement on Tariffs and Trade
JO	Justieombudsman--the *Ombudsman*
KTK	Local and regional government-sector bargaining cartel of TCO
LKAB	Lusosavaara-Kiirunavaara AB--state-owned mining concern
LO	Landsorganisationen--Swedish Confederation of Trade Unions
MBL	Act on Co-determination at Work
OECD	Organization for Economic Cooperation and Development
PTK	Federation of Salaried Employees in Industry and Services--private-sector bargaining cartel of TCO
SAAB	Svenska Aeroplane AB--Swedish Airplane
SACO/SR	Svenska Akademikers Centralorganisation--Confederation of Professional Associations--representing employees with academic training
SAF	Svenska Arbetsgivareförening--Swedish Employers' Confederation
SALF	Swedish Association of Supervisors and Foremen
SAP	Social Democratic Party
SAV	National Agency for Government Employers
SIF	Swedish Union of Clerical and Technical Employees in Industry
SJ	Statens järnvägar--Swedish railways
SKF	AB Svenska kullagerfabriken--Swedish Ball Bearing Company
SKTF	Swedish Local Government Officers' Union
TCO	Tjänstemännens centralorganisation--Central Organization of Salaried Employees
TCO-S	National government-sector bargaining cartel of TCO

A Chronology of Swedish Industrial Relations

1898	Swedish Trade Union Confederation (LO) founded
1902	Swedish Employers' Confederation (SAF) founded
1906	December Compromise Agreement--LO and SAF
1909	General Strike of 1909 followed by a severe decline in union membership
1928	Establishment of Labor Court, and a Collective Bargaining Act
1936	Legislation regulating unfair dismissal for union activity, and the "social partners'" rights to negotiate
1938	SAF-LO Basic Agreement at Saltsjöbaden, which set a cooperative "spirit" for labor relations--Saltsjöbaden Agreement
1944	Central Organization of Salaried Employees (TCO) founded
1946	SAF-LO-TCO Works Councils Agreement, revised in 1966 and ended in 1977 by MBL
1956	Beginning of LO-SAF central bargaining
1971	LO and TCO adopt policies for industrial democracy
1972	LO-SAF Rationalization Agreement on productivity, job satisfaction, and job security
1973	Initial law on board representation for local unions
1974	Legislation making it difficult to dismiss employees, and for companies to hire workers on probation (trial period) without union approval. Legislation giving local union representatives time off for union work with pay.
1975	Wage Earner Funds debate begins. Legislation for employees to have educational leave
1976	Non-Socialist coalition government replaces the Social Democratic Party
1977	Co-determination at Work Act (MBL) implemented, act on employee participation in decision making
1980	Lockout--strike throughout most of the private sector
1981	LO and Social Democratic Party congresses approve principles for Wage Earner Funds (Meidner Plan)
1982	Social Democratic Party re-elected. SAf-LO-PTK Agreement on Efficiency and Participation
1983	Wage Earner Funds implemented. Industrywide bargaining replaces the 1956-1983 centralized pattern

Milestones in the History of the Work Day in Sweden

1905	Agreement of 57-hour work week for the metal industry
1919	Forty-eight-hour work week--by statute
1938	Two weeks' paid vacation--statute
1951	Three-week paid vacation--introduction of an extension
1957	Forty-five-hour work week through decrease of an hour per week through one hour per year, 1958, 1959, and 1960--statute
1963	Four-week vacation--extension
1966	Work week shortened to 42.5 hours through a collective agreement between LO and SAF
1973	Forty-hour work week by shortening the week by 1.25 hours in 1971 and 1973
1977	Five-week vacation--extension
1990	Introduction of two more vacation days through a decision by the Riksdag, the Swedish Parliament in Stockholm
1993	Parliament's decision from 1990 for two more vacation days recalled

Source: Svensson (1997).

