

ECONOMIC DEVELOPMENT, POLITICAL  
LABOR MOVEMENTS, AND PUBLIC POLICY;  
A QUANTITATIVE COMPARISON OF  
TIME-SERIES INDICATORS FOR  
NORWAY AND SWEDEN

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## ABSTRACT

### ECONOMIC DEVELOPMENT, POLITICAL LABOR MOVEMENTS, AND PUBLIC POLICY: A QUANTITATIVE COMPARISON OF TIME-SERIES INDICATORS FOR NORWAY AND SWEDEN

By

Charles David Klingman

This dissertation compares the patterns of political development for Norway and Sweden from 1875 to 1965 by means of correlation and regression analysis of aggregate time-series data. Historical accounts and previous analyses of industrialization, political labor movements, and social legislation in Norway and Sweden were reorganized within the framework of the mobilization model of political development. This yielded fourteen specific hypotheses which anticipated certain similarities and differences between Norway and Sweden in the patterns of intercorrelation among indicators of the following concepts: social mobilization, economic wealth, political mobilization, democratization, government penetration, government expenditures by sector (health, education, and welfare), and the impacts of those expenditures, namely personnel services and objective-security conditions, in each corresponding societal sector.

The data base consisted of aggregate national statistics on Norway and Sweden ultimately derived from official sources (the Central Bureau of Statistics in each country) for years in which regularly



scheduled, lower-house parliamentary elections occurred (every third and fourth year) from 1875 to 1965. The criterion for acceptance of both bivariate and multivariate relationships was significant correlation and lack of significant autocorrelation. The hypotheses were evaluated by comparing the two countries on the number of acceptable relationships among the indicators for each hypothesized set of related concepts. In an effort to reduce the high level of autocorrelation, this procedure was also used for a shorter time-span, the period since the disruption of the loose union between the two countries in 1905.

Only three of the original fourteen hypotheses were confirmed. First, the indicators of social mobilization were more substantially associated with the indicators of government penetration for Norway than for Sweden. Second, the indicators of political mobilization were more substantially associated with the indicators of democratization for Norway than for Sweden. Third, there was no significant difference between the two countries in the strength of association between the indicators of government penetration and government expenditures. The latter two confirmations applied only to the post-1905 time period.

So few of the hypotheses were confirmed because of severe autocorrelation, which probably resulted from curvilinearity in the regression parameters over time as well as from exogenous variables. Furthermore, the patterns of interrelationship among the indicators suggested that per capita monetary measures intercorrelate more

strongly with each other than do social and political variables measured on a proportional basis. Future research should seek to reduce the autocorrelation not only by incorporating exogenous variables, but also by using every-year data analyzed in successive brief time periods in an attempt to locate the time-points at which the regression parameters change.

Re-examination of the acceptable relationships outside the framework of the original hypotheses indicated that in both countries social and economic variables had a far more substantial impact on indicators of public policy than did political variables. Furthermore, the only significant differences between the patterns of development for Norway and Sweden were the closer association between the rise of the socialist movement and democratization in Norway than in Sweden, and the earlier expansion of the Civil Service in Norway than in Sweden. Both of these differences were probably due to stronger resistance of the Swedish political elites to leftist demands for democratic reform and expansion of government social programs.

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By

Charles David Klingman

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A few words cannot adequately express my gratitude to Professor Guy Peters of Emory University for his advice, encouragement, and friendship throughout my graduate career (not to mention his data on Sweden).

Similarly, I owe more to my parents than could ever be expressed here. I only hope their faith in me can be even further justified in the years ahead.

Finally, my wife, Charlotte, who typed the various drafts, and son, Jeffrey, who occasionally had to accept proofreadings as bedtime



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## CHAPTER ONE

### INTRODUCTION

#### I. Review of Literature

##### A. The Development of Political Development

For years empirical theorists have considered the field of political development to be one of the most backward in political science. One cannot build theory on amorphous foundations, and the very meaning of the term "development" has fluctuated ever since the spread of its usage in the 1950's, when the primary concern seemed to be with strengthening the newly independent nations against the perceived threat of international communism. Western political science literature at least implicitly has viewed the end-product of the development process as being the establishment of Western-style democratic institutions, processes, and attitudes. However, it has camouflaged this view under a variety of pseudonyms and has emphasized different aspects of democratization.

##### 1. Mass Participation

One segment of the literature has emphasized mass participation in the political process, with its requisite attitudes, values, and institutions, as being the major criterion of development. Perhaps the best-known of the earlier writers in the field, Daniel Lerner

(1958), attempted to demonstrate through a limited cross-sectional correlation analysis that political development consisted of a sequence of five major variables. That is, urbanization, literacy, and mass media participation fostered the growth of empathetic attitudes, laying the trusting foundation necessary for organized mass political participation, the crucial aspect of political development. Banfield (1958) and Wylie (1964), in their "participant observer" studies of villages in southern Italy and France, respectively, also emphasized the role of culturally induced lack of trust of others and alienation from organized politics in perpetuating backwardness. Pye (1962), in his study of Burma, also blamed the cultural lack of trust and the identity crises produced by the socialization process for the friction between politicians and administrators and the lack of democratic political participation. His other works (1965a; 1965b; 1966) also focussed on democratic participation as being the major criterion of political development. Almond, writing with several different co-authors (1960; 1963; 1966), utilized the political culture approach to emphasize the importance of the development of attitudes and values supporting democratic political participation. He also employed the structural-functional approach to highlight the role of institutions fostering such participation.

Deutsch (1953; 1961) popularized the term "social mobilization" in referring to the process which breaks down old social, economic, and psychological commitments and replaces them with new patterns

of socialization, attitudes, and behavior, thus laying the groundwork for political mobilization or participation. Geertz (1963) also emphasized the process of developing participant loyalties to the new states which complement old diverse loyalties or "primordial sentiments." Finally, Marshall (1965) and Bendix (1968) focussed on the process of incorporation of the lower classes and minority groups into society through the attainment of economic, social, and finally political rights of citizenship.

## 2. Elite Institutions

Another segment of the literature, however, has emphasized the development of strong societal institutions deemed legitimate by the people and mediating between mass participation and the elite political processes responsible for the actual operation of the system. This is not to say that the aforementioned "mass participation" writers ignored institutionalization entirely. But their concern did focus largely on the role of institutions in fostering democratic political participation. Other authors, however, focussed on the control of mass participation by societal institutions and the overriding importance of elite political processes. Lipset (1959) and Olson (1963) pointed to the dangers of zealous mass participation, polarization, and rapid change in social structures and norms for the stability of the political system. Kornhauser (1959) emphasized the need for strong intermediate groups or secondary organizations to mediate between masses available for mobilization and elites accessible to influence. Nordlinger (1968) pointed to the need for the development



of national identity and strong institutions before the moderately-paced advent of mass participation. Apter (1965) discussed the suitability of various types of authority and value structures for handling the pressures produced by economic modernization. Kautsky (1962) also discussed the impact of industrialization on agrarian societies in terms of the shifting influence of particular interest groups in the political process. Eckstein (1966) based his "theory of stable democracy" on the degree of congruence among authority patterns in the various institutions and organizations of society. Various authors in the field of comparative public administration emphasized the importance of strong yet adaptable bureaucracies in transforming socio-economic pressures into policies in developed as well as developing states (Crozier 1964; Riggs 1964; LaPalombara 1967; Raphaeli 1967). Much of the literature in both "schools" emphasized the importance of a strong political party system, whether in fostering or controlling mass participation (LaPalombara and Weiner 1966).

### 3. Resolving the Conceptual Confusion

Obviously the early literature harbored considerable confusion as to whether the major criterion of political development should be democratic mass participation or strong elite institutions. The solution involved taking a more comprehensive view of the relationship between the political system and its environment. Huntington (1968) clarified the idea that development involves both participation and institutionalization, although his emphasis was still on the latter. The argument seemed to be that social mobilization inevitably results

from economic modernization and that mass political participation results from the gap between economic promise and performance, regardless of whether a society has strong institutions fostering such participation. Rather, political development involves the growth of institutions capable of dealing with the demands created by social mobilization. But Huntington went a step further and considered the consequences of the failure of political institutions to control mass participation, namely violence and corruption.

Thus the field of political development has begun to shift its focus from the inputs of the political system to its outputs or performance in solving the problems of the society which it serves. Throughout much of the literature of both developmental "schools" there was some discussion of political development as being the increasing capacity of the political system to adapt to the changing demands of its socio-economic environment. But the real focus remained on the inputs from that environment to the political system, mainly political participation, whether the emphasis was on encouraging or controlling it. More recently Alker (1968) and Almond (1969) have called for the evaluation of the capabilities and performance of political systems, and Karl de Schweinitz (1970) has called for the formulation of a measure of the "Gross Political Product" of nations. Others such as Pennock (1966) and Mitchell and Mitchell (1969) have also drawn parallels between the political system and the economic system and have called for economics-style concepts and methods of measurement and evaluation in the study of politics.

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#### 4. Politics and Economic Development

Obviously the economy is one of the most important aspects of society on which the political system has an impact and on which it partly depends for its performance. Most of the literature recognized a strong relationship between political development, whatever its definition, and economic development, usually defined as increasing wealth and industrialization. Many economists and some political scientists were more concerned with the role of political institutions in fostering economic growth than with the effect of economic development on politics. Organski (1965) focussed on economics in his characterization of the stages of political development. McClelland (1961) pointed to the impact of social norms and institutions on the development of achievement motivation and entrepreneurship, vital to economic growth. Hirschman (1958) argued that governments in economically underdeveloped nations should induce "unbalanced growth," helping "tertiary" industries in the hope that these would spur growth in the more traditional primary sectors, such as agriculture. Rostow (1960) argued that governments in nations with some degree of economic sophistication should intervene in all sectors of their economies in an effort to push them to the "take-off" stage of sustained growth. He also attempted to evaluate the suitability of various types of political organization for this task. However, Holt and Turner (1966) utilized an historical comparison of France and China with England and Japan to illustrate their thesis that governments in economically underdeveloped nations must

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not intervene in the private economy prior to "take-off," but rather must encourage the steady concentration of private wealth for investment and industrialization. Adelman and Morris (1967) employed a factor analysis of subjectively-coded data on 74 economically underdeveloped countries and concluded that political factors were unimportant relative to social and economic ones at the lowest and middle level of development, and didn't become important until the highest level of development had been reached.

#### 5. Public Policy Analysis

Controversy has been raging in the new field of "comparative American state politics," thoroughly reviewed elsewhere (Hennessey 1969; Salisbury 1968), over whether socio-economic (environmental) variables or political development (system) variables explain the most variance in public policy (outcome) variables. Examples of the competing independent variables have been level of industrialization and urbanization versus level of inter-party competition and legislative malapportionment, while the dependent variable has usually been measured by various expenditure levels and distribution patterns. This approach has begun to appear in studies of cross-national comparisons as well. Cutright (1965) used cross-sectional analysis to determine the antecedents of government social security programs in 76 nations, and later (1967a; 1967b) to assess the impact of government activity on inequality and income redistribution in some 40 nations. Flanigan and Fogelman (1971) used "longitudinal" as well as cross-sectional analysis of data on 44 countries from 1800 to 1960

to explore the patterns of urbanization and agricultural employment associated with the authors' index of democratization. Peters (1970) examined the impact of government expenditures on societal conditions in the areas of health, education, and welfare, and explored the influence of social and political mobilization, economic wealth, government penetration, and indices of democratization on those expenditures, using correlation and regression analysis of time-series data for every fifth year since 1850 for Britain, France, and Sweden. Using these data and similar techniques in a more recent work (1972), he addressed the now-traditional argument by assessing the relative importance of a socio-economic variable, per capita GNP, and a political variable, number of civil servants per capita, in determining sectoral expenditure patterns. Such quantitative, comparative analyses of the determinants and consequences of public policies, combined with the principles of budgetary analysis (Wildavsky 1968), should eventually develop into comparative evaluation of the performance of political systems.

## B. Comparative Research Design

### 1. Methodological Sophistication

As the field of political development has begun to resolve some of the conceptual confusion plaguing it, the methodology which it has employed has become more sophisticated. Early empirical works relied largely on attitude surveys or simple correlation and factor analyses of cross-sectional aggregate data. More recent works have employed more complicated regression analysis of time-series data and analysis

of variance as well as correlation analysis of cross-sectional data. Much of the controversy in the field has become methodological in nature. The best-known example began when Cutright (1963) sought to test more thoroughly the hypotheses of Lipset (1959) and Lerner (1958) by developing a cumulative index of democratization representing the 21-year period from 1940 to 1960 for 77 countries, criticizing Lipset for using a dichotomy rather than such an index in his analysis. McCrone and Cnudde (1967) criticized Cutright's use of mere correlation analysis and analyzed his data with the Simon-Blalock method of causal modelling (Blalock 1964), the limitations of which have been pointed out by Forbes and Tufte (1968). In another response to Cutright, Neubauer (1967) constructed his own "Index of Democratic Political Performance" based on cross-sectional data on only 23 democratic and relatively developed countries, so that the two entirely different indices could not be expected to yield comparable results. One need only review the more recent studies in comparative politics to perceive the increasing sophistication displayed by political scientists in handling complex methods of statistical analysis.

It is no accident that theory and methodology have increased in sophistication simultaneously. Measurement is scientific theory in action for a specific purpose (Stinchcomb 1968: 43), and the quality of a measure greatly depends on the clarity of the concept which it is designed to measure. Furthermore, the scientific validation of hypotheses involves not only logical concept clarification, but also the use of measures which truly represent those concepts. "A theory



to be useful must be specific enough to be disproved" (Stinchcomb 1968: 6) by empirical testing as well as by logic. Thus the increasing methodological sophistication of the discipline of political science as a whole has probably induced the increasing theoretical sophistication of its various sub-fields, and will continue to do so.

## 2. Multi-level Analysis

The field of comparative political science has also begun to explore more complex analytic perspectives as well as statistical methods. Although it is obvious that comparison is the basis of all science (Campbell and Stanley 1966: 6), indeed of all human knowledge, political scientists remain uncertain about what should be compared. Most of the aforementioned researchers confined their comparisons to either the level of individuals or the level of aggregate units, usually the nation-state. Recent treatises of empirical theory in comparative political science, reviewed by Loewenberg (1971), have emphasized the need for "multi-level analysis," or the use of variables from at least two different levels of aggregation. Allardt (1969) argued that multi-level analysis increases the fruitfulness or informative value of comparative research because it decreases the likelihood that one's variables are measuring the same phenomena. He cited Riley's (1964) classification of multi-level analysis into structural analysis, involving group-level dependent variables and individual-level independent variables, versus contextual analysis, involving individual-level dependent variables and group-level independent variables. He also pointed out that Riley should have

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distinguished between group-level variables that are merely aggregated individual characteristics and those that are truly "global" or group-level characteristics. Obviously there are many levels of groups, with the nation-state perhaps being at the highest level, and some theorists have focussed on middle-level units of analysis. Dogan and Rokkan (1969) urged the comparison of regional as well as individual and national variations across nations, and Lorwin (1968) went further in urging the study of regional variations in small countries.

Perhaps the most significant of the recent treatises of multi-level comparative analysis, because of its thoroughness and logical rigor, was that of Przeworski and Teune (1970). They discounted the utility of the "most similar systems" design, which involves comparing the differences in aggregate-level characteristics among substantially similar systems. Their argument maintained that there will always be too many significant differences to permit causal interpretations or explanations among the variables (p. 34). That is, any dependent variable will be "overdetermined," i.e. interchangeably explained by more than one independent variable, violating one of their criteria of causality, the other being that "the system of variables is isolated--the explanatory pattern does not change when new variables are added" (p. 23). These two criteria were quite different from those usually accepted by most social scientists, namely: the two variables must be strongly and consistently associated; the dependent variable cannot precede the independent variable in time; and all

alternative causes of the dependent variable must be ruled out or controlled (Selltitz 1959: 83-88). In fact, Przeworski and Teune's criteria seem to have been selected to bolster their preference for the "most different systems" design, which involves validating within-system relationships among variables across maximally differing systems, substituting "systematic" variables for the "proper names" of those systems as explanations only when those within-system relationships become dissimilar.

The authors seemed to be thinking primarily of individual-level relationships as measured by survey research, for they devoted much of the second half of the book to the serious problem of equivalence of within-system measurement across different systems. This problem obviously affects aggregate measurement as well, even "hard" monetary measures of economic concepts, because of biased estimates and differences in definition and specific techniques of measurement (Deane 1968; Ohlin 1968). Frey (1970) and Hymes (1970) thoroughly treated the serious practical problems of cross-national survey research, such as accurate sampling frames and the training of honest interviewers, but especially the loss of equivalence through linguistic translation. Przeworski and Teune's solution for the problem of equivalence was to use system-specific measures that yield similar empirical results in terms of the intercorrelations among variables. Again they were never really clear whether they meant correlations among measures of the same or of different concepts. Surely they meant the former, for if they meant the latter their logic would be

tautological because their measures would then certainly show the within-system relationships to be similar across different systems, again bolstering their preference for the "most different systems" design by reducing "systemic interference" in their measures. And although by this they seemed to be contaminating their within-system measures with system-level variance rather than keeping that variance in the form of separate variables, they did talk of comparing within-system correlations with pooled cross-system correlations in order to validate their measures.

### 3. Inferential Fallacies

Przeworski and Teune were also never really clear about what constitutes system-level and individual-level variables. They often seemed to consider even aggregated individual characteristics, such as total voter turnout, as individual-level or within-system variables, reserving the term "systemic" only for truly global system-level characteristics, although one can also compare within-system relationships among system-level time-series variables. The real question concerning levels of analysis revolves around the unit of analysis over which the variance in a variable occurs, i.e. whether that unit is the individual, a type of group or organization, a specific level of geographic region, or the nation-state. Observations on a sample of at least about 15 of that type of unit are necessary if that variable is to have sufficient variance to work with.

But another consideration is the level of analysis at which inferences are to be made, and social scientists have often been

guilty of making inferences beyond the information provided by their data. That is, generalizations about one level of unit of analysis have often been based on variance derived from some other level of unit of analysis. Initially the problem cited most frequently involved inferring the behavior of individuals from data on geographic aggregates, known as the "ecological fallacy" (Robinson 1950). Subsequently scientists have attempted to develop methods of adjusting ecological or aggregate-level correlations to permit inferences about individuals (Shively 1969). But in the field of political development the problem has more frequently been the reverse: Survey data on individual attitudes and reported behavior have been used to make inferences about the "behavior" of geographic aggregates, usually nation-states. The best-known example was the five-nation study by Almond and Verba (1963). The making of these kinds of inferences has been called the "individualistic fallacy." The problem in both types of fallacies is the failure to consider the structure of those aggregates, and the fact that some of their members are simply more influential in determining aggregate "behavior" (Scheuch 1966). A molecule is more than just a cluster of atoms, and the "aggregate behavior" of a molecule depends on how its atoms are arranged as well as on the number and types of atoms it contains (Scheuch 1969). Alker (1969) has provided a very thorough and general typology of cross-level and other inferential fallacies.

One of the major limitations of the recent treatises on comparative research design is the apparent assumption that the ultimate

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dependent-variable unit of analysis must necessarily be the individual human being. Most of the discussions of multi-level analysis, principally Przeworski and Teune (1970), have emphasized the impact of system-level variables on individual-level relationships. Valkonnen (1969) has even provided a very precise and thorough method for conducting such individual-oriented multi-level analysis using regression models. However, it is not entirely clear why the dependent variables of comparative political science must always or even usually reside at the individual level of analysis. In fact, it can be argued that the truly significant concerns of political science reside at the level of aggregate systems. That is, if political science is ever to be useful to society it must be capable of predicting what will happen when one policy rather than another is implemented. At the risk of overstating the case, knowing what makes the average citizen participate in politics or vote one way or the other may be inherently interesting, and knowing what makes him participate violently may be important. Furthermore, knowing, through the simple aggregation of such individual behavior, which political party will win an election (Campbell, et al., 1966) or under what conditions civil strife will occur (Gurr 1970) may also be interesting or even important. But what makes a political system perform adequately in producing policies designed to solve the problems confronting the society it serves is crucial. Being able to predict which party will be in power or when violence will occur may help determine two of the many important inputs into the policy-making process. But



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Besides the practical difficulties involved in doing cross-national survey research, especially on the masses, such research is of doubtful utility for the truly significant concerns of political science, namely the determinants and consequences of public policy. The discipline of economics has gotten by very well on "macro-analysis" at the system level, and political science may indeed do the same. Of course, macro-economics has enjoyed strong support from a thorough understanding of individually rational economic behavior through "micro-analysis," and political science will also need such a thorough understanding of individually rational political behavior. Some efforts along these lines have already been undertaken, notably Downs (1957), Buchanan and Tullock (1962), Olson (1965), and Curry and Wade (1968). Even better would be the development of the reverse of Valkonnen's (1969) methodology, namely a system of regression models with system-level dependent variables and some individual and subsystem-level independent variables, including indicators of system structure. And any individual-level variables should measure the attitudes and behavior of elites rather than masses, because they are simply more important in the determination of public policy. But until such a methodology is developed, political scientists will do very well to concentrate on analyzing the determinants and consequences of public policy using aggregate-level variables.