Table A1

Distribution of Swedish Exports in Certain Branches of Industry as Percentages of Total Exports: 1871 to 1971

Year	Agriculture and Forestry	Mining	Iron & Steel Industry	Forestry Industry		Mechanical-Engineering Industry, Incl. Electrical Engineering	Other Exports
				Wood Industry, Incl. Furniture	Pulp & Paper Industry		
1871	33.9	0.1	25.2	29.4	1.4	0.3	9.7
1891	16.6	1.3	13.6	33.4	6.0	1.5	27.6
1911	8.5	7.8	11.4	23.1	19.0	7.2	23.0
1931	1.9	5.7	6.4[a]	14.8	30.9	21.2[a]	19.1
1951	2.9	6.7	5.3	11.8	42.5	21.4	9.4
1971[b]	3.1	3.8	7.5	6.0	15.7	43.2	20.7

[a]In 1930, certain product groups were reclassified; the percentage figure for the iron and steel industry was lowered, and that for the mechanical-engineering industry was increased by a little more than 3 percent.

[b]Because the 1971 figures were taken from another source, they might not be fully comparable with the earlier figures.

Source: For the years 1871 to 1951, Ohlsson (1969), Table B:6.
For the year 1971, *Statistisk Årsbok* (1972), Table 128.

Traditional Political Parties in Sweden, 1889 to 1921 and the Modern Political Parties in Sweden, 1981

The Socialist Bloc

The **Social Democratic Labor Party (Socialdemokratiska arbetarepartiet)**, founded in 1889, aims to apply the ideals of democracy to the entire social order and to mutual relations among people, in order to provide every individual with the opportunity to lead a rich, meaningful life. To realize these goals, decision-making power concerning production and its distribution must be placed in the hands of all the people. This does not necessarily require government ownership of means of production, but the party generally favors a large public sector. This party is closely linked with the trade union movement.

The **Left Party Communists (Vänsterpartiet kommunisterna)**, founded in 1921, bases its activities on scientific socialism, i.e., Marxist and Leninist revolutionary theory, with an aim to defeat capitalism and imperialism and achieve a classless society. The party stresses its independence from foreign Communist movements and often supports the Social Democrats on social welfare and economic policy issues.

The Nonsocialist Bloc

The **Moderate Party (Moderata samlingspartiet)**, formerly the Conservative Party, founded in 1904, in keeping with its temperate conservative ideology, wishes to build a society based on personal property rights, free enterprise, and more widespread ownership of property. The cultural views and ethical norms of human coexistence should be based on fundamental humanistic views of human dignity, freedom, and social responsibility that have evolved in the Western cultural sphere and that which originated from Christianity. The party calls for a reduction in the size of the public sector, and preservation of a strong defense system.

The **Center Party (Centerpartiet)**, formerly the Agrarian Party, founded in 1913, supports the will of individuals to take initiatives, work, and assume responsibility as well as to cooperate and show solidarity with others, as the main motive forces of progress. These goals are best achieved in a decentralized private and cooperative business sector, where employees are given an opportunity to influence decisions. Originally a farmers' party, the Center Party has broadened its base in recent decades. It currently includes strong antinuclear and environmentalist groups from both rural and urban areas.

The **Liberal Party (Folkpartiet)**, founded in 1902, defends classic liberal tenets of freedom, justice, and humanity. The reform party stresses equality between men and women, international development cooperation, and a free market economy. In addition, government must not take over all aspects of society, for it will then be

totalitarian. The party program focuses on a central issue of defending the people against the State and taking the side of the individual against bureaucratic regulation.

New Party--**Green Party (Miljöpartiet De Gröna)**, founded in 1981, has no orthodox party leadership, and the annual party congress elects two spokespersons, one woman and one man. The party originated as an environmentalist movement with a loose participatory structure based on antinuclear groups that took part in the 1980 referendum on nuclear energy.

Source: Adapted from Lindström (1983), and Social Democratic Workers' Party (1975).