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#### 4. The Time Dimension

Most of the aforementioned treatises on comparative research design make at least passing mention of the need to consider the time dimension in comparative research, especially in the field of political development. After all, development is a process which takes place over a rather long period of time, and using cross-sectional data on a large number of polities supposedly arrayed on some presumed developmental dimension cannot capture the actual process of developmental change (Harsanyi 1960; Huntington 1971). But most empirical studies incorporating the time dimension of development have only assessed the impact of history in a methodologically non-quantitative fashion, for example Eisenstadt (1963), Moore (1966), and Holt and Turner (1966). Some fruitful attempts have been made at analyzing successive cross-sections using correlation analysis (Converse 1969) and factor analysis (McRae and Meldrum 1969). But Flanigan and Fogelman (1971) tried analyzing the same set of data using both successive cross-sections and time-series, and concluded that only time-series analysis can specify the conditions under which some dependent variable such as democratization will increase or decrease in a given political entity.

What is ultimately needed is a methodology for what Harsanyi (1960) called "comparative dynamics," or what Thrupp (1970) and others called "diachronic" analysis, or what Flanigan and Fogelman (1971) called "longitudinal" analysis. Przeworski and Teune's (1970) method of comparing maximally different systems, which resulted from their

focus on cross-sectional analysis and individual-level dependent variables, would leave uncontrolled too many alternative explanations of any given variable. The best method of analyzing aggregate-level relationships over time is to compare maximally similar systems (Thrupp 1970), in an effort to approximate the principle of control underlying experimental research design. Time-series analysis overcomes many of the practical limitations of the comparative method identified by Lijphart (1971), primarily the lack of a sufficient number of cases for analysis, which restricts the use of statistical and other non-experimental control. Just as the best hope for the theory of political development lies in using economics-style concepts to concentrate on the determinants and consequences of public policy, the best hope for the methodology of comparing aggregate-level relationships over time lies in econometrics. This involves primarily correlation and regression analysis of time-series variables and special techniques to overcome the peculiar problems of autocorrelation within the variables and time-lags among them (Kmenta 1971). This dissertation will attempt to use some of those methods on such data for two highly similar systems, Norway and Sweden.

## II. The Setting: Norway and Sweden

The previous section concluded that system-level developmental processes can best be studied using correlation and regression analysis of aggregate time-series data on similar systems. Such data must therefore be available on those systems for their periods of development. At the international level very few systems satisfy

both criteria: similarity, and completion of development recently enough to have sufficient national statistics available on their periods of development.

Three of the five Scandinavian countries satisfy those criteria. "Denmark, Norway and Sweden have not only gone through much the same developments culturally, economically and socially: these countries have also reached strikingly similar political solutions to the problems posed by these developments," which occurred in the space of approximately the past 150 years (Rokkan and Valen 1960: 104). Adequate official statistics are available for about two-thirds of that period, when the most significant development occurred. An added advantage is that Scandinavian statistical sources have recent English translations applicable to earlier years. This dissertation will focus on Norway and Sweden because of their particularly interesting pattern of similarities and differences as well as for practical reasons of manageability.

#### A. General Similarities

In addition to their proximity Norway and Sweden share geographic characteristics which have influenced their social development. The harsh northern climate, moderated by the Gulf Stream, and the rugged terrain and distribution of resources have curtailed the scale of the population and its primary sector, limiting farming and urban areas to the fertile plains and valleys of the southern regions of the countries, and scattering forestry, fishing and mining far from the centers of commerce. A lack of large coal deposits has forced

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the countries to rely on their wood and water resources to furnish power and to locate their industries in remote regions. Through the early 1900's the rugged terrain made the sea and inland waterways the primary means of transportation and communication for much of the countries' populations. Shipping and foreign trade have developed to export their wood and mineral products, to import agricultural products as well as coal and fuel oils as further sources of industrial power, and to exchange manufactured goods (Lauwreys 1958: 9-26; Lindgren 1959: 18-19).

Despite the dispersion of natural and human resources the Scandinavian cultures display remarkable homogeneity derived from the common source of Viking communalism. Except for the Finns and Lapps the peoples of Scandinavia share the same racial characteristics. Because their geographic characteristics discouraged immigration, Norway and Sweden have resisted racial "contamination" more effectively than the other Scandinavian countries. They have inherited from the ancient Vikings not only their ethnicity but also similar languages and collectivity-oriented cultural norms emphasizing cooperation, egalitarianism, and individual liberty (Lauwreys 1958: 15-36). These characteristics have limited the number and intensity of their cultural cleavages and controlled their cross-cutting social and economic cleavages (Eckstein 1966: 111-131).

Based on this common cultural heritage the Nordic countries joined together under Danish leadership in the Union of Kalmar in



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1397, but split in 1523 into two separate unions, Denmark-Norway and Sweden-Finland. In essence the first-named country in each of these unions treated the second as a province, fostering the growth of Finnish and Norwegian nationalism over the centuries. Both unions had hereditary monarchies, limited parliaments with Estate representation (nobility, clergy, burghers and peasants), official Lutheran state churches, and feudal socio-economic structures, although the topography of Sweden and Norway made large-scale farming difficult (Andren 1964: 13-14; Lauwreys 1958: 36-47; Galenson 1952: 110). In 1809 Sweden lost Finland in a war with Russia, but soon joined with Russia and England in an alliance against Napoleon, who was allied with Denmark-Norway despite Norwegian opposition. During the defeat of Napoleon in 1814 the Treaty of Kiel transferred Norway to Sweden as compensation for the loss of Finland. The Norwegians resisted the move and attempted to declare their independence and establish their own monarchy; but a two-week war quickly pressured them into accepting a loose union under the Swedish crown. Sweden and her allies permitted Norway to keep her domestic sovereignty under her new Constitution of 1814. Sweden had established her own domestic Constitution in 1809 as a reaction against royal absolutism dating from the end of the Era of Liberty in 1772. Norway retained all aspects of an independent nation, including citizenship, a government and a military force, without Swedish interference. But Stockholm handled all foreign diplomatic and commercial affairs for both countries, and Norwegians were subjects of the Swedish Crown.

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Norwegian nationalism grew over the next 91 years, and after twice almost going to war the two nations dissolved the union in 1905, but maintained close relations thereafter (Lindgren 1959: 3-18; Storing 1963: 12-33).

Despite certain key differences facilitated by the provision for domestic sovereignty in the union, the two countries showed essentially similar patterns of economic, social and political development from the time of their union. Relative to other countries they developed not only later and more rapidly, but also more smoothly. Their basically poor, agricultural economies became highly industrialized and affluent over a shorter period of time but with far less disruption of social life than in most other industrializing nations. The changes in life-style and in socio-economic and political cleavages associated with industrialization, such as the organization of interest groups, occurred relatively smoothly despite their rapidity. The political institutions and processes of the two countries also underwent rapid but fairly stable change from constitutional monarchy to parliamentary democracy: Universal suffrage; proportional representation by the Sainte-Lague method; a multi-party system (basically Conservatives, Liberals, Farmers, Socialists and Communists, but with varying strength in each country); cabinet government with functionally organized administration and semi-autonomous local governmental agencies; and effective interest organizations, now characterize the political system. Cooperative and public enterprise and extensive public-sector

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planning and income redistribution developed along with vigorous growth in the private sector (Lauwreys 1958: 21-47; 107-125). All of these developments will be detailed in the next two chapters.

#### B. General Differences

The geographic, demographic, socio-economic, cultural, political and historical similarities between Norway and Sweden sketched above might be viewed as quasi-experimental controls on extraneous or contaminating variables in any attempt to explain certain key differences between the two countries. Unfortunately these controls are not quite complete, for differences as well as similarities exist on each of those dimensions.

Geographically, Sweden generally possesses more natural resources than Norway. Her southern farmlands and northern forests are more extensive, with nine percent of her land under cultivation, compared to Norway's three percent (Lauwreys 1958: 22). She also holds more mineral resources, particularly copper, manganese, zinc, lead and, most importantly, iron that yields quality steel. However, Norway boasts an abundance of waterfalls, only about one-fourth of which have been exploited for hydroelectric power, useful in electrochemical processes such as aluminum production. Also, Norway's closer proximity to the open sea has fostered not only a milder climate and more abundant rainfall, but also a greater reliance on fishing, shipping and foreign trade (Lauwreys 1958: 9-15; Lindgren 1959: 18-19).

Demographically, Sweden's greater store of natural resources has encouraged the development of greater human resources as well.

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Her population has been over twice as large as Norway's (about 7.6 million to 3.8 million in 1965), higher in density (about 40 to 30 per square mile), and more highly urbanized (about 45 percent to 25 percent in 1965).<sup>\*</sup> Socio-economically, Sweden's greater store of natural and human resources has facilitated a higher level of industrialization. About nine percent of her population was engaged in agriculture in 1965 compared with Norway's sixteen percent. About 75 percent of her farms are under 25 acres, compared with over 90 percent for Norway, and her farm productivity is higher (Lauwreys 1958: 22-23). Sweden's resources and industrialization have yielded greater wealth: Sweden's Gross National Product in 1965 was about \$16.8 billion compared with Norway's \$6.6 billion, or about \$2200 to \$1766 per capita.<sup>\*</sup>

Culturally, Norway manifests more cleavages than Sweden, due largely to past Danish domination. Both countries share the usual socio-economic and political cleavages associated with industrial democracies, centering around occupational, residential, and income differences. But Norway bears an added complex of cleavages stemming from the use of Danish as the official language in Norway before 1814. Isolated from the urban centers of officialdom, commerce, learning, rationalized religion, and high culture, Norwegians living in remote and rural areas spoke the old Norwegian dialect derived, like the other Scandinavian languages, from Old Norse, the language of the Vikings. After independence from Denmark was achieved in

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1814 some groups launched efforts to "Norwegianize" the official language, Bokmal or Riksmal. In the 1840's Ivar Aasen, supported by a Norwegian intellectual organization, toured the rural areas of the country, compiled a standardized dictionary and grammar of the old Norwegian dialect, Landsmal, and renamed it Nynorsk. Today both languages are officially accepted, but the "language controversy" has aggravated the normal tensions between urban and rural areas, the upper and lower classes, the agricultural and industrial sectors, the educated and uneducated, and fundamentalist and liberal religious sects (Lauwreys 1958: 18-21; Eckstein 1966: 44-47; Storing 1963: 7).

This multi-faceted cleavage has manifested itself in the political realm in a complex manner, including the development of the only overtly religious party in Scandinavia, the Christian People's Party (Rokkan and Valen 1960: 106). Another difference in the political setting is that Norway, unlike Sweden, has not had an indigenous nobility since the union with Denmark. Sweden's parliament, the Riksdag, had existed long before the union between the two countries, dating from 1435 and dominating the government from 1718 to 1772, the Era of Liberty, during which parliamentary factions (the Hats and Caps), resembled political parties (Andren 1964: 139-141; Rustow 1955: 11-12). Norway, on the other hand, was the first Scandinavian country to achieve the principle of true parliamentary democracy in 1884, while Sweden waited until 1917 (Lauwreys 1958: 36). The fact that Norway's parliament, the Storting, is unicameral whereas Sweden's is currently bicameral and has always been multicameral,

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helped the Swedish nobility and their conservative supporters to block domestic political change. This feature, along with the tradition of separation of powers and the establishment of local self-government in Norway in 1837, also helped the Norwegians, especially the rural peasant classes, to establish some degree of independence from Swedish domination (Andren 1964: 117-120). Sweden's Riksdag has organized its committee system according to constitutional function; Norway's Storting has organized its committees to correspond with the functions of the various government departments, a characteristic indicative of the deeply-ingrained Norwegian distrust of the once foreign-dominated civil service (Andren 1964: 185).

Administratively, although both countries have vested formal executive authority in the King and his formally appointed councillors, in actuality the cabinet of functionally specific ministers is elected by parliament, which usually ratifies the cabinet's policy decisions. The King always accepts parliament's choice of a cabinet and the latter's policy decisions, although he does participate in those decisions. In Norway each minister heads an administrative department containing directorates and local county agencies which share the detailed administration of cabinet decisions. Despite the trend toward centralization, local agencies still exercise a great deal of autonomy, especially in the areas of health, education, and welfare. But Sweden displays an even greater degree of local autonomy and a "dual system" of national administration,

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with semi-autonomous administrative boards supplementing the ministries. These boards often act as courts of administrative appeal and usually contain not only government representatives but also representatives of the major private interest groups affected by the actions of that particular board, such as employer and employee organizations. Interest groups also gain representation on government-appointed commissions investigating social problems and policy solutions, and their advice is usually sought on proposed legislation. Sweden's "dual system" provides not only greater openness for the public but also greater security for civil servants because of interest-group support. In both countries only a court of law can dismiss civil servants after a trial and conviction; and dismissal cannot be based on political reasons, even though Sweden's civil servants can be members of parliament. But Sweden's legal Ombudsman also wields greater authority to initiate legal action against civil servants upon appeal by a citizen, whereas Norway relies more on legal courts for administrative appeal. Finally, Sweden's constitution contains a Freedom of the Press Act which requires all administrative agencies to permit any private citizen (usually members of the press) to examine any public document unless that document has been exempted by special legislation (usually only those concerning national defense). This extraordinary "publicity principle," along with the legal Ombudsman and effective interest-group organization and administrative representation, provides the Swedish citizen with unique non-political avenues of appeal against

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The general similarities and differences between Norway and Sweden sketched above serve as the setting for the history of the economic, social, and political development of each country, described separately in the next two chapters, but integrated chronologically for subsequent comparison with time-series data.



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## CHAPTER TWO

### A DEVELOPMENTAL HISTORY OF NORWAY

Norway's social history revolves around the multidimensional conflict between center and periphery stemming from Danish domination (Rokkan 1967: 389). As early as 1765 peasants in the Bergen area demonstrated against Danish tax policy. Around 1800 a merchant named Hans Nielsen Hauge led a national fundamentalist revival movement against the secularized and urban-oriented official state church (Lafferty 1971: 117). Despite the growth of Norwegian nationalism over the centuries of Danish domination, the transfer of Norway to Sweden engendered strong pro-Danish sentiment. This faction and its anti-Danish rival resembled political parties during the creation of the Norwegian Constitution in 1814. This soon developed into pro-Swedish and anti-Swedish factions as the Swedish King tried to strengthen his dominance of the Union by military pressure in 1821 and by legislative proposals from 1824 through 1884.

The Norwegian Constitution, very liberal for its time, provided for a wide suffrage compared with other European nations, with over 40 percent of men over age 25 eligible to vote. But it employed the indirect "estate" system of representation, weighted as much as five to one in favor of the "urban" Estates, the burghers and the officials.

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Although a "Peasant Clause" limited urban representation to one-half that of the rural Peasant Estate, at that time the actual demographic proportions were far less. Despite a continuing decline in the proportional suffrage due to increasing numbers among the disenfranchised, efforts at mobilizing a rural opposition to urban and Swedish dominance culminated in 1833 with a protest movement led by Ole Gabriel Ueland that continued to erode the disparity in national representation and succeeded in establishing local self-government councils in 1837. Then during the next two decades a movement swelled among both the urban and rural lower classes for a new language, cultural revival, temperance and religious fundamentalism, and against Swedish domination of the Union (Rokkan 1967: 368-374, 379, 386-387; Storing 1963: 117-119).

Most of the historical literature on Scandinavia emphasizes that agriculture dominated economic life until the last two decades of the nineteenth century. Scandinavia lagged behind her European neighbors and America in the development of industry, largely because of the geographic limitations mentioned previously. The few existing industries were small in scale, craft-oriented and organized into guilds. In Sweden and especially Norway much of the early industrial work-force consisted of part-time peasants who could not sustain themselves solely by small-scale farming and fishing. Their independence hampered the ability of the guilds to monopolize their trades. During the early 1800's the ratio of journeymen to masters increased and the journeymen often organized to negotiate, and

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In 1848 Marcus Thrane, an unemployed Norwegian school teacher with a mixture of socialist and religious beliefs and influenced by events on the Continent, organized a network of "workers' associations" composed primarily of rural peasants and laborers as well as journeymen, achieving a membership of over 20,000 by 1851. Their agitation for legislative protection of landless agricultural labor and for extension of the suffrage included mass demonstrations and some strike activity, resulting in the arrest and later emigration of Thrane and other leaders of the waning movement, considered the forerunner of Norway's leftist labor and political organizations. Philanthropic workers' societies sponsored by religious and intellectual organizations continued to provide insurance funds and cooperative purchasing during the next two decades (Galenson 1949: 7).

Meanwhile, the urban liberal opposition, representing lawyers, teachers and other professional groups, was organizing in the Storting under the leadership of Johan Sverdrup. His "Reform Club," created in 1859, was legislatively ineffective due to the lack of electoral means of "party" discipline. Despite strict enforcement of the "Peasant Clause," political participation reached its low ebb in the 1860's: only 30 percent of adult males could vote and only 10 percent bothered to do so. But in 1869 the reform representatives joined forces with the "Friends of the Peasant" movement, organized in 1865 to pressure rural voters to participate and electors to select

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liberal national representatives. This urban-rural reform alliance soon developed into Norway's first true political party, the Liberal Party (actually Venstre, the Left), strongest in the western regions and rural areas, and embodying all aspects of the opposition of periphery against center (Rokkan 1967: 374-375, 387, 391).

Norway's first trade unions formed in 1872, instigating strikes but quickly fading due to a recession, geographic dispersion, and emigration to the United States (Galenson 1949: 8). Meanwhile, the Liberals pressed for voter registration and participation. Legislatively they succeeded in forcing the Swedish King to replace the Viceroy with a Minister of State for Norway (Storing 1963: 29-30), and attacked the constitutional separation of powers between the Storting and the King, repeatedly proposing an amendment to involve the King's Council in Storting deliberations, despite his repeated veto. In accordance with the Constitution, after the amendment passed in 1880 for the third consecutive Storting session, held every three years, the Liberal-dominated Storting declared the amendment to be valid law without the King's consent and proceeded to impeach eleven members of his Cabinet. By then the pro-Swedish Conservatives had also organized a political party (Hoyre, the Right), strongest in the eastern regions and growing urban areas, which were already beginning to be underrepresented by the "Peasant Clause." The election of 1882 became Norway's first truly partisan election. It turned out twice as many voters as in 1879, many of whom qualified to vote by purchasing worthless strips of real estate, and returned



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a two-thirds Liberal majority, sufficient to win the impeachment struggle after a year. To prevent civil war in Norway and to preserve the Union, the King in 1884 asked the Liberals to form a Cabinet, firmly establishing the principle of parliamentary cabinet government in Norway. In that same year the new government partially extended the suffrage by approving legislation adding a new criterion of minimum income to existing voting requirements, enfranchising economically mobilized urban workers but largely ignoring the scattered and unmobilized rural proletariat (Rokkan 1967: 375-383).

During the 1880's seventy local and two national trade unions reappeared, primarily to protect urban workers against the influx of job-seekers from the countryside. At first the Liberal Party enjoyed the support of many of these organizations, but its failure to enact full suffrage and such pro-labor legislation as a ten-hour working day caused the party to split into two factions, the Pures and the Moderates. The latter, concentrated in the Southwest, were soon absorbed into the Conservative Party, and the Left and Right alternated control of the government for the next five decades. The formation of the Norwegian Labor Party in 1887, with a program of reform socialism under the leadership of Christian Knudsen, created another split in the labor union ranks over which political party to support. A surge of economic growth from 1887 to 1889 accompanying the development of foreign trade spawned several independent strikes, and the government's use of imported

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strikebreakers and police suppression strengthened the radicals and further split the union movement (Galenson 1949: 8).

The Pure faction of the Liberal Party also favored greater Norwegian independence from the Swedish King in determining her own foreign affairs. The two countries had been developing separate trade relationships (Norway with Britain and Sweden with Germany) based primarily on their expanding lumber industries, and Norway's merchant marine was becoming far superior to Sweden's (Lindgren 1959: 38-42). Upon winning a clear electoral victory in 1891 the Pures passed legislation in the Storting establishing a separate consular service for Norway, which the King promptly vetoed. This struggle for national identity and other partisan issues spurred mobilization of political participation to its highest level ever (over 90 percent turnout of eligible voters) in the election of 1894, returning another mandate for the Pures. The consular issue remained deadlocked, and the countries' common tariff law was permitted to lapse in 1897. But the Storting could no longer resist the pressure for social legislation and further extension of the suffrage. It enacted an industrial accident insurance law in 1894, care for neglected children in 1896, and a national poor-relief law in 1900. In 1898 it enfranchised all men over 25 not on public assistance or in bankruptcy proceedings. But the newly enfranchised lower-class voters did not participate heavily at first, reducing the total turnout. The Labor Party remained unrepresented in the Storting and thus supported the

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From 1889 to 1899 the number of organized workers had grown from about 3,000, mostly in Oslo, to about 20,000, mostly in the towns and cities. Efforts at inter-union labor organization had involved primarily city central councils wielding permanent funds to finance the numerous strikes of that period. But national unions of locals in one craft or industry also developed despite geographic dispersion and despite Norway's relatively late industrialization, as measured by the proportion of truly industrial workers. This dual organization created further friction in the labor ranks, especially during strikes; but in 1897 an inter-Scandinavian labor congress held in Stockholm urged the various organizations to join together in national federations. The Norwegian Federation of Labor emerged in 1899, more centralized than the Federations in Sweden and Denmark but with less than a third of Norway's workers affiliated because of the refusal of several large national unions to accept direct assessments for the Federation's central strike fund and automatic affiliation with the city central councils. In the face of lockouts by a strong Employer's Association, formed in 1900, these unions returned to the fold in 1904, and the Federation finally represented a majority of Norway's workers. But because support for the Pure Liberals was still strong, the Federation also initially failed to secure automatic affiliation of its locals with the Labor Party, although it did

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establish shared executive representation between the two organizations and helped the party finally secure representation in the 117-seat Storting in 1903 (Galenson 1949: 8-16). All four Labor representatives came from the northern periphery rather than from urban areas because of the dispersed nature of Norway's early industry (Rokkan 1967: 394; Valen and Katz 1964: 22-24). This indicates that Norway's emerging socio-economic class cleavage retained some elements of the fundamental center-periphery cleavage, rather than completely cross-cutting it (Rokkan 1966: 73-90).

The issue of the union with Sweden still dominated the election of 1903, in which the Liberals and Conservatives joined together temporarily in a coalition government under the Liberal leader, Christian Michelsen, pledged to secure a separate consular service for Norway through negotiation. But in 1904 the negotiations broke down, and in 1905 the coalition government again passed a bill creating a separate consular service. Again it was vetoed by the Swedish King, who could not find a Norwegian party leader willing to form a government after the Michelsen cabinet resigned. Thus the Storting declared the Union dissolved, called for Norway's first popular referendum to ratify its decision, and asked Michelsen to resume control. The Swedish parliament decided to avert war and agreed to abide by the verdict of the referendum, which overwhelmingly favored dissolution. The Swedish King abdicated as King of Norway and after another plebiscite in 1905 a Danish prince accepted an invitation to assume the Norwegian Throne (Storing 1963: 32-34).



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Even during the Union crisis Norway had turned its attention to internal social problems. In 1903 the Storting enacted legislation providing for subdivision of large rural estates and building loans for rural improvement. This was the first of the Concession Laws, so called because they established public dominion over the country's natural resources. The Storting also provided further poor relief in 1904, care of foster children in 1905, and unemployment compensation, employment agencies, and a 10-hour working day for some industries in 1906. It extended industrial accident benefits to include fishermen in 1908 and seamen in the vital merchant-marine fleet in 1911. In 1909 it instituted a comprehensive system of health insurance and regulation of the acquisition and use of forest land (Nordskog 1935: 110-115; Storing 1963: 181). Finally, on the political front it replaced the indirect "estate" system of representation in 1905 with a system of direct elections based on single-member constituencies with majority decisions and plurality run-offs (Valen and Katz 1964: 19). It also extended the suffrage to include women on an income basis in 1907, and on the same basis as men in 1913 (Rokkan 1967: 385-386).

Most of the literature on Norway asserts that the period around 1905 also marks the beginning of rapid industrialization, as indicated by heavy investment in the development of hydroelectric power, electrochemical plants, paper mills and metal refineries; by expansion of the road and railroad networks; and by a doubling of the purely industrial work-force between 1905 and 1920 (Galenson

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1952: 107). Much of the industrial plant was located in isolated areas of the rural periphery, drawing much of the labor force for industrial construction and operation from mostly young and unskilled farmers, farm laborers, and fishermen attracted by the opportunity for greater income and a new way of life. They swelled the ranks of the labor union movement and the Labor Party: Federation of Labor membership increased from 25,300 in 1906 to 60,800 in 1912, and the Labor Party's Storting delegation increased in that period from 10 to 23 (Galenson 1949: 59-61), while its share of the vote doubled from 16 percent in 1906 to 32 percent in 1915. Industrialization and increased suffrage also carved two new splinter parties from the Liberals: the leftist Worker Democrats in 1905 and the rightist National Liberals in 1909 (Valen and Katz 1964: 24-25).

The shock of the transition from traditional environments to the rigors of industrial work and frontier boom-town living generated a great deal of resentment against management and owners. Affiliated primarily with the Laborers' Union, the new workers came under the influence of a semi-syndicalist movement led by Martin Tranmael, who had been to the United States and was influenced by the International Workers of the World movement and by French syndicalism. But parliamentarianism was firmly established in Norway and Tranmael accepted the need for electoral activity and collective bargaining. He and his followers first attempted unsuccessfully to gain control of the Federation of Labor, controlled

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Although Norway remained neutral during World War I, she did not escape its economic impact: production declined and the price index tripled from 1914 to 1920. During that period the Storting responded with another wave of social legislation, extending the Concession Laws to cover the acquisition and use of peat-bog areas, limestone deposits, mountain tracts, cultivated land, and waterfalls, mines, and other real property. In 1915 it passed a new law regarding industrial working conditions, extended unemployment compensation, and instituted public care and education for handicapped children. In 1918 it passed a law regulating housing conditions and rent, and another regulating non-industrial working conditions and instituting some minimum wages. Finally, in 1919 it established the eight-hour working day (Nordskog 1935: 100-115). On the political front it replaced the single-member electoral system in 1920 with a system of multi-member districts allocating seats by the d'Hondt method of proportional representation. This further encouraged the development of small parties, and in that same year the Agrarian Party, composed of big farmers opposed to radical policies favorable to small farmers, split from the Liberal Party. The Conservative Party had by now become the spokesman for not only civil servants but also commercial and industrial interests (Valen and Katz 1964: 19-20, 26-27).

The economic conditions of that period hit the working class particularly hard. Tranmael's movement gained control of several

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local units of the Federation and the Labor Party, and strike activity increased. In 1915 the Liberal government passed legislation establishing a Labor Court and mediation boards for compulsory arbitration of labor disputes, and Tranmael called for a general protest strike, but the Federation leadership terminated it after a week. Mass demonstrations against inflation occurred and the Federation urged government action, which came halfheartedly in 1917, and again Tranmael's call for a general strike to force further action met Federation opposition. Influenced by the Russian Revolution, Tranmael's movement created worker councils that succeeded in 1918 in taking over control of the Labor Party and securing its membership by collective affiliation of individual labor unions. In 1919 the Federation and the Party issued a joint socialist manifesto and the Party severed its ties with the Second International and joined the Communist International, with Tranmael calling for revolution and dictatorship. In 1920 the Federation congress approved Tranmael's program of establishing central trade councils and reorganizing local craft unions along industrial lines.

However, that program was never fully implemented, because a severe economic recession began in late 1920 and lasted until 1933. In the first year unemployment increased from 2.3 percent to 17.6 percent and membership in the Federation of Labor dropped from 142,600 to 96,000, mostly among the new unskilled laborers who supported Tranmael. These conditions adversely affected labor's bargaining position by making long-term collective bargaining agreements advantageous, rather than the weapons of syndicalism.



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A general strike in 1921 failed, and the Labor Party representatives even voted in favor of further compulsory arbitration legislation in 1922 (Galenson 1949: 23-27).

The Party found it difficult to live with the Comintern's demands for strictly controlled individual membership rather than collective affiliation of labor unions, subordination of unions to party, "democratic centralism" rather than a federative structure, expulsion of dissidents, armed revolution, and rejection of parliamentary action, previously proven successful. The right wing of the Party had broken off in 1921 to form the Social Democratic Party with eight out of a total of 150 Storting representatives, and in late 1923 the Labor Party itself refused to accept the Moscow ultimatum for reorganization and was expelled from the Comintern. The pro-Moscow element immediately broke off and formed the Communist Party with thirteen Storting representatives, leaving the original Labor Party with fifteen. But in the election of 1924 the Labor Party won 24 representatives to six for the Communists and eight for the Social Democrats. At first the Labor Party still considered itself a revolutionary communist party; but soon it resumed its reformist nature and reunited with the Social Democrats in 1927, winning 59 Storting representatives. The Communists won only three representatives in that election and steadily lost ground thereafter except for a brief resurgence following World War II. Being the largest party in the Storting, the Labor Party formed the first socialist government in Norway. But it lasted

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only one month in 1928 because of a parliamentary battle over banking and fiscal policy (Galenson 1949: 61-69).

During this trying period for the political labor movement significant social legislation still got through the Storting. In 1923 it passed a law establishing old-age pensions for needy persons over age 70. In 1925 it extended the Concession Laws to include real property in fishing areas, and in 1928 it enacted another Concession Law establishing a system of district land commissions to regulate the sale of land. In 1926 it enacted a law regulating restraint of competition and price-fixing, and in 1928 it established a state grain monopoly (Nordskog 1935: 100-115, 118-120).

In 1926 the voters approved a special referendum abolishing the prohibition of alcohol that had been instituted by a previous referendum in 1919. The election of 1930 thus saw the first massive mobilization of women in "defense of traditional moral and religious values against the threats of secularism and Socialism" (Rokkan 1967: 398-399). The Labor Party lost 12 Storting seats and the Agrarians formed their first government, but were unable to accomplish much because of their minority position, thus causing the creation of the new Christian People's Party in 1933, again primarily at the expense of the declining Liberals. But fascist organizations were also emerging, culminating in the creation in 1933 of the National Socialist Party, led by Vidkun Quisling. In the face of these threatening developments the now thoroughly

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domesticated Labor Party launched an all-out effort in the election of 1933 on a platform of economic relief and fell just short of an absolute majority in the Storting. But it eventually won the support of the Agrarians by promising a favorable farm policy and acceded to power in 1935, again affirming the overlap between the class and center-periphery cleavages. The subsequent control of prices and increased government spending, especially in the area of social welfare via public works and the extension of credit facilities and unemployment and pension benefits, helped Norway pull out of the recession (Valen and Katz 1964: 29-30; Galenson 1949: 69-70).

However, the German invasion of 1939 cut short this period of recovery, forcing the King and most political leaders to flee to London, where they established a government-in-exile, while Norway was ruled by an occupation government superior even to the appointed Prime Minister Quisling. The Norwegian merchant marine proved invaluable to the Allies during the War, and after the Germans had been driven out in 1944 the Marshall Plan greatly aided reconstruction. Norway joined not only the United Nations but also the North Atlantic Treaty Organization, thus dropping her neutralist stance (Storing 1963: 35-38).

The election of 1945 returned the Labor government to power with an absolute majority in the Storting, and it immediately embarked on a program of increased government spending, further social legislation and extensive economic planning. Production,

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income, employment and prices soared as well as government spending in the post-War era. Most of the social legislation merely modified the earlier precedent-setting laws, for example, extending benefits, nationalizing programs previously administered locally, or making voluntary programs compulsory. But the government also introduced massive public housing in 1945, family allowances in 1946, and general disability insurance in 1960 (Storing 1963: 181). Politically, after 1945 elections were held every four years rather than three, and in 1952 the "Peasant Clause" was abolished and the proportional representation system was changed from the d'Hondt method to the Sainte-Lague method, further encouraging the development of small parties (Rokkan 1966: 88). But the Labor Party steadily increased its parliamentary majority until 1961 when a new leftist splinter party, the Socialist People's Party, gained two seats holding the balance of power in the Storting. The issue of Norwegian entry into the European Common Market threw political alignments into confusion, with Labor and Conservatives in favor, Socialists and Agrarians (now called the Center Party) opposed, and Liberals and Christians split. The minority Labor government could no longer count on the support of any of the opposition parties, and in 1963 an administrative scandal over a mining disaster brought a vote of no confidence and a coalition government among the four major opposition parties. It lasted only four weeks because Labor re-won the support of the Socialists by shrewdly acting even more socialist than they. But in the election of 1965 Labor lost six



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seats and the opposition parties again formed a durable coalition government, perhaps signaling a new era of alternation in power between left and right. Nevertheless, the new government's policies did not differ significantly from the previous Labor program, indicating a process of "de-ideologization" if not depoliticization in post-War Norway (Rokkan 1967: 402-403).

Figure 2-1 summarizes the important periods in the development of Norway from 1814 to 1965.

Figure 2-1. Impe  
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Figure 2-1. Important Periods in the Development of Norway, 1814-1965.

Dates	Events
1814	Independence from Denmark. Constitution. Union with Sweden.
1821	Swedish military pressure to dominate Union.
1824-1844	Legislative pressure to strengthen Swedish dominance.
1833	Ueland rural movement against urban and Swedish dominance.
1837	Local self-government.
1848-1852	Thrane movement of "workers' associations."
1859	"Reform Club" of urban liberal Storting representatives.
1865	"Friends of the Peasant" movement.
1869	Merger of reform representatives and rural opposition, eventually forming the Liberal Party.
1872	Brief emergence of first labor unions. Viceroy replaced by Minister of State.
1880	Final Storting passage of amendment establishing parliamentary principle. Impeachment of King's cabinet begun.
1882	Conservative Party organized. First truly partisan election: Two-thirds Liberal majority, doubled turnout.
1884	Liberal cabinet: Parliamentary principle established. Extension of suffrage by minimum income requirement.
1880-1887	Re-emergence of some labor unions.
1887	Liberals split into Pures and Moderates. Labor Party formed.
1887-1889	First surge of economic growth. Strike activity.

Figure 2-1 (conti

Dates	
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Figure 2-1 (continued).

Dates	Events
1889-1899	Growth of unions. Inter-union organization. Strike activity.
1891	Election victory for Pure Liberals. Separate consular service first passed in Storting.
1894	Another victory for Pures, highest turnout ever.
1894-1900	First true social legislation.
1898	Universal manhood suffrage.
1899	Federation of Labor formed.
1900	Employers' Association formed.
1903	Labor Party first represented in Storting.
1903-1911	Second wave of social legislation.
1903-1905	Coalition government during crisis over Union with Sweden.
1905	Union with Sweden dissolved. Direct elections instituted.
1905-1913	Second surge of economic growth and union membership. Rapid industrialization. Rapid growth of Labor Party. Rise of Tranmael radicals in both unions and party.
1909-1913	Women enfranchised.
1914-1920	Rise in inflation, decline in production. Strike activity. Compulsory arbitration. Third wave of social legislation.
1917-1920	Tranmael radicals take over Labor Party and Federation.
1919	Labor Party joins Communist International. Prohibition referendum passes.
1920	Proportional representation instituted. Agrarian Party formed.

Figure 2-1 (conti

Dates	
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1933-1940	Econo
1935	Labor Incre legis
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1944	Liber
1945	Labor Plan.

Figure 2-1 (continued).

Dates	Events
1920-1933	Severe economic recession. High unemployment.
1920-1927	Decline in union membership.
1921	General strike. Social Democratic Party breaks off to right.
1922	Further compulsory arbitration legislation.
1923	Labor Party expelled from Comintern. Communist Party breaks off to left.
1923-1927	Fourth wave of social legislation.
1926	Prohibition abolished by referendum.
1927	Social Democrats re-join Labor Party, which becomes largest party in Storting.
1927-1940	Unions resume growth.
1928	First brief Labor government.
1930	Election setback for Labor due to first big mobilization of women voters.
1933	Christian People's Party and National Socialist (Quisling) Party formed. Labor almost wins majority in election.
1933-1940	Economic recovery.
1935	Labor forms government with support of Agrarians. Increase in government activity. Fifth wave of social legislation.
1940	German invasion. Government in exile.
1944	Liberation.
1945	Labor wins absolute majority in election. Marshall Plan.



Figure 2-1 (cont)

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Figure 2-1 (continued).

Dates	Events
1945-1965	Economic reconstruction. Further increase in government activity. Final wave of social legislation. Elections now every four years.
1952	"Peasant Clause" abolished. Lague method of proportional representation.
1961	Socialist People's Party formed. Labor loses majority in election. Socialists hold balance of power with two seats.
1961-1963	Controversy over European Common Market. Political realignment.
1963	Brief non-Labor coalition after administrative scandal.
1965	Durable non-Labor coalition with Laborite policies.

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## CHAPTER THREE

### A DEVELOPMENTAL HISTORY OF SWEDEN

Sweden's history is distinctive for its seemingly uneventful and evolutionary nature, a characteristic closely associated with the homogeneity of the nation's culture. Despite involvement in European great-power politics in the seventeenth and eighteenth centuries, and aided by her isolated position, resources, and formidable geography, Sweden has enjoyed a relatively continuous history of social development, uninterrupted by foreign domination. Sweden's Parliament, the Riksdag, has existed since 1435 and even dominated the government during the Era of Liberty from 1718 to 1772, during which two parliamentary factions known as the Hats and the Caps resembled political parties, similar to the Whigs and Tories in England. But a coup in 1772 brought a new period of royal absolutism lasting until 1809, when the King lost his throne for losing Finland in a war with Russia.

In that year the Riksdag wrote a new constitution that restored a limited monarchy sharing power with the Riksdag, and the French Marshall Bernadotte was invited in 1810 to assume the Swedish Throne. Then Sweden joined with Russia and England to defeat Napoleon, obtaining Norway from Denmark in 1814 as

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compensation for the loss of Finland. The new constitution required the King to consult with his appointed Council, which could be impeached by the Riksdag, but which was neither chosen by, nor politically responsible to, that body. Although the Riksdag shared equal power to pass laws with the King and had exclusive control over finances, the King and his administrative officials dominated the partnership during the first half of the nineteenth century. The Riksdag was handicapped by the fact that until 1844 it met only every five years (afterwards every three), and that it was divided into four separate chambers representing the Four Estates (Nobility, Clergy, Burghers, and Peasants), making it difficult to unite against the King (Board 1970: 19-28).

Like Norway, Sweden remained economically backward relative to other European nations throughout most of the nineteenth century. Although somewhat more developed than in Norway, industries were still few in number, small in scale, geographically dispersed, and organized into guilds that were unable to monopolize their trades completely because of constraints on communications and transportation. In addition, although Sweden's topography is somewhat more suitable to large-scale farming than Norway's, most farms were still small and incapable of completely sustaining the peasants and landless laborers, who thus worked part-time in small industries. Also, the ratio of journeymen to masters increased, preventing most journeymen from becoming masters and rendering old masters unable to care adequately for their journeymen and their dependents. The

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guild monopolies were abolished in 1846, replaced by philanthropic workers' trade associations, not unions in the modern sense (Galenson 1952: 108-110; Carlson 1969: 14-16). Care for the needy thus began to shift more heavily to the government, and in 1847 the Riksdag passed the first Poor Relief Act, which, as in Norway, was administered locally (Rosenthal 1967: 9).

Pressure for reform of the Riksdag itself also swelled during the 1840's, coming not only from the peasants and entrepreneurial burghers, but also from landholding noblemen envious of the power of the administrative nobility. After 1848 even the King and officials supported reform, but the various factions could not agree upon a plan until 1866, when the Minister of State for Justice, Baron Louis de Geer, got the Riksdag to reorganize itself into two chambers and to meet annually, despite opposition from the clergy. The upper house, indirectly elected in local assemblies apportioned according to wealth, became the conservative stronghold of the nobility, especially the officials; whereas the lower house, directly elected but by a very limited franchise based on land ownership or income, became the liberal stronghold of primarily the farmers, despite the fact that representation was weighted four to one in favor of the towns. In the years after the bicameral reform of 1866 only about 20 percent of males over age 21 could vote, and because political interest was rather low during that period due to a lack of political parties and significant events, only about 20 to 25 percent of those eligible bothered to vote. These unfavorable electoral conditions



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led to the formation in 1867 of Sweden's first political party, the Ruralist Party, whose platform advocated primarily fiscal restraint and changes in the inequitable methods of taxation and military conscription. In that same year the De Geer government organized the short-lived Ministerial Party. In 1868 the New Liberal Party split from the Ministerial Party, only to disband in 1871 over the conscription and taxation issue, which remained unsettled for decades to come. These early parties were organized only in the Riksdag and did not succeed in mobilizing the electorate (Rustow 1955: 14-35; Board 1970: 28).

The De Geer government had been encouraging the development of private capitalism and foreign investment, especially in the lumber industry, which was being fed by the industrialization of Europe. From 1867 to 1888 the number of purely industrial workers doubled, and the replacement of the traditional guild organizations with firms run by profit-oriented managers for absentee owners meant worsening conditions for the workers. In addition, the Riksdag in 1871 restricted the scope of the Poor Relief Act of 1847. During the 1860's and 1870's several craft unions began to organize, but a recession beginning in 1875 retarded their development. Suffrage societies, consumers' cooperatives, Social Democratic clubs, temperance societies and Nonconformist religious organizations also developed. In 1879 Nonconformist workers instigated Sweden's first major strike in the sawmill area around Sundsvall, resulting in complete victory for the employers but creating a great deal of

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resentment among Sweden's workers. In 1881 the Riksdag passed its first labor-oriented legislation, a child-labor law. Many new local craft unions and political labor organizations, located mainly in central and southern regions and influenced greatly by ideas imported from Europe via the Danish labor movement, sprang up in the early 1880's, and much bickering occurred over whether the movement should adhere to liberal or socialist philosophies. Inter-union organization also began in the 1880's: The first city central council of unions, designed primarily to administer strike funds and engage in political activity, formed in 1883 and the first national union emerged in 1886 (Galenson 1952: 112-114; Carlson 1969: 16-20, 30; Rustow 1955: 45-48; Rosenthal 1967: 9; Verney 1957: 106).

Numerous periods of economic recession from 1875 to 1895, coupled with overpopulation among the landless rural proletariat, spawned a wave of emigration that reached its peak in the early and late 1880's. Falling prices were also accompanied by rising tariffs throughout Europe, and pressure for retaliation mounted in Sweden. Organizations for and against tariffs developed in 1887, and in that same year the lower house of the Riksdag dissolved and held a special election on the issue in addition to the regularly scheduled election. Voter turnout reached its highest level thus far, about half of those eligible, and the anti-tariff forces won a clear mandate but lost the issue to the conservative, pro-tariff upper house, partly because of an electoral technicality that cost them their entire Stockholm delegation. The dispute caused a

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complete political realignment in the Riksdag in 1888: The Ruralists split into a protectionist New Ruralist Party and a free-trade Old Ruralist Party, while the conservatives split into a protectionist Majority Party and a free-trade Center Party. In 1892 the protectionist alliance, under the leadership of Erik Gustaf Bostrom, increased industrial tariffs, instituted a compromise solution to the old conscription and taxation issue that relieved the burdens on the farmers while strengthening the military, and halted the increasing overrepresentation of the rapidly growing urban areas by setting a fixed ratio of rural and urban seats (Rustow 1955: 35-42).