Table A2

The Twenty Largest Swedish Multinationals (1983)

Company Name	Employees Abroad		Foreign in Relation to Total Sales (%)	Main Products (Estimated Share in World Market)
	Number	% of Total		
AGA	7,662	68	69	Industrial gases, welding equipment, cold storage, freezing equipment
Alfa Laval	10,352	65	90	Centrifugal separators (30-50%) Compact heat exchangers (30-50%) Milking machines (30-50%)
ASEA (excl. Fläkt)	11,582	27	65	Equipment for distribution of electric power, energy generation equipment
Astra	3,206	51	80	Seloken (17%), Xylocain (40%), Bricanyl (10%)
Atlas Copco	11,996	71	91	Airpower, mining, and construction technique
Electrolux	58,372	66	76	Electrical domestic appliances, metals, various industrial products
Ericsson	37,746	54	80	Public telecommunication equipment, information systems
ESAB	4,123	71	91	Welding consumables (5%), standing welding machines (3%), mechanized welding systems (4%), gas cutting machines (12%)
Esselte	8,734	57	65	Office equipment, printing and packaging, publishing and bookshops
Euroc	3,436	42	56	Equipment for compaction, cement, lime and limestone, building material, international trading

Table A2 (Cont'd)

Company Name	Employees Abroad		Foreign in Relation to Total Sales (%)	Main Products (Estimated Share in World Market)
	Number	% of Total		
Fläkt	7,841	57	77	Environmental control, industrial drying, air handling and ventilation, fans, installation service
Incentive	3,277	31	59	Heating technique, transportation technique, measuring instruments, biochemistry, polymer technique
Saab-Scania	6,939	18	59	Trucks and buses, passenger cars, aircraft
Sandvik	14,807	58	91	Cemented-carbide cutting tools, special steels, rock tools, saws and other hand tools, processing equipment
Skanska	8,502	31	23	Construction, civil engineering
SKF	37,472	81	92	Rolling bearings (20%), steel products, cutting tools
Sonesson	3,518	53	73	Standby power systems, batteries, railway breaking equipment, pumps, industrial doors
SCA	5,452	36	67	Pulp and paper, sawn timber, engineering products, hydroelectric power, hygiene products
Swedish Match	11,760	64	75	Flooring, doors, matches, lighters, packaging systems, chemicals
Volvo (excl. Sonesson)	15,541	22	85	Automotive products, energy, food

Source: Federation of Swedish Industries, Stockholm, and the companies.

Table A3

Leading Swedish Engineering Firms Established in the Early Industrialization Era

Company	Established	Founder(s)	Key Products
Atlas Copco[a]	1873/1898	A. O. Wallenberg & others	Rolling stock, steel, rock-drilling machinery
Ericsson[b]	1876	L. M. Ericsson	Telephones, switches
Bofors[c]	1880s	Kjellberg	Artillery
ASEA[d]	1882	J. Wenström G. Wenström G. A. Granström L. Fredholm	Dynamos, electrical elevators, cranes, & drills; three-phase system transmission, motors, etc.
Alfa-Laval[e]	1883	G. De Laval O. Lamm	Separators, dairy systems
Bahco	1887	J. P. Johansson	Adjustable wrench and other hand tools
Scania-Vabis[f]	1900/1891	E. Ekenberg	Motor vehicles
Swedish Match[g]	1892	A. Lagerman	Match-making machinery
STAL-LAVAL[h]	1913-1893	G. De Laval B. Ljungström F. Ljungström	Steam turbines, air preheaters
C. E. Johansson	1901	C. E. Johansson	Measuring pieces and instruments
AGA	1904	G. Dalén	Lighthouses, stoves, gases
Esab	1904	O. Kjellberg	Welding consumables
SKF	1907	S. Wingquist A. Carlander	Spherical ball and roller bearings

Sources: Adapted from Porter et al. (1991), pp. 134, 135; Gullers (1985); and company reports.

[a]Earlier named Atlas Diesel and merged with AB Diesel Motorer in 1917. AB Diesel Motorer was founded in 1898 by K. A. Wallenberg, M. Wallenberg, and O. Lamm as initiators.

[b]Established as L. M. Ericsson, which manufactured telephones and merged in 1917/1918 with Stockholms Allmänna Telefon (an operating company beside the state-owned Televerket formulating Telefon AB L. M. Ericsson).

[c]Bofors, founded as a blacksmithy in 1846, became an engineering firm in the 1880s.

[d]ASEA was formed in 1890 in a merger of Elektriska Aktitebolaget and Wenström & Granströms Elektriska Kraftbolag. Göran and Gustaf Abraham Granström were concerned with entrepreneurial aspects of electrical power within industry. ASEA merged with Brown Boveri, BBC in 1987 and formed ABB where ASEA holds 50 percent.