Despite the tariff dispute the Riksdag in 1889 enacted its first state-supported industrial accident insurance system. In that same year the Social Democratic Labor Party was founded, followed in 1890 by the Universal Suffrage Association. In 1891 the Riksdag instituted government regulation of private health insurance organizations. In 1893 and 1896 the Socialists and Suffragists jointly sponsored "people's parliaments" that presented reform petitions to the King and Riksdag without immediate results except a show of strength. This simultaneous development of the political labor movement and the liberal suffrage movement, along with the legal guarantee of freedom of assembly and association since 1864, helped moderate the philosophy and actions of the Socialists, relative to other European labor parties. In 1895 the Ruralist Party reunited, although it retained conservative ties

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and never regained the complete loyalty of rural Sweden. In that same year the Center Party disbanded and its liberal wing joined with disaffected Old Ruralists to create the reformist People's Party. With support from these liberals the Socialists in 1896 sent their first delegate to the Riksdag, Hjalmar Branting (Rustow 1955: 48-58; Peters 1970: 304-306).

Around 1895 prices in Sweden began rising as industrial expansion increased, aided by technical assistance from England and by the development of the technology of hydroelectric power. The number of purely industrial workers doubled again from 1888 to 1902, and between 1895 and 1900 labor union membership soared from 15,000 to 66,000 as uncoordinated strike activity increased. Industrialization also brought improvements in the transportation and communication links between geographically dispersed industries. Because these developments began before craft unions became firmly entrenched, the greatest growth occurred in the national unions organized along industrial lines, and the role of the city central councils declined. In 1898, following a resolution of the inter-Scandinavian labor conference, several unions founded the Swedish Federation of Labor, a decentralized organization with limited authority to finance lockouts but not strikes. Initially the Federation required each member union to affiliate collectively with the Social Democratic Party, causing several large unions, especially the metalworkers, to refrain from joining the Federation, and in 1900 the requirement was dropped. Despite the objections of the



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labor movement the Riksdag in 1898 made it illegal to interfere with strikebreakers, often imported from Denmark. But in 1900 it passed a new child-labor law that also regulated women's working hours, and in 1901 it required employers to compensate injured workers. For this reason and in response to a socialist-led general strike lasting three days, the Employers' Association and a separate employers organization for the metal and building industries were formed in 1902 (Galenson 1952: 114-116, 134; Carlson 1969: 21-26, 30).

In the election of 1902 the new Liberal Party, founded in 1900 on the basis of the growing electoral and petition success of the People's Party, surpassed the Ruralists as the largest party in the lower house of the Riksdag with 106 of 230 seats. The issue of proportional representation, supported by conservatives hopeful of party-splintering, and thus opposed by Liberals, joined the issue of universal suffrage in supplanting the supremacy of the tariff controversy. The conservatives and the Ruralists formed a broad "General Voters' Alliance" in 1904 in an effort to stem the rising tide of liberalism. But in the election of 1905 the Liberals, still with 106 seats, and the Socialists, with 13 seats, won a bare majority in the lower house of the Riksdag. After a brief coalition government was formed to settle peacefully the crisis over dissolution of the Union with Norway, the Liberals formed a new cabinet and introduced an electoral reform bill that passed the lower chamber but not the upper

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chamber. Karl Staaff, the Liberal Prime Minister, asked the King to dissolve the Riksdag and call new elections, but the King refused and the Staaff cabinet resigned, replaced by conservatives. In 1907 the conservative Prime Minister, Arvid Lindman, introduced a compromise electoral reform bill that granted universal suffrage to all men over age 24 who had performed their military service and had paid their taxes, and which introduced a system of multi-member districts and proportional representation by the d'Hondt method for both the direct elections of the lower house and the indirect elections of the upper house. The bill passed both chambers, but because some of the changes involved constitutional amendments, reconfirmation after the next lower-chamber election was required. In the election of 1908 the Socialists increased their delegation from 13 to 34 while the conservatives, despite a split of a National Progressive Party from the Ruralists and a free-trade Moderate Party from the conservative alliance after 1905, gained six and the Liberals lost six. The Liberals and conservatives were now equal in strength, but the King retained the conservative cabinet despite continued expressions of no confidence. The reform bill passed again in 1909, doubling the electorate and necessitating mass electoral party organization (Rustow 1955: 58-78; Verney 1957: 174).

Following a major strike by the metalworkers in 1905 the principle of collective bargaining became accepted by both employer and employee organizations, not only those in the metalwork industry, but also the Federation of Labor and the Employers'

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Association. In 1906 the government established non-compulsory arbitration machinery available for labor disputes. An economic recession beginning in 1908 reduced wages, boosted unemployment, and curtailed union membership for the first time, resulting in the last major attempt to solve a labor dispute by open conflict, a general strike and lockout in 1909 lasting up to six months in some areas. It was a major defeat for the union movement, as several unions disbanded, Federation leadership and control weakened, and many blacklisted members emigrated to Norway or the United States. But the employers did not seize the opportunity to destroy the movement completely, although it did not fully recover for almost a decade. In 1909 and 1910 the Riksdag even passed new regulations for factory working conditions and a law subsidizing and supervising private health insurance organizations. In 1910 the syndicalist Swedish Workers' Central Organization seceded from the Federation of Labor, appealing primarily to workers in construction, forestry, and mining, where wages were lowest and conditions poorest. But primarily because of their impractical advocacy of direct strike action rather than cooperative political action, the syndicalists attracted few members and were forced to bargain collectively. Another result of the 1909 disaster was a strengthening of the movement for industrial rather than craft organization (Galenson 1952: 118-154; Carlson 1969: 27-30; Rosenthal 1967: 7).

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universal suffrage and proportional representation. In the election of 1911, despite the efforts of the conservatives' General Voters' Alliance, the Socialists continued to gain, equalling the conservatives' 64 seats in the lower chamber, while the Liberals remained at 101 seats. Even in the upper chamber the non-Ruralist conservatives dropped from 133 to 86 seats, and the Liberal leader Staaff formed his second cabinet, commanding a Liberal-Socialist majority in joint sessions of the Riksdag, although some measures were passed with conservative rather than Socialist support (Rustow 1955: 72-80). In 1912 the Riksdag thoroughly revised the industrial accident insurance system (Carlson 1969: 30), and in 1913 it passed the first National Pension Act, establishing a social security system of old-age pensions and housing allowances financed by taxes as well as private contributions (Rosenthal 1967: 9).

In 1912 the Ruralist and conservative forces combined to create two joint parties, the Rural and Urban Party in the lower house and the Nationalist Party in the upper house, but still campaigned under the General Voters' Alliance. Farmers soon felt the need for distinct Riksdag representation and formed the Agrarian Party in 1913 and a National Farmers' Association in 1915. The Staaff government resigned early in 1914 after a disagreement with the King over whether to extend the length of military service in the face of the threat of war in Europe. The King then asked the conservative Hjalmar Hammerskjöld to form a cabinet and force the issue, but the Riksdag balked and the King dissolved the



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lower chamber. In the special dissolution election that followed the Liberals lost 31 seats while the Socialists gained 11 and the conservatives 22, still falling far short of a majority. With the outbreak of World War I in August of 1914 the Liberals acquiesced to the King's policy of neutrality combined with a strengthened defense. In the regular November elections the Liberals lost 14 more seats to the Socialists, thus reducing its status in less than a year from largest to smallest party in the Riksdag (Rustow 1955: 72-83).

Patriotic support of the conservative government waned as wartime economic conditions worsened. The government resigned after losing 27 seats in the election of 1917, including 14 to the farmers' groups and 11 to the Left Socialists, a group of radical young dissidents who had seceded from the Social Democrats before the elections. The King attempted to form a coalition government, but soon reluctantly appointed a Liberal-Socialist cabinet headed by the new Liberal leader, Nils Eden, thus establishing the parliamentary principle in Sweden. In the face of intense pressure from the left even the upper-house conservatives submitted in 1918 to further electoral reforms, including suffrage for women and removal of the remaining suffrage restrictions for both houses of the Riksdag, although the upper house retained its system of indirect elections. Also, lower house elections were scheduled for every four years rather than every three, and upper house elections were scheduled regularly in between the lower house

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elections. Most of these reforms again required ratification of constitutional amendments and some did not take effect until 1921 (Rustow 1955: 75-85). In 1918 the Riksdag also passed a liberalized Poor Relief Act, still administered locally, and enacted a 48-hour working week, and in 1919 it passed a comprehensive health program to combat epidemic diseases (Peters 1970: 305, 307; Carlson 1969: 31).

For almost two decades after the parliamentary reform no single party held a majority in both houses of the Riksdag, and seven minority governments were attempted by all but the Agrarians, the Liberals being most successful because of their centrist position. Two other cabinets appointed by the King during that period contained not one member of the Riksdag, contrary to the parliamentary principle, because the major parties refused to form a coalition with each other. A special election in 1921, the first held under the liberalized suffrage, failed to clear up the confused picture, although the Socialists rebounded from their slight setback in the regular election of 1920. Although a severe economic depression struck in late 1920, Sweden did not experience decline in union membership or as serious a split in the political labor movement as did Norway. Prior to the special election of 1921 a majority of the Left Socialists voted to join the Communist International and renamed itself the Communist Party, causing the minority to split off and retain the Left Socialist title. Such factional disputes rendered the leftists ineffectual, and the

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Federation of Labor continued to work closely with the original Social Democrats. In 1921 the two farmers' organizations merged into a single Agrarian Party, and in 1923 the Left Socialists rejoined the Social Democrats. In that same year the Liberals split into prohibitionist and urban liberal parties following the defeat of a referendum to institute prohibition in 1922, and both liberal parties continued to decline in strength while the Socialists, except for a slight setback in 1928, and Agrarians continued to gain. During this period of "minority parliamentarism" three Socialist governments fell because they attempted to introduce public unemployment benefits (Rustow 1955: 85-101), and in 1928 the Riksdag established a Labor Court with powers bordering on compulsory arbitration (Carlson 1969: 33). Other social legislation, however, did pass, such as the locally administered Child Welfare Act of 1924, and an extension of the health program in 1929 to include mental illness, and of assistance to the private health insurance organizations in 1931 (Rosenthal 1967: 7, 10; Peters 1970: 305).

The Great Depression hit Sweden even harder than had the post-war depression, so that rising unemployment and falling wages caused an increase in strike activity. In 1931 five striking workers were killed by inexperienced police at Adalen, and the election of 1932 brought major gains to the two parties representing the hardest-hit groups, the Socialists and the Agrarians. Various attempts at a majority coalition were made, but the King

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finally chose a near-majority Socialist cabinet led by Per Albin Hansson. In 1933 Hansson succeeded in passing an anti-depression program known as the "Swedish New Deal" by going beneath the leaders of the center parties to secure rank-and-file support. The Riksdag also expanded the Child Welfare Act in 1934 and the National Pension Act in 1935. The Agrarians actually shifted to the left of the Liberals, and in 1934 replaced their leadership, while the two liberal parties reunited under new leadership. In that same year a group of dissident Communists and Social Democrats formed the Socialist Party, and the youth organization of the Conservative Party split off to form the insignificant Nationalist Party, with a philosophy closer to the equally insignificant National Socialist organizations. Also, a strike occurred in the construction industry over an attempt by the employers to lower wages, but the Federation of Labor eventually pressured the unions into accepting a bad settlement in the collective interest of aiding the government's anti-depression policy, which seemed to succeed by the end of 1934 (Rustow 1955: 101-107; Carlson 1969: 29-38).

The Agrarians soon began voting with the opposition once again, and the Hansson government finally fell in 1936 in a dispute over military appropriations and pension increases. The first Agrarian cabinet was thus formed, but the election of 1936 gave the three leftist parties a bare majority in the lower house of the Riksdag, and the Agrarian "Vacation Government" had to resign after only three months in office. But the Socialists still faced a bourgeois



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majority in the upper house, and thus formed a strong coalition government with the Agrarians that succeeded in expanding previously established social programs beneficial to both farmers and workers from 1937 to 1939. When World War II broke out in 1939 the four major Swedish parties joined in a coalition government headed by Hansson and declared neutrality (Rustow 1955: 107-110).

In 1938 a new organization of white-collar workers and government employees emerged, and the Federation of Labor and the Employers' Association, seeking to avoid further government-imposed compulsory arbitration, entered into a Basic Agreement designed to settle disputes peacefully. During the War the two labor market organizations even agreed to regulate wages, although the government imposed a wage ceiling and commodity rationing. In 1941 the Federation of Labor amended its constitution to centralize its organization and to strengthen its authority over member unions. But unlike the Employers' Association the Federation still faced competition from the syndicalist Workers' Central Organization and the new TCO and other white-collar unions (Galenson 1952: 119-144; Carlson 1969: 38-42).

Despite limitations on political as well as economic activity during the War in order to avoid provoking the belligerents, elections were held on schedule. In the election of 1944 the Communists tripled their share of the vote at the expense of the Socialists by criticizing the government's economic restrictions

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 outward and to give up any notions of continuing the national  
 coalition. In 1945 Hansson formed a purely Socialist cabinet and  
 stepped up the pre-war program of social legislation and economic  
 expansion while maintaining Sweden's neutral foreign policy. In  
 1946 the Riksdag further expanded the National Pension Act, and  
 in 1947 it authorized compulsory health insurance, but it was not  
 into effect until 1955 because of a shortage of medical  
 resources. In the election of 1948 the Liberals more than doubled  
 their seats in the Riksdag at the expense of all other parties,  
 but the Socialists still held a majority in the upper house and  
 managed to muster a leftist majority in the lower house (Rustow  
 1955: 110-115).

As Socialist support continued to dwindle the Agrarians, now  
 calling themselves the Center Party, in 1951 again agreed to form  
 a coalition government with the Socialists. In 1952 the d'Hondt  
 method of proportional representation was replaced by the Sainte-  
 Louis method, and in 1956 the Law on Social Help replaced the  
 Poor Relief Act of 1918. The Socialist-Agrarian government  
 resigned in 1957 in a dispute over proposals for revising the  
 pension system, and since no feasible alternative coalitions  
 could be found a special lower house election was held in 1958,  
 resulting in a leftist majority and a purely Socialist cabinet.  
 Since then the division between leftist and non-leftist forces has  
 remained in near-even balance, and the Socialists have clung

cariously to power (Stjernquist 1966: 124-126). In 1959 the  
sdag established inflation-proof supplementary pensions, and in  
2 the National Insurance Act consolidated all existing health  
social security programs (Rosenthal 1967: 6-8).

Figure 3-1 summarizes the important periods in the development  
Sweden from 1809 to 1962.



Figure 3-1. Important Periods in the Development of Sweden, 1809-1962.

Dates	Events
1809	End of royal absolutism. New constitution.
1814	Union with Norway.
1845-1847	Guild monopolies abolished. Philanthropic workers' associations emerge. First Poor Relief Act.
1865-1867	Bicameral reform of Riksdag. Ruralist Party and Ministerial Party formed. Industrialization begins.
1873-1871	New Liberal Party splits from Ministerial Party. Craft unions begin to form. Poor Relief Act restricted.
1895-1895	Period of numerous economic recessions.
1899	First major labor strike.
1901	First child-labor law.
1903-1886	Regional and national inter-union organizations formed.
1907-1888	Anti-tariff forces win special election, but denied part of Riksdag delegation. Party realignment in Riksdag: Ruralists and conservatives split into protectionist and free-trade parties.
1919	Social Democratic Party founded. First state-supported industrial accident insurance.
1920	Universal Suffrage Association formed.
1924-1892	Riksdag regulates private health insurance, raises tariffs, solves conscription and taxation issue, reduces overrepresentation of cities.
1928-1896	"People's Parliaments" sponsored by Socialists and Suffragists.
1934	Ruralists reunite. Liberal Peoples' Party formed.

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Years	Events
1900	<p>Rising prices. Increased industrial expansion. Rising labor union membership.</p> <p>First Socialist representative sent to Riksdag.</p> <p>Swedish Federation of Labor formed. Riksdag outlaws interference with strikebreakers.</p>
1901	<p>Liberal Party founded. New child-labor law. Workmen's compensation.</p> <p>General strike. Employers' Association formed.</p> <p>Conservative General Voters' Alliance formed.</p> <p>Union with Norway dissolved. First Liberal cabinet. Metalworkers' strike. Collective bargaining accepted.</p> <p>Non-compulsory government arbitration made available.</p> <p>Compromise extension of suffrage with proportional representation passes Riksdag.</p> <p>Liberals equal conservatives' strength in lower chamber of Riksdag. Economic recession. First setback in union membership growth.</p> <p>Electoral reform takes effect. General strike and lockout, defeat for labor. New regulation of factory conditions.</p> <p>Subsidization and regulation of private health insurance. Syndicalists secede from Federation of Labor.</p> <p>Socialists equal conservative strength in lower chamber of Riksdag. Second Liberal cabinet.</p> <p>Ruralists and conservatives join forces. Industrial accident insurance revised.</p> <p>National Pension Act: Social security system.</p> <p>Agrarian Party founded.</p>



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tes	Events
	<p>Wartime inflation begins. Liberals reduced from largest to smallest party in Riksdag.</p> <p>Conservatives lose heavily in election. First Liberal-Socialist cabinet: Parliamentary principle established. Left Socialists secede from Socialists.</p>
-1919	<p>Riksdag passes universal suffrage for both sexes and schedules elections every four years. Liberalized Poor Relief Act. 48-hour work-week. Comprehensive disease-control program.</p>
-1921	<p>Electoral reform takes effect. Beginning of severe economic recession.</p>
-1932	<p>Minority parliamentarism: All parties try governing. Socialists and Agrarians gain at polls.</p> <p>Communist Party splits off from Left Socialists.</p> <p>Defeat of prohibition referendum.</p> <p>Left Socialists rejoin Socialists. Liberals split into prohibitionist and urban liberal parties.</p> <p>Child Welfare Act.</p> <p>Labor Court established.</p> <p>Mental illness included in health program.</p> <p>Assistance to private health insurance extended. Strikers killed at Adalen.</p> <p>Great Depression. Socialist cabinet following near-majority electoral victory.</p>
-1935	<p>Anti-depression program passed. Child Welfare Act expanded. Liberals reunite. Construction strike. National Pension Act expanded.</p> <p>Agrarian cabinet. Socialist election victory. Socialist-Agrarian cabinet.</p>

Figure 3-1 (continued).

ates	Events
7-1939	Expansion of previous social legislation.
8	Basic Agreement between labor market organizations. White-collar unions organized separate from Federation of Labor.
9-1945	Coalition government of major parties. Wartime economic restrictions.
1	Federation of Labor centralized.
5	Socialist cabinet following Communist electoral resurgence. Economic expansion begins.
6-1947	National Pension Act expanded. Compulsory health insurance passed.
1	Socialist-Agrarian cabinet.
2	Sainte-Lague proportional representation method.
6	Law on Social Help replaces Poor Relief Act.
3-1965	Socialist cabinet following special election.
9	Supplementary pensions.
2	National Insurance Act consolidates health and welfare programs.

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## CHAPTER FOUR

### THEORY AND METHODOLOGY

The descriptive and historical literature on Norway and Sweden, summarized in the previous chapters, leaves the general impression that Sweden's development progressed more smoothly than did Norway's. Developmental processes seem to have begun earlier, involved more slowly and with less social disruption, and taken longer to complete in Sweden than in Norway. Issues surrounding social change seem to have been settled more often by compromise after long periods of public debate than by heated competition in a crisis atmosphere; and the social divisions associated with those issues seem to have been less profound in Sweden than in Norway.

This chapter will organize presumed differences between Norway and Sweden into a theoretical framework composed of interrelated hypotheses, and will specify indicators for measuring the concepts involved, the nature and sources of the data for those indicators, and the methods for analyzing those data and evaluating those hypotheses.

#### Theoretical Background

##### The Bull-Galenson Hypothesis

The literature comparing Norway and Sweden heavily emphasizes the specific set of differences: Sweden's earlier and more gradual

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industrialization, and Norway's more radical political labor movement. Furthermore, the literature seems to assume a direct causal relationship between these two differences. This assumption originated in 1922 in a comparison of all three Scandinavian countries by the Norwegian historian Edvard Bull, Sr. (Bull 1922), and was popularized in English by the American labor economist Walter Galenson (1949; 1952). It has since been cited by Lipset (1963: 54) and Kornhauser (1959: 153), among others, as evidence of the ill effects of too-rapid economic growth on social structures and processes, as well as by such analysts of Scandinavia as Rokkan (1960: 107-110; 1967: 395). Only recently has the assumption been questioned (Rokkan 1970: 136) and tested empirically as the "Bull-Galenson hypothesis" by the American political scientist, William Lafferty (1971).

The basic premise underlying this hypothesis varies slightly from the Bull version to the Galenson version. Bull's formulation, quoted in Lafferty (1971: 21), emphasizes Norway's differences from Denmark and Sweden, whereas Galenson's emphasizes Denmark's differences from Sweden and Norway. Bull asserts that Norway's industrial development progressed much faster than did the other two countries', and that the sudden, disruptive recruitment of a new industrial labor class from a traditional peasant society, and the isolated location of industries close to hydroelectric power plants, made the Norwegian workers more susceptible to radical ideas than were the workers in Sweden and Denmark, where the industrial labor classes had developed more slowly.

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Galenson, on the other hand, emphasizes Denmark's earlier and more gradual industrialization and stronger guild tradition compared to both Sweden and Norway, which had to await the development of the technology of hydroelectric power before real industrialization could begin, and whose guilds were unable to monopolize their trades completely because of geographic barriers. But Galenson also asserts that Norway's industrial development was even later and more rapid and isolated than Sweden's; her guild tradition even weaker; and her labor movement even more radical. Lafferty summarizes the hypothesis as representing two sets of continua, with the three countries ordered similarly on each: Denmark with the earliest and most gradual industrialization, and the most guild-based and least radical labor movement; Norway with the latest and most rapid industrialization, and the least guild-based and most radical labor movement; and Sweden in between.

#### Patterns of Economic Development

Lafferty (1971) points out that Galenson's only systematic empirical support for the hypothesis consists of cross-section data on the non-agricultural work-force and urban population of each country at widely-spaced intervals. Galenson places Denmark's major period of economic growth between 1880 and 1900, Sweden's between 1895 and 1914, and Norway's between 1905 and 1920. Lafferty asserts that Galenson's only support for the statement that Norway's industrialization was more rapid than Sweden's was the construction of several electrochemical plants and the doubling of the industrial



work-force between 1905 and 1920. Lafferty also cites one other attempt at empirical verification of the Bull-Galenson hypothesis, that of Asbjorn Bjornset, a Norwegian historian, whose findings generally support the hypothesis but minimize the differences between Norway and Sweden. Lafferty points out, however, that Bjornset's data on the "strictly" industrial work-force, i.e. workers covered by industrial accident insurance, are unreliable because of changes in the legal definitions of eligibility for benefits; because of missing data; and because Bjornset used an incremental index rather than percentage of total work-force, thus distorting the true picture.

Lafferty then proceeds to derive extremely specific hypotheses from just the industrialization portion of the Bull-Galenson hypothesis, involving not only the timing and rate of industrialization but also its "intensity" and "regularity," then evaluates these hypotheses by examining a variety of macro-economic indicators over time. The first involves decennial figures on the distribution of the labor force in the agricultural, industrial, and service sectors from 1870 to 1930. These data indicate that Sweden rather than Norway was the least industrialized Scandinavian country in 1870 and also industrialized the fastest. Denmark had already begun developing by 1870 and continued to do so gradually and evenly throughout the entire period, with the greatest growth in the service sector. Norway's agricultural sector was almost as low as Denmark's in 1870 due to her larger service sector, primarily in shipping.

that Norway's industrial sector was also slightly larger than Sweden's in 1870, and both her service and industrial sectors grew steadily and evenly throughout the entire period. Sweden grew most rapidly in the industrial sector from 1870 to 1900, in the service sector from 1900 to 1920, then in the industrial sector again from 1920 to 1930. These findings thus contradict the hypothesis by indicating that Norway and Sweden should switch positions on the industrialization continuum, and that Norway's pattern of development was more similar to Denmark's than to Sweden's.

Lafferty then examines rates of change in gross and net domestic product per capita for decade averages from 1870-1878 through 1929-1938, and finds that Sweden's was highest and Norway's lowest until 1909-1918, after which the rates for all three countries were similar. The patterns for Sweden and Denmark seem to have been more similar to each other than either was to Norway's, contradicting not only the Bull-Galenson hypothesized continuum for rates of industrialization, but also the findings of the labor-force data, although Denmark's overall rate of growth was slightly slower to Norway's than to Sweden's. Examination of growth rates between arbitrarily selected and overlapping five-year averages, however, confirms the hypothesized timing of industrialization: Denmark and Sweden both accelerated from 1871-1875 through 1901-1905 while Norway remained stagnant; then Denmark tapered off from 1906-1909 through 1916-1920 while Norway began and Sweden continued accelerating; then Sweden began and Denmark continued to taper

off from 1911-1915 through 1931-1935 while Norway continued accelerating.

In order to determine more carefully the timing of industrial surges, Lafferty then examines data on absolute and incremental gross and net national investment ratios based on five-year averages. The results indicate that each country had two principle surges, the second larger than the first, and that Norway's were the latest and weakest: Denmark had a fairly strong one from 1880 to 1885, a stronger one from 1890 to 1900, and a fairly weak one from 1920 to 1930; Sweden had a fairly strong one from 1895 to 1900 and a stronger one from 1920 to 1925; and Norway had a weak one from 1890 to 1900, a strong one from 1905 to 1915, and a stronger one from 1925 to 1930. Lafferty then examines the relationship of investment ratios with the labor-force sector shifts, concluding that Norway's industrial surges were not strong enough to cause large shifts; and with per capita product, concluding that Denmark showed a strong "multiplier effect" of product upon investment during the time period, whereas Norway showed a strong "production effect" of investment upon product, while Sweden showed a mixed effect. Lafferty then correlates the economic indicators across countries, concluding that Norway and Sweden are more similar to Denmark than they are to each other, and finally delves into an esoteric examination of the relationships among the economic indicators within countries.

Lafferty summarizes all of these findings by concluding that Denmark had already industrialized and achieved "sustained growth"



by 1900, and then became a "mature" economy; that Sweden possessed sufficient resources and had begun industrialization before 1900, but had to wait for her service sector to catch up before a second surge of industrialization could carry her into sustained growth; and that Norway lacked adequate resources and thus had only a mild industrial surge by 1900, but her labor force was properly proportioned for steady acceleration thereafter. Although Lafferty does not state it clearly, the general conclusion must be that the industrialization portion of the Bull-Galenson hypothesis is correct concerning sequence but incorrect concerning rate (and its confusingly related concepts of intensity and regularity) for Norway and Sweden.

#### Labor Response to Economic Development

Following his thorough examination of the differences in patterns of industrialization among the Scandinavian countries, Lafferty turns his attention to the various manifestations of the response of the political labor movements in those countries to economic development. The first indicator of that response he considers is voter support for all leftist parties, as measured by percentage of the total vote, although it is not entirely clear which "moderate socialist" splinter parties he includes. He compares the within-country correlations of this variable with not only the previous economic indicators but also with indicators of a "economic man" intervening variable, price and wage indices, and finally with an indicator of a "sociological man" intervening

variable, the suicide rate. He then compares the within-country correlations of these same variables with per capita membership in the national Federation of Labor, and with the ratio of man-days lost due to strikes and lockouts to maximum potential working time of members of the national Federation of Labor. All of these correlations are based on five-year averages from 1900 to 1935, an insufficient data base for thorough correlation and regression analysis, and the non-economic variables are not compared cross-nationally.

Lafferty concludes that in general the results support the Bull-Galenson hypothesis, in that the correlations confirm the expected pattern of labor response associated with each country's particular stage of economic development during that period. Norway generally showed the strongest positive correlations not only between the labor-response indicators and the indicators of her particular pattern of economic development, but also between left vote and union membership; whereas Sweden and Denmark generally show appropriately mixed results, with Denmark displaying the most negative and weakest positive correlations. Lafferty seems to imply that the correlations exhibit this pattern because the countries happened to be at different stages of economic development while their political labor movements developed coterminously and differed in "radicalness" due to other factors than economic development alone.

He seems to draw a similar general conclusion from a thorough historical comparison of the political contexts surrounding the

political labor movements in each country, including a detailed examination of "sub-system" factors in Norway involving individual delegates and groups at the Labor Party convention in 1918. Using Lipset and Rokkan's (1967) framework of thresholds of legitimation, incorporation, representation, and executive power, Lafferty determines that although the thresholds in all three countries were "softer" than in most other countries, Norway's thresholds were more difficult to cross and thus were crossed later than in Sweden and Denmark, although Sweden's barriers were somewhat "harder" than Denmark's. To reach this conclusion Lafferty relies not only on dates of introduction of such characteristics as universal suffrage, direct elections, proportional representation, and socialist voting, representation, and cabinet participation, but also on a comparison of the "voter-mandate ratio," the ratio of the proportion of parliamentary seats to the proportion of total vote, for leftist parties.

Although Lafferty does not state them succinctly, the chief causes of Norway's more radical labor response uncovered by his analysis seem to be the following: (1) the coincidental occurrence of the first major industrial surge, albeit the mildest of the Scandinavian surges in terms of labor shifts into the industrial sector, and the unionization movement, resulting in (2) a more rapid influx of many young workers into the Federation of Labor than in Denmark and Sweden, a far more radicalizing factor than either Galenson's doubling of the number of insured industrial workers

(probably due largely to changes in the official definition of "industrial"), or the increase in the total work-force, including women and business employees; (3) the early achievement of the parliamentary principle and universal suffrage, partly due to the lack of an indigenous nobility and thus of an upper chamber in the parliament, resulting in the absence of a fight for electoral reform that would have necessitated the degree of cooperation between socialists and liberals found in Denmark and Sweden, thus isolating the Norwegian socialists and excluding them from cabinet participation until 1928; (4) the underrepresentation of the socialists after 1905 due to the single-member run-off system of direct elections; and (5) the radical leadership of Martin Tranmael.

Overall, Lafferty's work seems to confirm the Bull-Galenson hypothesis only partially: Apparently Norway did industrialize later than Denmark and Sweden, but not more rapidly, and her political labor movement was apparently more radical, although he never explicitly compares the indicators of labor response cross-nationally. And apparently that radicalness was "more internal-party oriented than national-system oriented" (Lafferty 1971: 325), and was not caused by later industrialization directly, but rather by several coincidental social and political factors as well as economic ones.

## B. The Mobilization Model of Public Policy Development

### 1. Social Mobilization and Political Mobilization

The Bull-Galenson hypothesis, as refined by Lafferty, fits into a more general model of developmental processes popularized by





Deutsch (1953; 1961) and discussed throughout much of the literature of comparative politics, the "mobilization model." Peters (1970) extended this model of the developing political system to include the development of public policy and tested it using correlation and regression analysis of quintennial data on Britain, France, and Sweden from 1850 to 1965. His formulation of the model involves changing societal conditions that generate inputs composed of increasing demands for public services and of resources available for meeting those demands; democratic institutions which penetrate the society to perceive the demands, obtain the needed resources, and provide service machinery; and outputs of public expenditures which have impacts on societal conditions, or "objective security."

The input side of the model involves social mobilization, socio-economic resources, and political mobilization. Social mobilization involves industrialization and urbanization, which move people from traditional agricultural environments to more modern and rationalistic ones, disrupting accustomed authority and security patterns; make people more dependent on employers and the money economy, and more susceptible to organized influence; and often create intolerable working conditions, unemployment, and population pressures in urban areas and in young and old age groups. These social conditions generate demands for specific public services, such as factory legislation, unemployment benefits, mass transit, public education, and old-age pensions. Industrialization also facilitates the development of greater socio-economic resources,

namely higher levels of economic wealth, education, and technology, all necessary for not only the private production of complex goods and services, but also the formulation and delivery of public services capable of solving complex societal problems. But increasing resources reciprocally foster further industrialization by providing surpluses for investment, and produce further demands for public services, especially public education and technological research. The dislocations associated with these fundamental social changes, plus the development of modern values and the social and political awareness associated with education, combine to generate political mobilization of the demands of the working class. Political mobilization involves labor unionization, voting for leftist parties, voter turnout, and rate of enfranchisement, all indicating the strength of working-class demands.

This formulation requires further modification of the Bull-Galenson hypothesis in order to specify the distinction between the sub-concepts of social mobilization and economic wealth within the general concept of economic development. Lafferty's indicators of economic development include Gross Domestic Product, a measure of wealth in the mobilization model; labor-force sector proportions, a measure of industrialization in the mobilization model; plus Gross Domestic Investment, a measure of industrialization not used in the mobilization model. Although Lafferty's analysis of Scandinavia does not suggest a strong relationship between social and political mobilization, it does seem to warrant specifying industrialization

rather than wealth as the economic factor most likely to motivate political mobilization. It also seems to suggest separating unionization from political mobilization and perhaps placing it between social and political mobilization, although unionization and left voting seem to have grown simultaneously in Scandinavia. In addition, Lafferty does not really consider urbanization as a possible explanation of labor response, probably because of the dispersed, non-urban character of industry in Norway and Sweden. Peters, on the other hand, does not include labor disputes as an indicator of political mobilization, perhaps because the "radicalness" of the demands of political labor movements was deemed unimportant in the general model of mobilization, or perhaps because strike data was not completely available for all three of his test countries. He also does not include a price index in his analysis. But a test of the general model for Norway and Sweden should include these variables, although industrialization and urbanization are known to be almost interchangeable, mutually causal indicators in most settings, and although labor disputes must be considered contemporaneous with other indicators of political mobilization and not caused by any of them.

## 2. Political Institutions and Public Policy

The general mobilization model of political development deals next with the translation of demands and resources into public policy, involving the development of democratic institutions to hear the mobilized demands; government penetration of society to

obtain needed resources and provide service mechanisms; government expenditures designed to alleviate the offending societal conditions; and the impacts of those expenditures on objective security. As measures of democratic institutionalization Peters (1970) utilizes an index developed by Cutright (1963) and another developed by Flanigan and Fogelman (1971), both of which award points to observations exhibiting defined democratic characteristics. Government penetration is measured by the size of the civil service and the amount of governmental revenue. Public employees are needed to perceive mobilized demands, make decisions that produce policies to meet those demands, and execute the detailed administration of those policies. While the size of the civil service indicates the degree of involvement of the government in the labor force, the amount of public revenue indicates the degree of government involvement in the nation's economy and the amount of resources available for public policy expenditures. Both variables could be considered to represent the willingness of political institutions to act.

Because of the functional specificity of public demands and the policies required to meet them, the expenditures themselves are measured not only in totals but also by sectors: defense, health, education, and such social services as pensions and relief. The health and education sectors also require intervening measures of the number of personnel available to deliver to the public the services provided by the expenditures, namely doctors and teachers. Finally, the impact of these expenditures and services on societal

conditions or objective security are measured in each sector: for health, infant deaths, total deaths, and life expectancy; for education, the number of pupils being educated; and for welfare, the number of relief recipients and pensioners.

Peters tests the hypothesized relationships within the mobilization model using correlation and regression analysis of data on Britain, France, and Sweden for every fifth year from 1865 to 1965. In addition, using similar methods and analysis of variance, he compares the explanatory power of the model against several simpler models that attempt to explain the development of expenditures and impacts, such as the occurrence of great events, changing elite ideology, and the general increase in public action over time. On the input side of the mobilization model he finds support for the Deutsch (1961) formulation of mobilization thresholds rather than a linear relationship between social and political mobilization. By splitting the total time period, comparing the results for the different portions, and considering the stages of social mobilization which each country was experiencing during those periods, he suggests the existence of not only a threshold level of social mobilization which must be attained before it will "spill over" into political mobilization, but also a second threshold level after which there will again be no relationship between the two variables.

The relationship between political mobilization and government penetration is substantiated for different indicators in each

country due to historical reasons, such as Sweden's intense financial investment and de-emphasis of bureaucratization in her social programs, compared with the political entrenchment and belated resource utilization of France's unpopular bureaucracy. However, Peters uncovers a stronger and more consistent relationship between social mobilization and government penetration, indicating independent effects of social and political mobilization on penetration. In fact, Sweden exhibits no political mobilization effect when social mobilization is partialled out. This phenomenon and the relationship of social mobilization to revenue extraction in France indicate the development of what Peters calls the "cybernetic system," in which needs arising from changing social conditions are anticipated technologically and assuaged directly by ruling elites, thus reducing the importance of political mobilization in the later stages of development.

The results involving the indices of democratization are inconsistent, due largely to their lack of variance in the latter portions of the time period. The Flanigan-Fogelman Index seems to work the best, and Peters concludes that, like penetration, it is independently affected by both social and political mobilization, thus strengthening his interpretation of the cybernetic system. He also tries using the rate of enfranchisement as an indicator of democratization rather than political mobilization because of its greater variance and because it has as much construct validity as the two indices in terms of the changing nature of elite institutions in response to

social and political demands. However, these results are also inconsistent, and it remains unclear whether enfranchisement should be considered a measure of mobilization or of democratization, although the weight of the evidence seems to favor the latter. Another useful indicator of democratization exhibiting sufficient variability might be Lafferty's "voter-mandate ratio," the ratio of the proportion of parliamentary seats to the proportion of the total vote, for left-wing parties. This indicator, like enfranchisement, measures the changing nature of elite institutions in response to social and political demands, although both measures deal only with institutions for representation and ignore such other processes as selection of the executive.

Contrary to the findings of the analysts of expenditures in the American states, both sets of indicators of governmental structure, penetration and democratization, have significant effects upon expenditures, although the effects of democratization are weaker and seem to feed through government penetration. In addition, Gross National Product must be included in the multiple regressions on expenditures involving government structure in order to eliminate autocorrelation. This suggests that both political and economic variables are important in determining levels of public expenditures, in that spending requires both willingness and capability.

The impacts of these expenditures on "policy outputs," or the levels of service personnel and objective security, vary for the different sectors, countries, and time periods, again due to



historical factors. Health expenditures show greater impacts than expected, with those in Britain and Sweden indicating an increasing trend vis-a-vis the impacts of economic resources and technology, whereas in France the government became involved in health care earlier and has been declining in importance relative to resources. The opposite proves true in the education sector, although complete data is not available for all three countries on the number of teachers. The impact of educational expenditures on the number of pupils is not as strong as expected, and seems to be declining in Britain and Sweden and increasing in France relative to the role of the resource measure for this sector, adult educational attainment. Finally, the impact of welfare expenditures on relief and pension recipients is much weaker than expected and seems to have become more functionally differentiated over time. The pension system is more directly dependent on social mobilization, via the breakdown of the extended family, than on government expenditures, and is thus deemed more legitimate than the relief system, which is becoming increasingly dependent on public support.

Peters concludes that in general the alternative models do not explain expenditures and impacts as well as does the mobilization model. The "General Amelioration" model, based on the notion of an incremental increase in public action over time, can be rejected because of significant autocorrelation in the admittedly strong relationships of policy variables with time, especially in Sweden, probably due to exponential increases in the later time periods.



The "Ideology of the Elites" model, based on the presumed importance of ideas in the formulation of policy, does not work well except for the output measures in France, particularly education, probably due to the greater structural centralization and variability in elite ideology in that country. The "Great Events" model, based on the presumed lasting effects of wars and depressions on policy, works well in explaining expenditures except in Sweden, which has been relatively isolated from such events, but did not work for policy outputs.

The modified general mobilization model of political development is summarized diagrammatically in Figure 4-1.

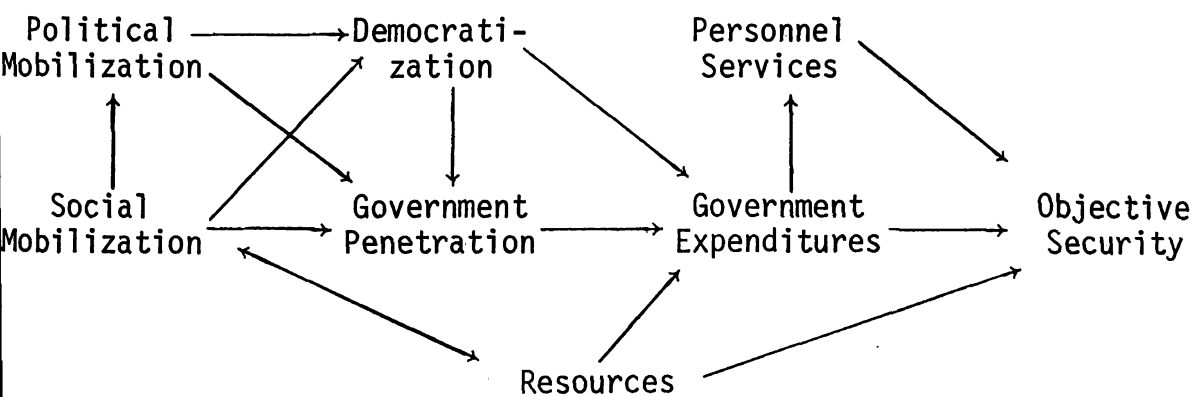


Figure 4-1. Diagram of the General Mobilization Model.

## II. The Data

### A. The Observations

Comparing Norway and Sweden within the conceptual framework of the modified general mobilization model of political development

requires certain modifications in the data base and techniques of analysis used by Peters, mostly due to constraints imposed by the sources of data for Norway. The first constraint is that, without travel funds, virtually all of the Norwegian data has to be obtained in the United States from publications of the Norwegian Central Bureau of Statistics, either directly or indirectly: Even secondary sources cite some such publication. This means that data for most of the variables are not available before 1876, a few years after the establishment of the Bureau, whereas data on Sweden is available in the U.S. back to 1865.

Using an interval of every five years from 1880 to 1965 would yield only 18 observations for analysis, probably an insufficient sample size even for analyses of this type. However, using a short interval such as every year over long periods tends to produce severe autocorrelation due to the lingering effects of extraneous factors comprising the disturbance term in regression equations (Kmenta 1971: 269-270). Some interval in between is obviously indicated, and since some of the data involve election statistics, a reasonable choice is the election years, initially every three years and then every four years, yielding 27 observations. A related problem is that data on Norway is not available for the period of World War II, when the 1939 and 1942 elections were not held because of the German occupation. But fortunately, Sweden switched over to quadrennial elections beginning in 1920, whereas Norway waited until after the war, beginning in 1945. Consequently Norway's two "lost" elections

are regained via the greater frequency of elections during the 1920's and 1930's.

This procedure generates some obvious objections. First, is it reasonable to presume that Norway's post-War development is an approximate continuation of her pre-War development? In other words, was the War period in Norway such a deviation from the normal pattern of development that inclusion of those observations would have distorted the comparison between Norway and Sweden, since the latter was relatively isolated from the impact of the War? The answer appears to be yes: Most of the Norwegian series do not exhibit severe discontinuities between the 1936 and 1945 observations; rather, the latter usually seems to pick up where the former left off. In addition, linear interpolation, an equally objectionable procedure, would have been required for many variables if the war years had been included.