[e]The firm was called Separator until 1963. Gustaf de Laval (1845-1913) was a charismatic engineer and inventor, whose discoveries led to the founding of multinational companies.

[f]Ekenberg started his first venture in 1823 and began production of railway cars in the mid-1800s and then the company was sold to AB Atlas. In 1891 he started VABIS (Vagnfabriksaktiebolaget i Södertalje). Scania started as a bicycle manufacturer in 1900, but manufactured its first automobile in 1901. The two companies merged in 1911. In 1969, Saab acquired Scania Vabis, forming Saab-Scania.

[g]The forerunner of Swedish Match, which was created through a series of mergers in the 1910s, dates back to 1845.

[h]Svenska turbinfabriks AB Ljungström, STAL, was founded in 1913. In 1916, ASEA took control of STAL. In 1959, ASEA merged STAL with de Laval Ångturbin, founded in 1893, forming STAL-Laval turbin AB, later ASEA STAL. After the ABB merger, the company was renamed ABB STAL.

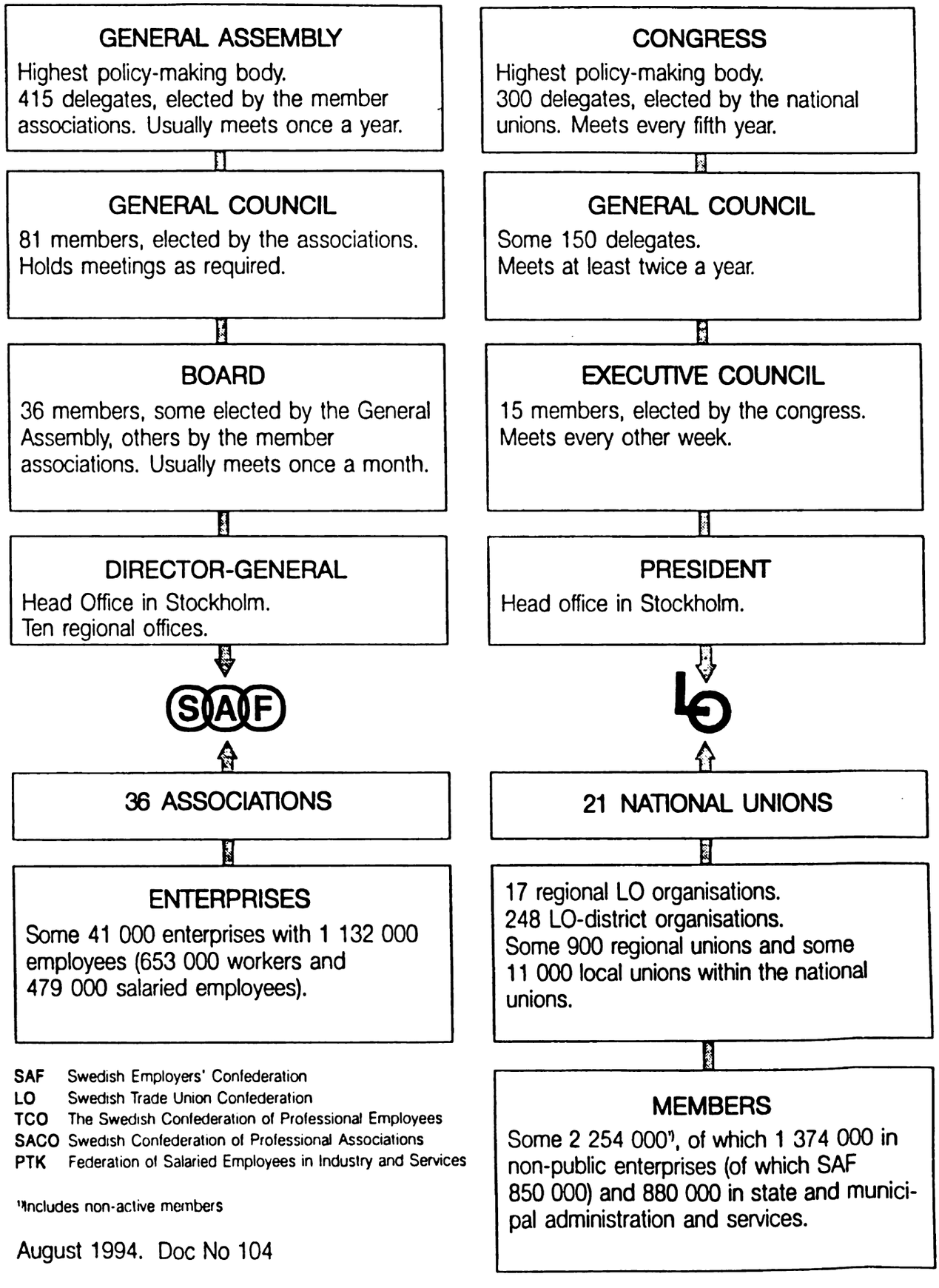
Table A4

Sample of Consolidated Swedish Multinational Firms

Firm	Principal Field of Industrial Activity	Total Number of U.S. Patents, 1890-1990
AGA AB	Industrial gases	439
Alfa Laval AB	Separators, agricultural equipment	1,220
ASEA/ABB, Allmänna Svenska Elektriska AB	Power generation and distribution equipment	2,233
AB Astra	Pharmaceuticals	308
Atlas Copco AB	Pneumatic and hydraulic (rock drilling) equipment	552
Avesta Jernverks AB	Specialty steel and metals	20
AB Electrolux	White goods, home appliances	816
Ericsson, Telefon AB L. M. Ericsson	Telecommunication equipment	1,130
ESAB, Elektriska Svetsnings AB	Welding equipment	65
Esselte AB	office equipment	111
Fagersta AB	metals, rock drills	28
MoDo Mo och Domsjö AB	Pulp and paper	168
Perstorp AB	Chemicals	42
Pharmacia AB	Pharmaceuticals	189
PLM, AB Plåtmanufaktur	Packaging material	80
Saab-Scania AB	Automotive products, aircraft	253
Sandvik AB	Specialty steel and metals, hard materials, rock drills	537
SCA, Svenska Cellulosa AB	Pulp and paper	163
SKF, Svenska Kullagerfabriken AB	Ball and roller bearings	1,106
Stora, Stora Kopparbergs Bergslags AB	Pulp and paper	177
Tetra Pak International AB	Liquid packaging machinery	225
Trelleborg, Trelleborgs Gummifabriks AB	Rubber products	55
Uddeholm AB	Specialty steel and metals	79
AB Volvo	Automotive products, food	310

Source: Patent and Registration Authority (1991).

Organisation of SAF, LO



SAF Swedish Employers' Confederation
LO Swedish Trade Union Confederation
TCO The Swedish Confederation of Professional Employees
SACO Swedish Confederation of Professional Associations
PTK Federation of Salaried Employees in Industry and Services

[1]Includes non-active members

August 1994. Doc No 104

"Tension Between Capital and Labor"
Lecture by Gustaf Söderlund, CEO of SAF, given at LO's school
in Brunnsvik, 25 June 1935, SAF Archive

Price formation is normally determined by supply and demand. The same is true for the price of labor. This is obvious when the supply and demand are determined by unorganized individuals. When individuals organize to increase the price of labor, it is within their means to limit the supply of workers or to refuse to work for less pay than they find reasonable. In their operation the unions confirm the importance of the supply for the price formation. The same is true for the employers' organizations, when they try to meet the limitation in supply with a limitation in the demand. The controlled supply and controlled demand will in the end decide the price. This control sometimes means that the workers refuse to work for the price the employers are willing to pay, while the employers refuse to hire labor for the demanded price. One refrains from the other's services forever or for a time in order to influence the price. In the latter case, there is a cessation of work used in the conflict for the size of the labor cost. In this conflict other means can be used. The labor organizations want to control the supply of labor to increase the wages, while the employers' organizations want to achieve the opposite.

A question is if the organizations can get enough out of the open conflicts to justify them. In the first case, the question is put to the labor organizations since their attitude to conflict is primary, while the employers' organizations appeared as a defense against the unions.