Second, doesn't the lack of synchronization of the observations distort the comparison between the two countries? The answer here is yes, slightly. There are three dimensions to this problem. First, and least serious, is the one-year difference between the observations, even when the elections in both countries occurred at equal intervals. That is, Norway's elections occurred in 1876, 1879, etc., and 1945, 1949, etc.; whereas Sweden's occurred in 1875, 1878, etc., and 1944, 1948, etc. Second, the unequal spacing of the observations during the 1920's and 1930's certainly distorts the comparison to some extent. Both of these problems revolve around

the influence of events on the variables and the relationships among them. Specifically, simultaneous events whose effects last less than a year might be missed by one of the countries; but such events are probably insignificant anyway. More importantly, from 1924 Norway's observations lag further and further behind Sweden's until Norway's 1936 is taken as the equivalent of Sweden's 1940. However, all this really means is that Sweden has one war-time observation to Norway's none, while Norway has one more Depression-era observation than Sweden; and one could argue that the debilitating effects of these two observations are equivalent and thus that the difference is self-cancelling, if not inherently insignificant. Finally, the wider spacing of the observations in the later time periods makes the series appear more exponential than they really are. As long as this is true of all series and both countries the comparison remains undistorted. The major problem again lies in the latter half of the 1930's, in which an equal function might appear slightly higher in Sweden. This distortion is probably no worse than the problems associated with the alternatives of either an unequal or low number of observations, or linear interpolation for many of Norway's variables during the War years.

Thus the data base for this dissertation consists of aggregate statistics on Norway and Sweden for years in which regularly scheduled, lower-house parliamentary elections occurred, from 1875 to 1965. All of the Sweden data except labor statistics were obtained from data on every year from 1865 to 1965 gathered from

official sources by Peters (1970; 1972).\* The Norway data were obtained from official publications of the Norwegian Central Bureau of Statistics, listed at the end of the bibliography; and the Swedish labor statistics were obtained from official publications of the Swedish Central Bureau of Statistics and of the Swedish Federation of Labor (LO), also listed at the end of the bibliography. These data are the most reliable of their type available and provide an accurate basis for comparison of the general patterns of development in Norway and Sweden.

## B. The Variables

The variables included in the data base for this dissertation will be operationally defined and discussed under the concepts and sub-concepts which they indicate, listed in order of their approximate position in the general mobilization model of political development.

### 1. Social Mobilization

Population Measures, reported and estimated by official census publications, include the total population, the youth population (ages 0 to 14), the elderly population (over age 65), the pre-school population (ages 0 to 4), the school-age population (youth minus pre-school), and the working-age population (total minus youth and elderly). These measures not only indicate population pressures

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At this point I would like to thank Professor Peters for kindly permitting me to use his data on Sweden in this dissertation.

likely to produce demands for public action, but also serve as bases of standardization for other measures.

Industrialization is measured by the declining percentage of the population employed in agriculture, as recorded and linearly interpolated from official census figures. This measure is generally considered by non-economists to be the most valid measure of industrialization because it indicates the changing life-style of service as well as industrial workers. However, agricultural employment is a monotonically decreasing function and thus does not reflect industrial surges. Thus Lafferty's (1971) indicator of Gross Domestic Investment, as reported by official sources, will be used as a supplementary measure.

Urbanization is measured by the population living in cities of over 20,000, as recorded and linearly interpolated from official figures based on the census and other scattered estimates, divided by the total population. This is another indicator of the changes in life-style of the population likely to generate demands for public action.

Unemployment is measured slightly differently for each country, but still indicates a social condition likely to generate demands for public action. For Sweden it is the total number of unemployed persons divided by the working-age population, based on official and unofficial estimates. For Norway it is the percentage unemployed among members of the Federation of Labor, as reported by that organization back to 1903, thus rendering this variable usable only for later periods.



Price Level is also measured slightly differently for each country, but still indicates conditions of rising and falling economic conditions likely to generate demands for public action. For Sweden it is the 1913-based consumer's cost-of-living index, whereas in Norway it is the 1961-based production price index, both based on official sources. The consumer's cost-of-living index for Norway was available only back to 1901, and its deviations from the production price index are slight.

## 2. Resources

Economic Wealth is measured by the Gross Domestic Product, as reported by official sources, deflated by the price index and divided by the total population. This will be the only measure of the resources or capability of the system, as the two other measures used by Peters, the number of people with at least an elementary education (lagged 20 years) and the number of patents issued, which are both highly associated with economic resources anyway, cannot be found for Norway. Attempts are being made to develop an indicator of technological capability based on energy consumption, but presently these figures are incomplete.

## 3. Political Mobilization

Unionization is measured by the number of members in the Federation of Labor in each country, as reported by that organization, divided by the working-age population. This measure is a better indicator of the strength of working-class demands than total labor



union membership, which is not available for Norway, because the latter is absolute rather than standardized by population, and because membership in the major central organization indicates the unity of the political labor movement while still reflecting total membership.

Labor Conflict is measured by the number of man-days lost due to strikes and lockouts for members of the Federation of Labor, as reported by that organization, divided by total possible working man-days, computed by multiplying the total membership in the Federation of Labor by 300. Data for this variable are available only back to 1903 for both countries, and may thus be used only for later periods. Also, because this measure exhibits such wild annual fluctuations that important strike activity might easily be missed by triennial observations, the annual figures were averaged over each inter-election period and recorded for the election year terminating that period. In any case, it is an indicator of the strength and perhaps the "radicalness" of working-class demands.

Left Voting is measured by the proportion of the total popular vote going to all left-wing parties, defined as the Labor Party in Norway and the Social Democratic Party in Sweden, plus all splinter parties ultimately derived from them or standing to the left of them. This does not include "worker's" splinter parties derived from the Liberal Party. Norwegian electoral figures after 1903 are derived from official sources, and before that date are estimated from Rokkan (1966: 86). This measure is another indicator of the strength of working-class demands.

Turnout is measured by the total vote divided by the total number of people eligible to vote, as reported by election statistics, and is an indicator of electoral mobilization, particularly of the working class.

#### 4. Democratization

Enfranchisement is measured by the total number of people eligible to vote, as reported by official election statistics, divided by the working-age population. This measure indicates the structural response of the governing elites to working-class demands for some degree of political participation.

Representation is measured by the proportion of the total number of parliamentary seats going to all left-wing parties, defined above, divided by the proportion of the total popular vote going to such parties. This measure also indicates the structural response of the governing elites to working-class demands for an opening of the system. Its data are drawn from official sources as reported by Rokkan (1966: 85; 1967: 403) for Norway, and by Verney (1957: 246, 196, 90) and Stjernquist (1966: 405) for Sweden.

The two indices of democratization used by Peters will not be used in this dissertation because of their lack of variance between as well as within Norway and Sweden, and because of serious questions concerning their status as interval-level measures and their objectivity and reliability, considering the fact that they are subjectively coded.

## 5. Government Penetration

Economic Penetration is measured by the total amount of government revenue, as reported by official sources, divided by the population size, rather than by the total Gross Domestic Product, as Peters did, because of the desirability of maintaining similar bases of standardization for as many of the variables as possible. This measure is an indicator of the degree of government involvement in the nation's economy.

Social Penetration is measured by the number of civil servants, as recorded and linearly interpolated from official census figures, divided by the working-age population. This measure is an indicator of government involvement in the nation's social system.

## 6. Expenditures

Government expenditures, as reported by official sources, are deflated by the price index and divided by the population size, and include total, non-defense, health, education, and welfare. The latter category is reported by Norway as "social purposes," and the separate, specific welfare categories used by Peters are not reported for the entire time period. For Sweden this category is computed by summing the separate welfare figures obtained from Peters.

## 7. Personnel Services

Health Personnel is measured by the number of doctors, as reported by official sources, divided by the population size, and

is an indicator of the effort to provide health care for the public. The number of hospital beds is not available for the entire time period in Norway.

Educational Personnel is measured by the total number of teachers in public elementary and secondary schools, as recorded and linearly interpolated from official sources, divided by the population size, and is an indicator of the effort to provide public education.

Indicators of welfare personnel, such as the number of social workers, are not completely available.

#### 8. Objective Security

The following indicators of social conditions in the sectors of health, education, and welfare are all reported by official sources:

Health is measured by the number of infant deaths per 1000 live births, and by the total number of deaths per 1000 population.

Education is measured by the number of pupils in public elementary schools, divided by the school-age population.

Welfare is measured by the number of persons receiving public relief payments, divided by the total population size. The number of persons receiving public old-age pensions is not available for the entire time period for Norway.

#### III. The Hypotheses

The following is a list of the hypotheses arising from the discussion of the comparative histories of Norway and Sweden, the Bull-  
 Halenson hypothesis, the general mobilization model, and the indicators of the concepts involved. They will be couched in the

conceptual terminology of the mobilization model, and will be generalized to all indicators of those concepts.

- 1) The indicators of social mobilization will be more strongly associated with the indicators of political mobilization for Norway than for Sweden.

This hypothesis is based on Lafferty's finding that Norway's industrial surges coincided more closely with the rise of the political labor movement than did Sweden's.

- 2) The indicators of social mobilization will be more strongly associated with economic wealth for Norway than for Sweden.

This hypothesis is based on Lafferty's finding that Norway's product began and continued accelerating during her industrial surges, whereas Sweden's product accelerated in between her industrial surges.

- 3) The indicators of political mobilization will be more strongly associated with the indicators of democratization for Norway than for Sweden.

This is based on the assertion that the greatest growth of the political labor movement occurred at about the same time as electoral reform in Norway, whereas electoral reform occurred later than the increase in working-class demands in Sweden.

- 4) The indicators of social mobilization will be more strongly associated with the indicators of democratization for Norway than for Sweden.

Norway's major industrial surges seem to have occurred at about the same time as her periods of electoral reform, whereas Sweden's surges seem to have occurred before and after electoral reform.

- 5) The indicators of democratization will be more strongly associated with the indicators of government penetration for Norway than for Sweden.

This hypothesis rests on the assumption that government activity increases with the passage of social legislation, and on the fact that major social legislation seems to have begun in the late 1800's and early 1900's in both countries, about the same time as electoral reform in Norway, but before it in Sweden.

- 6) The indicators of social mobilization will be more strongly associated with the indicators of government penetration for Norway than for Sweden.

This hypothesis rests on the same assumption as hypothesis (5), and on the fact that Norway's social legislation can be grouped into waves which seem to coincide with her industrial surges, whereas Sweden's social legislation seems to have begun more smoothly and in between her industrial surges.

- 7) There will be no difference between Norway and Sweden in the strength of association between the indicators of political mobilization and government penetration.

This hypothesis, although resting on the same assumption as hypotheses (5) and (6), arises from the fact that social legislation seems to have developed simultaneous with the political labor movement in both Norway and Sweden, although much of it seems to have come during labor setbacks.

- 8) There will be no difference between Norway and Sweden in the strength of association between the indicators of government penetration and government expenditures.

The assumption concerning increased government activity associated with the passage of social legislation should apply to expenditures as well as to penetration, so that both sets of indicators should reflect that increase simultaneously.



- 9) The indicators of democratization will be more strongly associated with government expenditures for Norway than for Sweden.

This follows logically from hypotheses (5) and (8), in that Norway's electoral reform occurred about the same time as the beginning of her social legislation, which should be reflected in increased expenditures.

- 10) There will be no difference between Norway and Sweden in the strength of association between the indicators of economic wealth and government expenditures.

This is again based on the finding that per capita product accelerated at about the same time that social legislation got under way in both countries.

The remaining four hypotheses deal with the relationships between government expenditures and the impacts of those expenditures on society. There is no information in the literature previously reviewed that would suggest any differences between Norway and Sweden in that area. Although Norway's levels of objective security and per capita product were cited in Chapter One as seeming to have been lower than Sweden's, government expenditures probably have been lower, also. Direct cross-national comparisons of monetary indicators are made difficult by the difference in currency values, and exchange rates are not even available for the entire time period. At any rate, there is no reason to anticipate any differences in the relationships between expenditures and their impacts, although such differences might well emerge from the examination of those relationships. Thus,

the following four hypotheses all state an expectation of no difference between the two countries.

- 11) There will be no difference between Norway and Sweden in the strength of association between government expenditures and the indicators of personnel services.
- 12) There will be no difference between Norway and Sweden in the strength of association between government expenditures and the indicators of objective security.
- 13) There will be no difference between Norway and Sweden in the strength of association between the indicators of personnel services and objective security.
- 14) There will be no difference between Norway and Sweden in the strength of association between the indicators of economic wealth and objective security.

#### IV. The Methods

The methods for evaluating the above hypotheses consist primarily of simple linear correlation and regression analysis. Time-series data composed of aggregate statistics such as the ones employed here meet most of the basic assumptions for that type of analysis (Kmenta 1971: 197-304). Thus the first step is to compute the simple correlation coefficients for the bivariate relationships among the specified indicators, and determine their statistical significance. In this regard the simple statistical significance of the coefficients themselves is not very helpful, because correlation coefficients for data of this type are usually quite high. Thus, while correlation coefficients based on such data are statistically significant at the 0.0005 level when as low as 0.62, most are much higher than that, often attaining 0.95 and higher. This

is due to the similarity of time-series functions, especially for developmental variables, which tend to increase or decrease monotonically over time. Such variables may or may not be functionally related, and this high incidence of spurious correlation renders causal interpretation difficult and demands adequate theories to guide the analysis.

But one other statistical technique is useful in determining the significance of serial correlation and regression coefficients. Such coefficients are often inflated by a phenomenon known as autocorrelation or autoregression, which arises from systematic association among the residual errors in predicting the dependent variable from the independent variable. These errors, which comprise the disturbance term in regression equations, are supposed to be random and unassociated, each limited to that one observation, and together having a mean of zero. However, when they are not, such as when they are systematically negative in one portion of the time period and systematically positive in the other, a systematic disturbance, usually an exogenous variable whose effects linger over several observations, is indicated. In this case the most effective method of eliminating autocorrelation is to bring the variable causing it into a multiple regression equation, if that combination of independent variables can be justified theoretically.

Another method of reducing autocorrelation is to split the total time period into smaller portions, although this reduces the number of observations and thus can distort the estimation of the

true regression parameters. In addition, autocorrelation can also indicate curvilinear relationships among the variables, in which case it is appropriate to attempt theoretically justified linear transformations of the variables. Finally, there are several specific procedures designed to estimate regression parameters from autocorrelated data (Kmenta 1971: 282-294). Since some of the labor variables can be used only from 1905-1906 to 1964-1965, and since the mobilization model frequently specifies multiple relationships, the first two of the aforementioned methods of solving the problem of autocorrelation will definitely be employed.

Another problem, multicollinearity, arises in connection with the method of multiple regression. When the independent variables in a multiple regression equation are highly related to each other the estimation of the true regression parameters becomes distorted, reflected by an increase in the standard error of estimate (Kmenta 1971: 380-391). Variables considered likely candidates for inclusion in an equation on the basis of theory, strong correlation with the dependent variable, and an appropriate pattern of residuals must be screened on the basis of the strength of their relationship with the independent variable(s) already included in the equation.

Even if the simple or multiple correlation and regression coefficients prove to be statistically significant and free of autocorrelation and multicollinearity, there remains the problem of evaluating the differences in those coefficients between Norway



and Sweden. Standard statistical tests of significance for the difference between independent correlation coefficients require differences that are unrealistically large for time-series data with only 27 observations in each sample. That is, because the correlations for both countries will be rather large, very few of the cross-national differences would be statistically significant, even if the countries were not so similar in "background" characteristics. Thus the differences will have to be judged rather subjectively in light of the previously reviewed literature.

Finally, it will frequently be necessary to bolster the interpretation of differences in coefficients by visually examining univariate plots of superimposed individual variables.

CHAPTER FIVE

ANALYSIS OF THE  
TOTAL TIME PERIOD (1875 TO 1965)

The previous chapter presented hypothesized differences between Norway and Sweden in terms of relationships among indicators of the conceptual components of the mobilization model of political development. It also introduced the appropriate methods required to test those hypotheses. The first step involves examining the differences in the linear, bivariate relationships between the indicators of the hypothesized pairs of concepts for Norway and Sweden, and assessing the extent of autocorrelation in those relationships. For this purpose we employed a linear least-squares correlation and regression analysis program called LS, written in FORTRAN for the CDC 3600 computer at Michigan State University by the MSU Agricultural Experiment Station's AES STAT Programming Section, and currently maintained by the MSU STAT Group, a division of the Computer Laboratory. The LS program calculates numerous descriptive and inferential statistics for multiple and partial correlation and regression analysis. It offers an option to print the residual errors in predicting the dependent variable from the independent variable, accompanied by several statistics, including the Durbin-Watson "d," a test of

significance for the extent of autocorrelation among those residuals.

The Durbin-Watson Statistic is approximately normally distributed around a "perfect" zero-autocorrelation value of 2.0, with the critical values defining the regions of rejection for a two-tailed test of the null hypothesis of no autocorrelation falling at varying distances above and below the perfect value, depending upon the number of observations in the sample, the number of independent variables in the regression equation, and the level of significance chosen. The regions below the perfect value indicate significant positive autocorrelation, and the regions above it indicate significant negative autocorrelation. For a one-tailed test only the regions on one side of the perfect value are used. In addition, for any given sample size, number of independent variables, and the level of significance, an inconclusive region exists between the region of rejection and the region of acceptance, both below and above the perfect value. That is, in the case of positive autocorrelation the statistic must attain a value below the lower limit in order to be considered significant or above the upper limit in order to be considered not significant. If it falls in between the upper and lower limits, then the test is considered to be inconclusive (Kmenta 1971: 294-297).

For our purposes, with 27 observations for the total time period of 1875 to 1965, only one independent variable, and a significance level of 0.05, the upper limit of the Durbin-Watson Statistic for a



one-tailed test is 1.47 and the lower limit is 1.32. A relationship will be deemed acceptable if the Durbin-Watson Statistic is not definitely significant; that is, if it does not fall into the region of rejection below the lower limit. This criterion seems rather lenient in terms of both the significance level and the limit chosen. But time-series data tend to harbor considerable autocorrelation, so that lenience is necessary if any acceptable relationships are to be found.

On the other hand, because correlation coefficients for such data tend to be rather high, a relatively severe criterion of significance is needed in order to screen out unreliable correlations. Our criterion will be a level of significance of 0.0005 for the proportion of variance in the dependent variable explained by the independent variable, according to an F-test performed by the LS program (Hays 1963: 573). This level seems unduly severe, but it corresponds to a critical value for the correlation coefficient of only about 0.62 or higher.

The results of this analysis will be presented in an order corresponding to the hypotheses stated in the previous chapter. To facilitate direct comparison and thus evaluation of the hypotheses, the statistics for both countries will be presented side-by-side or in tandem for each relationship in each table. The Durbin-Watson Statistics will be presented in parentheses beneath the correlation coefficients for each relationship.

Thus, a relationship will be deemed acceptable if the proportion of variance in the dependent variable explained by the independent

variable is significant at 0.005 (corresponding to a correlation coefficient of about 0.62) and if the Durbin-Watson Statistic is not significant at 0.05 (greater than or equal to 1.32). The hypotheses will be evaluated by examining the patterns of correlation and autocorrelation in the acceptable relationships for the two countries. Interpretation of these results will be reserved until after the analysis is completed.

## Results

### Linear, Bivariate Relationships

#### Social Mobilization and Political Mobilization

The first hypothesis presented in the previous chapter stated that the indicators of social mobilization will be more strongly associated with the indicators of political mobilization for Norway than for Sweden. Table 5-1 shows that this is not the case: Of the fifteen correlations between indicators of social and political mobilization, ten are stronger for Sweden and only five are stronger for Norway. Relationships involving either Voter Turnout or Urban population consistently favor Sweden, although the correlation between Gross Domestic Investment and Voter Turnout is not statistically significant. The correlations involving Union Membership, except with Gross Domestic Investment, also consistently favor Sweden. The correlations involving Left Vote, except with Urban population, consistently favor Norway. Finally, of the five correlations which favor Norway, only the two involving Gross Domestic Investment are substantially stronger. However, the three

correlations favoring Sweden but not involving either Voter Turnout or Urban Population are not substantially stronger, either.

Table 5-1

Social Mobilization and Political Mobilization, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Social Mobilization	Political Mobilization					
	Union Membership		Left Vote		Voter Turnout	
	Norway	Sweden	Norway	Sweden	Norway	Sweden
Total Population	0.956 (0.365)	0.960 (0.206)	0.956 (0.404)	0.920 (0.247)	0.498 (0.880)	0.938 (0.769)
Agricultural Employment	-0.935 (0.269)	-0.953 (0.207)	-0.923 (0.297)	-0.890 (0.203)	-0.472 (0.853)	-0.934 (0.723)
Gross Investment	0.950 (0.407)	0.782 (0.191)	0.767 (0.213)	0.534 (0.103)	0.491 (0.835)	0.612 (0.229)
Urban Population	0.791 (0.160)	0.968 (0.288)	0.794 (0.252)	0.872 (0.199)	0.507 (0.832)	0.912 (0.584)
Price Index	0.897 (0.513)	0.907 (0.496)	0.785 (0.291)	0.754 (0.279)	0.377 (0.809)	0.745 (0.447)

But more importantly, all of the relationships are severely autocorrelated, indicating either a missing variable or combination of variables needed to explain political mobilization, or curvilinear association between social and political mobilization. The extent of autocorrelation is higher for Sweden in every case save one, the relationship between Urban Population and Union Membership. However, the extent of autocorrelation is substantially higher only for relationships involving Total Population, Gross Domestic Investment, and,

interestingly, Voter Turnout. At any rate, the first hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of the concepts of social and political mobilization.

## 2. Social Mobilization and Economic Wealth

The second hypothesis presented in the previous chapter stated that the indicators of social mobilization will be more strongly associated with economic wealth for Norway than for Sweden. Again the results indicate that this is not the case: Table 5-2 shows that three of the five correlations are stronger for Sweden. However, only the one involving Urban Population is appreciably stronger, and the two that favor Norway, Total Population and Agricultural Employment, are both appreciably stronger.

Table 5-2

Social Mobilization and Economic Wealth, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Gross National Product per Capita	Social Mobilization				
	Total Popula- tion	Agricul- tural Employment	Gross Domestic Investment	Urban Popula- tion	Price Index
Norway	0.942 (0.238)	-0.934 (0.201)	0.986 (0.671)	0.811 (0.123)	0.915 (0.691)
Sweden	0.852 (0.225)	-0.877 (0.266)	0.989 (0.325)	0.905 (0.229)	0.958 (0.687)

The results are equally mixed in terms of the extent of autocorrelation present in the relationships. All are severely autocorrelated, more so for Norway in three of the five relationships. But of those, only Gross Domestic Investment shows a substantially higher level of autocorrelation, whereas only the relationship for Urban Population is substantially more autocorrelated for Sweden. Interestingly, this is the same one that shows a substantially higher correlation. Again, the second hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of social mobilization and economic wealth.

### 3. Political Mobilization and Democratization

The third hypothesis presented in the previous chapter states that the indicators of political mobilization will be more strongly associated with the indicators of democratization for Norway than for Sweden. Table 5-3 again shows that this is not necessarily the case: Of the six correlations, three are stronger for Norway and three are stronger for Sweden. Of the three that favor Norway, only one, Union Membership versus Representation, is substantially stronger, and both correlations are relatively low. On the other hand, all three correlations that favor Sweden are substantially stronger. Voter Turnout correlates vastly more strongly with both Enfranchisement and Representation for Sweden than for Norway. Left Vote correlates slightly more strongly with both Enfranchisement and

Representation for Norway than for Sweden. Union Membership correlates substantially more strongly with Enfranchisement for Sweden than for Norway, but substantially more strongly with Representation for Norway than for Sweden.

Table 5-3

Political Mobilization and Democratization, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Political Mobiliza- tion	Democratization			
	Enfranchisement		Representation	
	Norway	Sweden	Norway	Sweden
Union Membership	0.827 (0.134)	0.930 (0.654)	0.791 (0.338)	0.669 (0.219)
Left Vote	0.976 (0.960)	0.941 (0.487)	0.963 (1.107)	0.905 (0.616)
Voter Turnout	0.374 (0.178)	0.836 (0.537)	0.393 (0.202)	0.889 (0.477)

This table also exhibits the interesting phenomenon of substantially lower autocorrelation for the country having the stronger correlation coefficient. Nevertheless, all of the relationships are heavily autocorrelated, so that none can be accepted, although the relationships involving Left Vote for Norway are by far the least autocorrelated. Again, the third hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between indicators of the concepts of political mobilization and democratization.

#### 4. Social Mobilization and Democratization

The fourth hypothesis presented in the previous chapter stated that the indicators of social mobilization will be more strongly related to the indicators of democratization for Norway than for Sweden. Table 5-4 shows that this does seem to be true, on the basis of the correlations alone: Of the ten correlations, most of which are rather weak, only three are stronger for Sweden, and only one of those, Urban Population versus Enfranchisement, can be considered substantially stronger. Again, Urban Population consistently favors Sweden, although its correlation with Representation is not substantially stronger. The third correlation that slightly favors Sweden is the Price Index versus Enfranchisement. Of those seven correlations that favor Norway, only those involving either Gross Domestic Investment or Representation can be considered even noticeably stronger, and only the correlation between those two indicators can be considered substantially stronger.

Table 5-4 also displays the interesting feature that all of the relationships involving Enfranchisement are less autocorrelated for Sweden than for Norway, whereas all of the relationships involving Representation are less autocorrelated for Norway than for Sweden. This also means that, for Representation, the stronger relationships are also less autocorrelated, except in the case of Urban Population. On the other hand, the pattern for Enfranchisement is mixed, since all of the relationships are less autocorrelated for Sweden and only two of the correlation coefficients are stronger for Sweden.

Table 5-4

Social Mobilization and Democratization, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Social Mobilization	Democratization			
	Enfranchisement		Representation	
	Norway	Sweden	Norway	Sweden
Total Population	0.922 (0.203)	0.916 (0.464)	0.880 (0.457)	0.805 (0.302)
Agricultural Employment	-0.892 (0.182)	-0.890 (0.409)	-0.838 (0.385)	-0.780 (0.283)
Gross Investment	0.686 (0.105)	0.601 (0.209)	0.636 (0.210)	0.375 (0.148)
Urban Population	0.799 (0.187)	0.887 (0.437)	0.712 (0.313)	0.738 (0.250)
Price Index	0.748 (0.208)	0.778 (0.564)	0.640 (0.319)	0.581 (0.260)

Nevertheless, all of the relationships in the table are severely auto-correlated, rendering them unacceptable. Again, the fourth hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of social mobilization and democratization.

#### 5. Democratization and Government Penetration

The fifth hypothesis presented in the previous chapter stated that the indicators of democratization will be more strongly associated with the indicators of government penetration for Norway than for Sweden. Table 5-5 shows that this does seem to be the case, but



only on the basis of the correlations alone: All are substantially stronger for Norway, and those involving Representation are vastly stronger. However, all of the relationships are unacceptable because of severe autocorrelation, so that the fifth hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of democratization and government penetration.

Table 5-5

Democratization and Government Penetration, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Democratization	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Enfranchisement	0.700 (0.191)	0.602 (0.249)	0.704 (0.157)	0.584 (0.185)
Representation	0.645 (0.228)	0.371 (0.166)	0.662 (0.193)	0.374 (0.128)

#### 6. Social Mobilization and Government Penetration

The sixth hypothesis presented in the previous chapter stated that the indicators of social mobilization will be more strongly associated with the indicators of government penetration for Norway than for Sweden. Table 5-6 finally uncovers some acceptable relationships, and two of these three are Norwegian. Overall, of the ten correlations, only three favor Sweden, and none of these are substantially stronger. Again, relationships involving Urban Population

consistently favor Sweden, although only slightly. The third relationship that very slightly favors Sweden is Gross Domestic Investment versus Revenue. Of the seven correlations that favor Norway, four can be considered substantially stronger, and those involve either Total Population or Agricultural Employment.

Table 5-6

Social Mobilization and Government Penetration, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Social Mobilization	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Total Population	0.902 (0.361)	0.779 (0.235)	0.914 (0.220)	0.788 (0.170)
Agricultural Employment	-0.904 (0.353)	-0.811 (0.272)	-0.918 (0.218)	-0.821 (0.214)
Gross Investment	0.986 (1.904) *	0.999 (1.847) *	0.977 (1.588) *	0.936 (0.520)
Urban Population	0.798 (0.160)	0.843 (0.236)	0.802 (0.240)	0.855 (0.174)
Price Index	0.926 (0.799)	0.913 (0.592)	0.905 (0.398)	0.870 (0.471)

\*Correlation significant at 0.0005 and Durbin-Watson statistic not significant at 0.05.

Three relationships are acceptable in terms of both significance of the correlation coefficient and lack of significance of the Durbin-Watson Statistic for autocorrelation. All three involve Gross Domestic Investment, and only the relationship of that indicator

with Civil Service for Sweden is not acceptable. However, the difference between the Norwegian and Swedish correlation coefficients for the non-autocorrelated relationship between Gross Domestic Investment and Revenue is negligible. But on the basis of the fact that the relationship between Gross Domestic Investment and Civil Service is acceptable for Norway but not for Sweden, and the fact that most of the relationships are stronger for Norway, the sixth hypothesis will be very tentatively accepted for the total time period.

#### Political Mobilization and Government Penetration

The seventh hypothesis presented in the previous chapter stated that there will be no difference between Norway and Sweden in the strength of association between the indicators of political mobilization and government penetration. Table 5-7 shows that this is not the case: The correlation coefficients are substantially and consistently stronger for Norway in relationships involving either Union Membership or Left Vote. Voter Turnout again favors Sweden, with both indicators of government penetration correlating substantially more strongly with that indicator of political mobilization for Sweden than for Norway. However, both correlations for Sweden are weak, and Revenue versus Turnout is not even significant.

But once again all of the relationships are severely autocorrelated. In three of the four relationships that favor Norway, the extent of autocorrelation is substantially lower, with the exception Left Vote versus Civil Service. For Sweden the extent of



Table 5-7

Political Mobilization and Government Penetration, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Political Mobilization	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Union Membership	0.956 (0.758)	0.785 (0.297)	0.958 (0.836)	0.789 (0.226)
Left Vote	0.789 (0.287)	0.531 (0.190)	0.780 (0.145)	0.509 (0.155)
Voter Turnout	0.497 (0.292)	0.612 (0.255)	0.502 (0.332)	0.670 (0.198)

autocorrelation is substantially lower only in the relationship between Voter Turnout and Civil Service. Because there are no acceptable relationships, due to autocorrelation, the seventh hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of political mobilization and government penetration.

#### 8. Government Penetration and Government Expenditures

The eighth hypothesis presented in the previous chapter stated that there will be no difference between Norway and Sweden in the strength of association between the indicators of government penetration and government expenditures. Table 5-8 shows that this is not the case: Six acceptable relationships emerge, five of them in the Norwegian data. In four of those five the correlation coefficients are stronger for Norway, although only slightly: Revenue

Table 5-8

Government Penetration and Government Expenditures, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Total	0.994 (1.051)	0.962 (0.565)	0.966 * (1.428)	0.933 (0.666)
Non-defense	0.991 * (1.534)	0.985 (0.731)	0.969 * (1.530)	0.956 (0.450)
Health	0.940 (0.734)	0.998 * (2.449)	0.920 (0.855)	0.945 (0.579)
Education	0.875 (0.635)	0.984 (0.508)	0.853 (0.724)	0.926 (0.436)
Welfare	0.965 * (1.855)	0.959 (0.745)	0.941 * (1.520)	0.959 (0.468)

\*Correlation significant at 0.0005 and Durbin-Watson statistic not significant at 0.05.

versus Non-defense and Welfare Expenditures, and Civil Service versus Total and Non-defense Expenditures. The only exception is the relationship between Civil Service and Welfare Expenditures, which is non-autocorrelated for Norway but slightly stronger for Sweden. Overall, the stronger relationships split evenly between the two countries at five apiece. However, for only the two relationships involving Education Expenditures is the difference substantial, with Sweden's correlations being higher than Norway's in both cases. On the other hand, Sweden shows a higher level of autocorrelation in even the unacceptable relationships and the Education correlations.

The lone exception is the relationship between Revenue and Health Expenditures, which is even acceptable on the basis of lack of autocorrelation. But on the basis of the fact that most of the acceptable relationships between the indicators of government penetration and government expenditures favor Norway, the eighth hypothesis can be rejected for the total time period.

#### 9. Democratization and Government Expenditures

The ninth hypothesis presented in the previous chapter stated that the indicators of democratization will be more strongly associated with government expenditures for Norway than for Sweden. Table 5-9 shows that this is not the case: The stronger correlations are almost evenly divided between the two countries, with six favoring Norway and four favoring Sweden. However, all of the correlations are low, and all of the ones that favor Norway are below or nearly below the chosen level of significance, whereas all four of the ones that favor Sweden are well above that value. Representation is consistently stronger for Norway, although the correlations are not significant; whereas for Sweden, Enfranchisement is more strongly related to every class of expenditure except Health. Sweden shows higher autocorrelation in all but two cases, Enfranchisement versus Total and Health Expenditures. But once again, all of the relationships are severely autocorrelated, so that the ninth hypothesis cannot be accepted for the total time period on the basis of simple linear relationships among the indicators of democratization and government expenditures.

Table 5-9

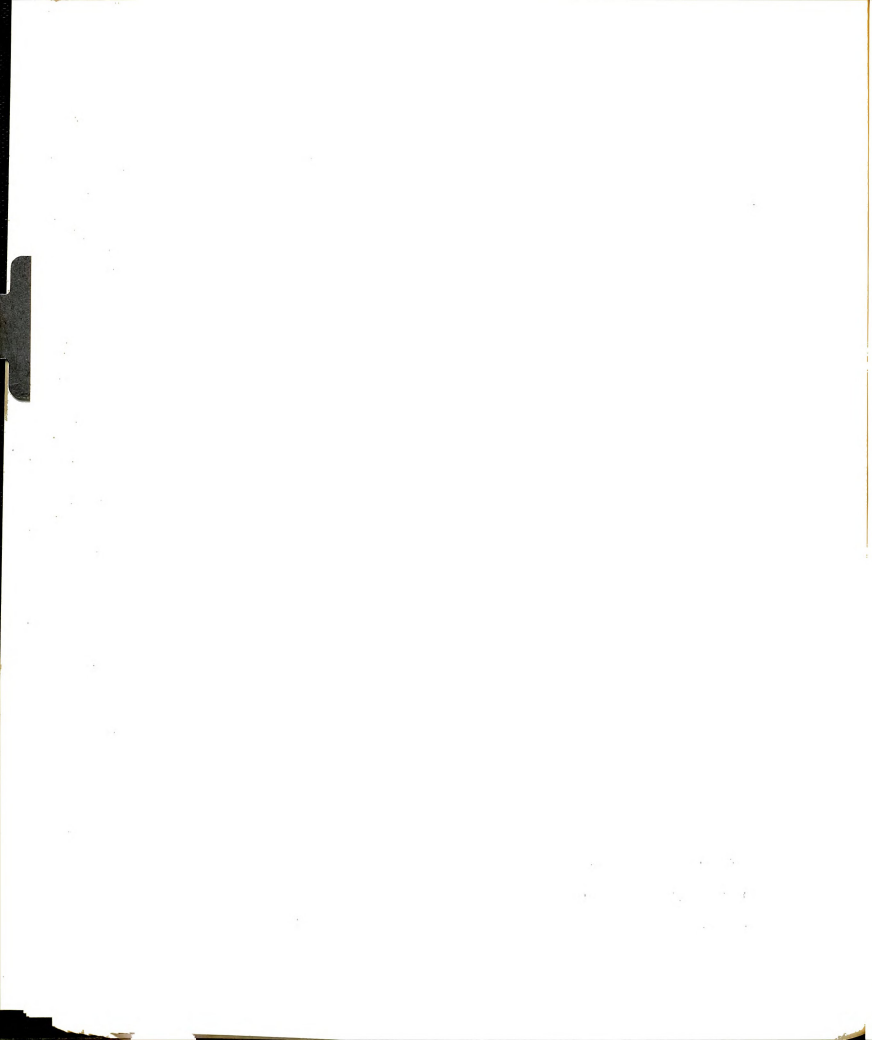
Democratization and Government Expenditures, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures	Democratization			
	Enfranchisement		Representation	
	Norway	Sweden	Norway	Sweden
Total	0.673 (0.203)	0.735 (0.269)	0.612 (0.225)	0.488 (0.147)
Non- defense	0.695 (0.236)	0.703 (0.216)	0.640 (0.250)	0.459 (0.130)
Health	0.686 (0.230)	0.598 (0.255)	0.636 (0.223)	0.366 (0.174)
Education	0.560 (0.310)	0.719 (0.262)	0.550 (0.308)	0.471 (0.157)
Welfare	0.641 (0.241)	0.719 (0.219)	0.590 (0.266)	0.434 (0.122)

#### 10. Economic Wealth and Government Expenditures

The tenth hypothesis presented in the previous chapter stated that there will be no difference between Norway and Sweden in the strength of association between the indicators of economic wealth and government expenditures. Table 5-10 shows that this does not seem to be true: Three acceptable relationships emerge, two of which are Swedish; and all of the correlations in the table, although all very strong and not substantially different, consistently favor Sweden. Except for Health Expenditures, all of the Swedish relationships are also consistently less autocorrelated, and the one acceptable relationship for Norway, involving Non-defense Expenditures, has a





Durbin-Watson Statistic that is barely above the critical value of 1.32. Thus, the tenth hypothesis cannot be accepted for the total time period on the basis of the simple linear relationships between economic wealth and government expenditures.

Table 5-10

Economic Wealth and Government Expenditures, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Gross National Product per Capita	Government Expenditures				
	Total	Non- defense	Health	Education	Welfare
Norway	0.968 (1.077)	0.968 (1.352)*	0.973 (0.931)	0.929 (0.623)	0.939 (0.963)
Sweden	0.981 (1.210)	0.995 (2.032)*	0.985 (0.806)	0.992 (1.480)*	0.977 (1.102)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

The next four hypotheses focus upon the impacts of government policy; and thus government expenditures, personnel services, and measures of objective security are grouped into sectors. The health sector consists of Health Expenditures, Doctors, and Infant Mortality and the Death Rate. The education sector consists of Education Expenditures, Teachers, and the Pupil Rate. The welfare sector consists of Welfare Expenditures and the Relief Rate: No measure of welfare personnel was available. Only relationships among indicators in the same sector were analyzed.

## 11. Government Expenditures and Personnel Services

The eleventh hypothesis presented in the previous chapter stated that there will be no difference between Norway and Sweden in the strength of association between government expenditures and the indicators of personnel services. Table 5-11 indicates that this hypothesis cannot be evaluated with the evidence at hand: The health-sector correlations are very similar, although Norway's is very slightly stronger and less autocorrelated; whereas the education-sector correlation is stronger for Sweden but also somewhat more autocorrelated. At any rate, all four relationships are severely autocorrelated; and since there are not enough relationships to show a pattern, the eleventh hypothesis cannot be evaluated for the total time period.

Table 5-11

Government Expenditures and Personnel Services, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures in Sector	Personnel Services	
	Health	Education
Norway	0.930 (0.479)	0.731 (0.203)
Sweden	0.923 (0.340)	0.846 (0.102)

## 12. Government Expenditures and Objective Security

The twelfth hypothesis presented in the previous chapter stated that there will be no difference between Norway and Sweden in the

strength of association between government expenditures and the indicators of objective security. Table 5-12 shows that this is not the case, at least not on the basis of the correlation coefficients alone: Of the four relatively weak correlations, three are substantially stronger and less autocorrelated for Norway than for Sweden. The welfare-sector correlation is vastly stronger, and its Durbin-Watson Statistic is just barely below the critical value of 1.32. The exception is the education sector, where the relationship is substantially stronger and less autocorrelated for Sweden. However, even the correlation for Sweden is far from being statistically significant, so that the pro-Norway pattern still holds. Nevertheless, all of the relationships are relatively weak and severely autocorrelated, so that the twelfth hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of government expenditures and objective security.

Table 5-12

Government Expenditures and Objective Security, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures in Sector	Objective Security			
	Infant Mortality	Death Rate	Pupil Rate	Relief Rate
Norway	-0.816 (0.318)	-0.734 (0.621)	0.310 (0.586)	-0.772 (1.288)
Sweden	-0.666 (0.174)	-0.614 (0.227)	0.435 (0.950)	-0.223 (0.378)



### 13. Personnel Services and Objective Security

The thirteenth hypothesis presented in the previous chapter stated that there will be no difference between Norway and Sweden in the strength of association between the indicators of personnel services and objective security. Table 5-13 shows that this is not the case, at least not on the basis of the correlation coefficients alone: All three are stronger for Norway, although only the education-sector correlation is substantially so. All three are also severely autocorrelated, and Norway's are less autocorrelated than Sweden's, although the education-sector relationship is only slightly so. Thus the thirteenth hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of personnel services and objective security.