There is no doubt that the unions have had a big impact to increase the conditions for the labor class. They have also meant a lot in stabilizing the labor market with the help of collective agreements. On the other hand, they have also given the labor class ideas and opinions in the area of economy and community that unavoidably are imprudent, leading to harmful decisions for society. Most likely, the future will show that. I will, however, not discuss this in this lecture, but rather the labor movement's striving and fight for the increase in labor's share of the yield of production.

There is no doubt that the special unions have been able to increase their own members' material exchange from the work. The development has been very different for different groups. When the production is protected from international competition, it has been fairly easy to increase wages since the cost could be transferred to consumers. For the export-oriented industry, the increase has been much lower, and for the farming industry even lower. The impact for different groups of labor has been uneven and, one could say, highly unfair.

It is not the size of a country's capital, but the growth of capital, that gives an increase of wages. When the unions are able to increase wages more than would be the case in a free market, then sometimes this means that capital would get less yield from production. However, mostly it means that the consumers have to pay

more. This means less demand for product in areas with international competition. This also means less demand for workers in these areas. Thus, these workers have more problems in getting their demands accepted.

If the favored professions will pull the others with them in the increase, it might happen that the growth of capital in the country could decrease and the yield be used for consumption instead. What the laborers win in competition with capital, later generations must pay for.

This is not always true, however, because every increase in labor cost leads to rationalization. The result is that some tasks done by labor are taken over by capital. A great deal of the unemployment today is caused by these rationalizations. In this case, the increase in wages is taken out on the unemployed.

Fighting unions can win clear and lasting gain in their work for higher wages, but it is obvious to me that this, to a great extent, has to be paid by other groups of laborers. This will not necessarily restrain these less fortunate groups to increase their standard of living. This will, however, be a result of the general increase in growth in the country. In the last two decades, from 1913 to 1934, the GNP has increased by 127 percent. It is most likely that the average increase in wages will follow the increase in the GNP.

At the same time the unions have increased the differences between different professions, they have decreased the differences within groups. They should receive credit for this latter effect as long as the differences do not get too small.

What I have said about the unions' influences on the increase in wages would, for many, be regarded as an underestimate. But I cannot come to any other conclusion.

In regard to the question of whether open conflicts that the unions initiate are of benefit to them, my opinion, which few would oppose, is that the open conflict for both parties, employer and employees, requires more sacrifices than can be justified by the gain. These conflicts are so common either due to thoughtlessness, or to other gains than can be achieved by the conflict in question.

Because these conflicts are of great importance not only for the parties involved, but also for the whole society, different measures have been taken to avoid them. The State has put mediators in place. These have undoubtedly helped to avoid open conflicts. In some countries, other measures have been taken by special investigations that are published, letting public opinion put pressure on the parties to come to agreement without conflict. In other countries, arbitration has forced the parties to agree. Finally, some countries have changed their constitutions in regard to the labor market, prohibiting open conflicts.

In connection to these endeavors to avoid open conflicts, one must consider the more general question of tension between capital and labor. According to the

original view of social democracy, the means of production should be taken over by the State, and according to the view of the syndicalists, it should be taken over by the unions. The result should, in both cases, give all a yield from production to benefit the workers. Socialization, however, would not abolish this tension. Even with the society as the owner, capital has to get its share of the yield, so the fight with the workers regarding the division will remain. In Soviet Russia, where socialization is totally implemented, the goal is far from realized, and the workers have to carry unreasonable burdens due to a defective capital formation.

Even the syndicalists have had an opportunity to test their ideas. The best-known experiment is the so-called "guild socialism. In England, the country of the guild paradigm, this spread, mostly within the construction industry. The idea behind it was that workers would be their own employers. The members chose a committee, which organized the job. The financing came from banks close to the cooperative. After a while, however, the system showed its weakness. A lack of order and discipline prevailed under the elected foremen, and the pace of the work remained slow. Housing became expensive, schedules were delayed, and the quality was low. The cooperative banks withdrew, so the guilds went bankrupt. Within other areas, the same thing happened. Similar attempts have also failed in Sweden.

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