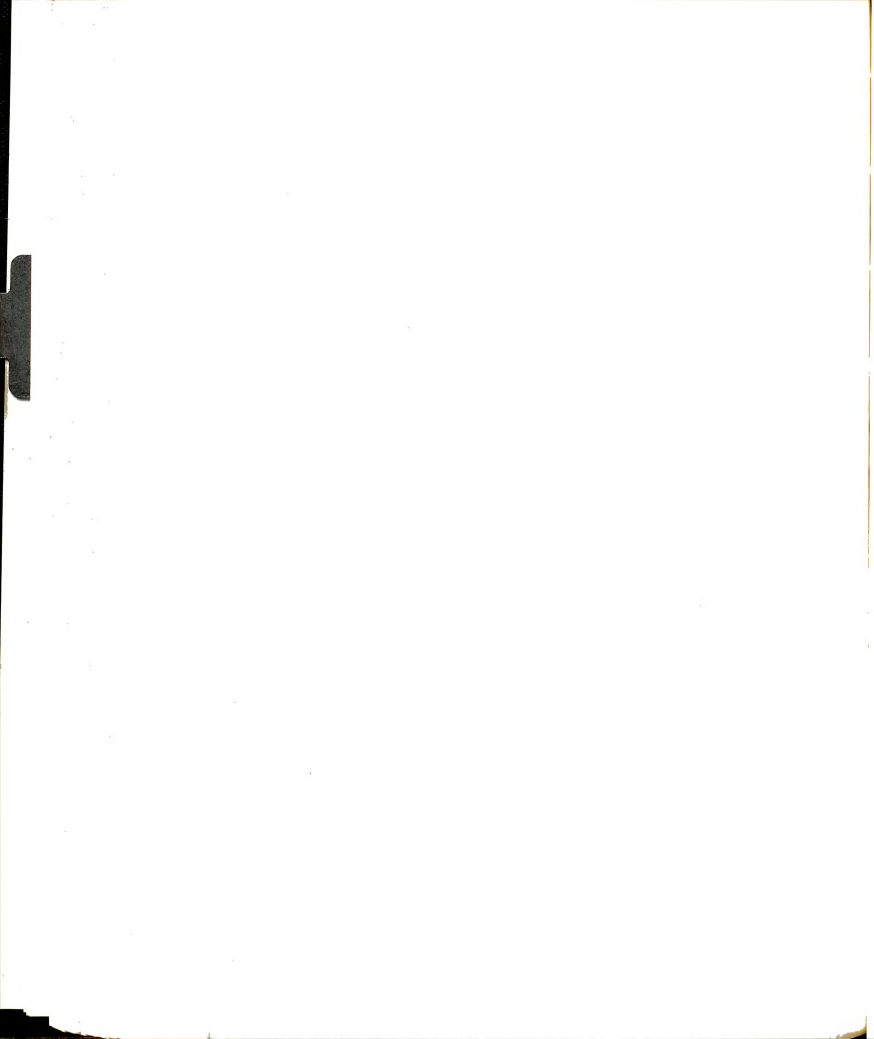
Table 5-13

Personnel Services and Objective Security, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Personnel Services in Sector	Objective Security		
	Infant Mortality	Death Rate	Pupil Rate
Norway	-0.911 (0.456)	-0.848 (1.053)	0.668 (0.962)
Sweden	-0.873 (0.258)	-0.834 (0.379)	0.313 (0.907)

### 14. Economic Wealth and Objective Security

The fourteenth and final hypothesis presented in the previous chapter stated that there will be no difference between Norway and



Sweden in the strength of association between the indicators of economic wealth and objective security. Table 5-14 shows that this is not the case: All four relationships are substantially stronger and less autocorrelated for Norway than for Sweden, although the education-sector correlation is far from being statistically significant and is less autocorrelated for Sweden than for Norway. In addition, all four relationships are also rather weak and severely autocorrelated, so that the fourteenth hypothesis cannot be accepted for the total time period on the basis of linear, bivariate relationships between the indicators of economic wealth and objective security.

Table 5-14

Economic Wealth and Objective Security, Total Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Gross National Product per Capita	Objective Security			
	Infant Mortality	Death Rate	Pupil Rate	Relief Rate
Norway	-0.874 (0.357)	-0.795 (0.823)	0.422 (0.629)	-0.698 (0.923)
Sweden	-0.757 (0.203)	-0.709 (0.292)	0.370 (0.983)	-0.232 (0.382)

## B. Linear, Multiple Relationships

### 1. Procedure

Most of the relationships just presented were severely autocorrelated, rendering them unacceptable. As stated in the previous chapter, the most theoretically palatable method of removing

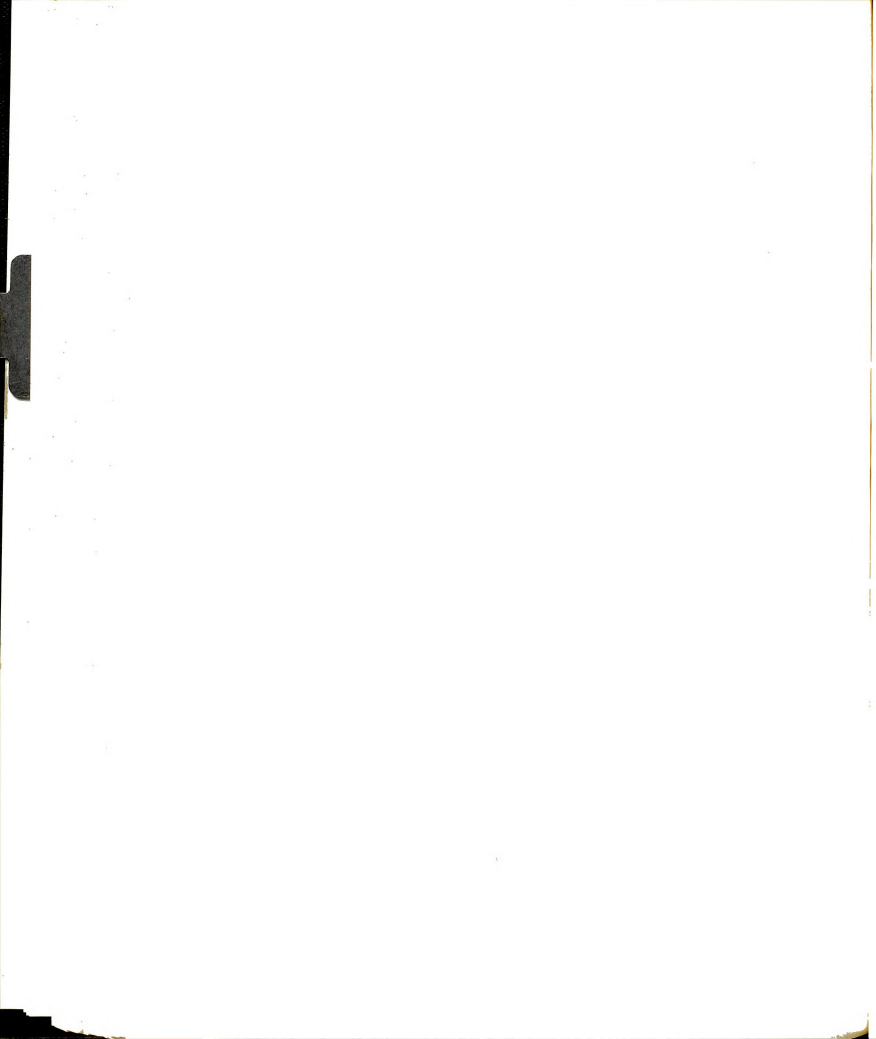




autocorrelation from linear, bivariate relationships is to find the missing variable or variables that are systematically distorting the prediction of the dependent variable from the independent variable. Thus the second step in the search for acceptable relationships on which to base evaluation of the hypotheses involved examining the residual errors in prediction printed by the LS program.

The mobilization model guided the identification of independent-variable candidates for inclusion in multiple regression equations. That is, in the attempt to build multiple equations designed to explain dependent-variable concepts for which the mobilization model specifies two or more concepts as independent variables, only the indicators of those concepts were considered for inclusion in those particular equations. In the case of dependent-variable concepts for which only one concept was specified as independent, only indicators of that concept were considered for inclusion. The problem with the latter procedure is multicollinearity: Indicators of the same concept should correlate very highly with each other, and thus should not be used together as independent variables in the same equation. But multicollinearity can be considered after the equations have been built according to more immediate criteria.

Once the candidates for inclusion were identified according to the mobilization model, the residuals of the relationships between the dependent variable and the independent variables proposed for an equation were compared. If their patterns were even roughly opposite, so that they could be expected to compensate for each other's errors



in predicting the dependent variable, then a multiple regression equation including those variables was tried on the LS program. The equation was again deemed acceptable if the F-test for the proportion of variance explained in the dependent variable was significant at the 0.0005 level and the Durbin-Watson Statistic was not significant at the 0.05 level. The corresponding critical value of the Durbin-Watson Statistic with two independent variables was now 1.24, and the significance level of the proportion of variance explained was again determined directly from the LS program.

## 2. Results and Implications for the Hypotheses

Despite numerous attempted equations, this procedure yielded no acceptable equations for Norway and only one for Sweden: Total Expenditures versus Enfranchisement and Gross National Product per Capita. Table 5-15 presents the statistics for the multiple equation on the first line and the simple and partial statistics for the bivariate relationships between each independent variable and the dependent variable on the second and third lines. It shows that this multiple equation is only a slight improvement over the bivariate relationship between Total Expenditures and Gross National Product per Capita: The correlation is improved by only two one-hundredths; the standard error of estimate is only slightly lower; and the Durbin-Watson Statistic is barely non-significant. The partial correlations, betas, and significance levels indicate that GNP is far more important in the equation than is Enfranchisement.



Table 5-15

Acceptable Multiple Regression Equations, Total Period.

Variables	Multiple and Simple Statistics				Partial Statistics		
	Durbin-Watson Statistics	Multicollinearity and Simple Correlations	Multiple Correlation and Variance Explained	Standard Errors	Partial Correlations	Beta Weights	Significance Levels
N O R W A Y							
No Acceptable Equations							
S W E D E N							
<u>Total Expenditures</u>	1.251	0.694	0.984	22.45			0.0005
Enfranchisement	0.269	0.735	0.968	82.65	0.386	0.105	0.051
GNP per Capita	1.210	0.981		23.85	0.964	0.908	0.0005

These results do not change the evaluation of the ninth and tenth hypotheses: Norway still does not show a stronger relationship between democratization and government expenditures; and the one acceptable equation bolsters Sweden's stronger relationship between economic wealth and government expenditures, thus further rejecting the hypothesis of no difference between the two countries for that relationship.

## II. Acceptable Relationships

Figure 5-1 summarizes the acceptable relationships established for the total time period on the basis of both bivariate and multivariate linear patterns of correlation and autocorrelation. Again, a relationship was deemed acceptable if the F-test for the proportion of variance explained in the dependent variable was significant at the 0.0005 level and the Durbin-Watson Statistic was not significant at the 0.05 level. This means that the acceptable relationships had significant correlation and significant lack of autocorrelation. The major dependent-variable concepts of the mobilization model are listed above their indicators that can be explained by the listed independent variables. The first striking feature of this figure is that Norway has eight acceptable relationships, whereas Sweden has only five. This suggests that although the countries were roughly equal in number of stronger relationships, the Swedish data must have been more autocorrelated.

The second interesting feature of this figure is that only two relationships are duplicated: Revenue versus Investment; and





Figure 5-1. Acceptable Relationships, Total Period.

N O R W A Y		S W E D E N	
Dependent Variable	Independent Variables	Dependent Variable	Independent Variables
Political Mobilization			
None		None	
Economic Wealth			
None		None	
Democratization			
None		None	
Government Penetration			
Revenue Civil Service	Investment Investment	Revenue	Investment
Government Expenditures			
Total Non-defense Non-defense Non-defense Welfare Welfare	Civil Service Revenue Civil Service GNP per Capita Revenue Civil Service	Total Non-defense Health Education	Enfranchisement, GNP per Capita GNP per Capita Revenue GNP per Capita
Objective Security			
None		None	



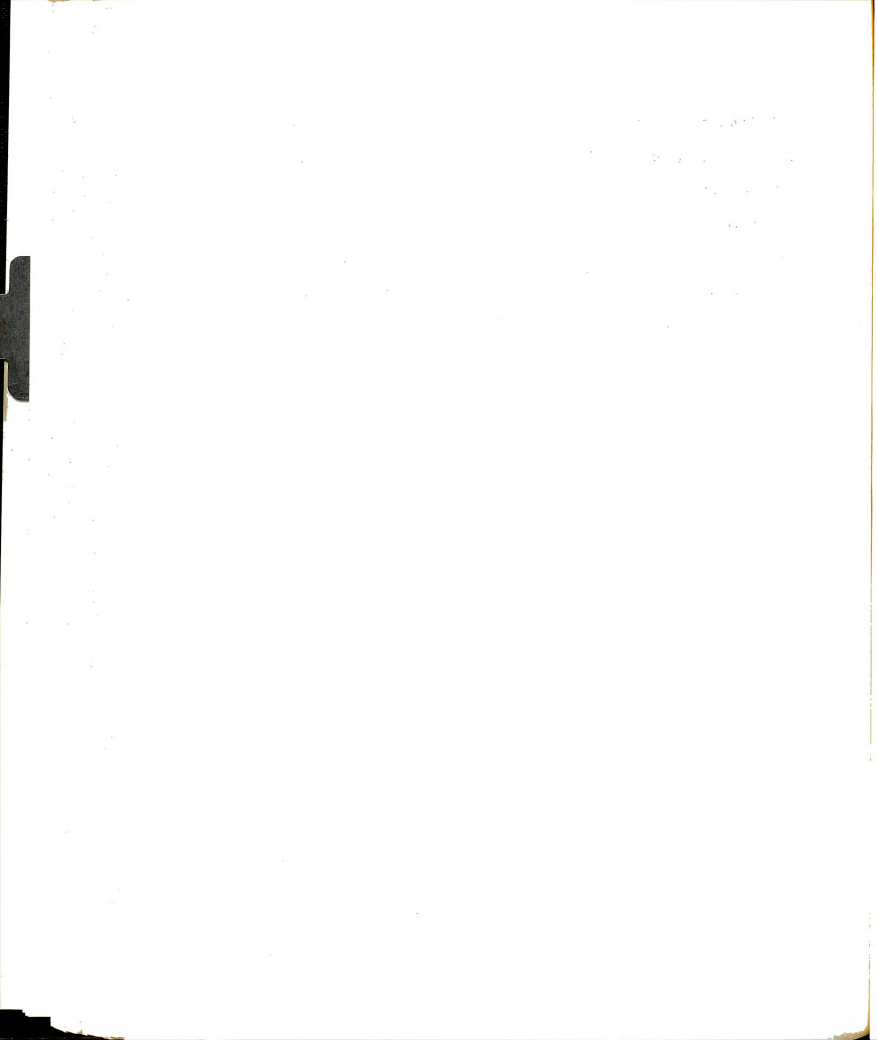
Non-defense Expenditures versus Gross National Product per Capita. This should indicate that there are significant differences between the two countries. The most noticeable difference is the appearance of Civil Service as both an independent and dependent variable in the Norway column, and its absence in the Sweden column. Similarly, Welfare Expenditures appears in the Norway column but not in the Sweden column, whereas Health and Education Expenditures appear in the Sweden column but not in the Norway column. Gross National Product per Capita appears relatively more frequently in the Sweden column than in the Norway column, and Enfranchisement only improves Sweden's relationship between GNP and Total Expenditures enough to make it barely acceptable.

But perhaps the most significant feature of Figure 5-1 is that, except for Civil Service and Enfranchisement, all of the acceptable relationships involve economic, monetary measures: None of them involve social or political measures. The Price Index is the only economic measure not involved in an acceptable relationship. Furthermore, Civil Service can easily be conceptualized as part of a milieu of measures indicating the relative size of the central government in the nation's economy, including Revenue and Expenditures. And it has already been pointed out that Enfranchisement is useful only for removing just enough of the autocorrelation from Sweden's relationship between GNP and Total Expenditures to make it acceptable.

This feature may mean one or both of two things. First, economic measures may be more reliable than social and political measures at



this level of analysis, perhaps because of the common monetary unit of measurement, so that they correlate more readily without significant autocorrelation. Second, economic measures may be more interrelated than social and political measures because they are part of a separate and more cohesive milieu of phenomena, whereas socio-political phenomena are interrelated in more ambiguous and complex ways. But such interpretations must await further analysis.



CHAPTER SIX  
ANALYSIS OF  
THE POST-1905 TIME PERIOD

As mentioned in Chapter Four, the third step in the search for acceptable linear relationships involves splitting the total time period into shorter portions in order to reduce the variance in the systematic disturbance causing the autocorrelation. As with finding additional independent variables, the search for temporal cutting points must be guided by theory as well as by such practical considerations as the point at which the autocorrelated residuals change sign, the number of observations included in the chosen time portion, or the measures available during that portion.

In this respect we were quite fortunate, because one of the most theoretically justifiable cutting points for both Norway and Sweden happens to coincide with the point at which some new measures become available. Norway and Sweden were joined in a loose union until 1905, about the same time that the national federations of labor had begun to gather statistics on phenomena associated with organized labor. Two such measures, Labor Conflict and Unemployment, were included in our set of data but were heretofore not included in the analysis because they were unavailable before 1902. Furthermore,

visual examination of plots of the time-series (see the Appendix) indicates that both countries did not really begin developing economically, socially, and politically until the early part of the Twentieth Century. That is, there is very little variance in the series before then. Finally, in many of the bivariate relationships the autocorrelated residuals change sign at some point in the first decade of the Twentieth Century.

Thus, 1905 was chosen as the temporal cutting point, and since that left only ten observations in the early portion, analysis was performed only on the 17 observations in the post-1905 period. The lower number of observations changed the critical values to about 0.75 for the correlation coefficient and 1.13 for the Durbin-Watson Statistic, given the same levels of significance as before. However, the significance level for the proportion of variance explained in the dependent variable was again determined directly from the LS program.

## I. Results

### A. Linear, Bivariate Relationships

#### 1. Social Mobilization and Political Mobilization

Table 6-1 casts further doubt on the first hypothesis: Four acceptable relationships emerge, compared with none for the total time period, and three of those favor Sweden. Overall, the stronger correlations split evenly between the two countries at twelve apiece, and Norway shows eight relationships that are substantially stronger, while Sweden shows seven. The correlations that are not statistically





Table 6-1

Social Mobilization and Political Mobilization, Post 1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Social Mobilization	Political Mobilization							
	Union Membership		Labor Conflict		Left Vote		Voter Turnout	
	Norway	Sweden	Norway	Sweden	Norway	Sweden	Norway	Sweden
Total Population	0.961 (0.692)	0.969 (0.462)	-0.440 (1.697)	-0.517 (2.433)	0.915 (0.755)	0.784 (0.379)	0.832 * (1.211)	0.879 * (1.796)
Agricultural Employment	-0.961 (0.672)	-0.953 (0.368)	0.511 (1.843)	0.490 (2.349)	-0.840 (0.473)	-0.723 (0.325)	-0.767 (0.913)	-0.872 * (1.726)
Gross Investment	0.951 (0.596)	0.766 (0.224)	-0.569 (1.818)	-0.342 (2.028)	0.792 (0.587)	0.452 (0.239)	0.759 (0.672)	0.721 (1.048)
Urban Population	0.836 (0.411)	0.958 (0.399)	-0.496 (1.880)	-0.494 (2.345)	0.613 (0.364)	0.728 (0.349)	0.569 (0.494)	0.881 * (1.860)
Unemployment	-0.308 (0.103)	-0.206 (0.080)	0.547 (1.696)	-0.075 (1.775)	0.015 (0.148)	0.156 (0.168)	0.109 (0.386)	-0.243 (0.477)
Price Index	0.840 (0.472)	0.856 (0.456)	-0.384 (1.634)	-0.434 (2.279)	0.712 (0.453)	0.628 (0.433)	0.543 (0.669)	0.734 (1.331)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

significant are also split evenly at six apiece. Four of the non-significant Norwegian correlations are in the substantially-stronger category, compared with three for Sweden.

Most of the non-significant correlations involve either of the two new variables added to the relationship between social mobilization and political mobilization for the post-1905 period, Labor Conflict and Unemployment. The only other non-significant correlations are between the Price Index and Left Vote, which is stronger for Norway, and Voter Turnout, which is stronger for Sweden; and between Urban Population and Left Vote, which is also stronger for Sweden. All of the correlations for the two new variables are statistically non-significant, although the ones involving Labor Conflict are substantially non-autocorrelated, attributable to that variable's wild fluctuations. (See Figure A-3 in the Appendix.) Interestingly, the relationship between these two indicators is almost non-existent for Sweden and fairly strongly positive, although still far from significant, for Norway. Finally, the relationships between these two indicators and the other indicators of social and political mobilization are all negative except for Unemployment and Left Vote for both countries, and Unemployment and Turnout for Norway. Thus, neither of these new indicators is very useful.

As for the consistency of the other indicators, Gross Domestic Investment again consistently favors Norway. Voter Turnout again consistently favors Sweden in every case except Investment, and there the difference between the two countries is slight. Urban



Population also consistently favors Sweden in every case except Labor Conflict, and there the difference between the two countries is negligible.

Compared with the total time period, the extent of autocorrelation is generally reduced; and all of the Swedish relationships involving Union Membership and Left Vote are consistently more autocorrelated, with the single exception of Unemployment versus Left Vote. However, only the six relationships involving Total Population, Agricultural Employment, and Gross Domestic Investment show substantially more autocorrelation. Besides, all eleven of the relationships are significantly autocorrelated. For Norway, all of the relationships involving Labor Conflict and Voter Turnout are substantially more autocorrelated, but only five of these, Voter Turnout versus every social mobilization indicator except Total Population, are significantly autocorrelated.

No clear pattern of association between correlation and autocorrelation emerges, but the pattern of non-significant autocorrelation is clear: All four of the acceptable relationships in Table 6-1 involve Voter Turnout, and three of these are Swedish. A fourth Swedish relationship, Turnout versus the Price Index, just misses being acceptable because its correlation coefficient is barely non-significant. The only two indicators of social mobilization which do not relate acceptably to Turnout are Unemployment, which has been shown to be useless, and Gross Domestic Investment, which has heretofore tended to work better for Norway. Even the



relationship that is acceptable for both countries, Turnout versus Total Population, is stronger for Sweden, although not substantially. All of this evidence indicates that the first hypothesis still cannot be accepted: If anything, the results so far indicate a stronger relationship between social and political mobilization for Sweden than for Norway.

## 2. Social Mobilization and Economic Wealth

Table 6-2 indicates that the evidence relevant for the second hypothesis is still ambiguous; but the one acceptable relationship does favor Norway.

Table 6-2

Social Mobilization and Economic Wealth, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Gross National Product per Capita	Social Mobilization					
	Total Popula- tion	Agricul- tural Employ- ment	Gross Domestic Invest- ment	Urban Popula- tion	Unem- ployment	Price Index
Norway	0.973 (0.613)	-0.990 * (1.259)	0.986 (0.917)	0.911 (0.481)	-0.255 (0.124)	0.874 (0.665)
Sweden	0.916 (0.398)	-0.947 (0.653)	0.992 (0.466)	0.946 (0.370)	0.451 (0.270)	0.955 (0.931)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

Compared with the total time period, all of the correlations are stronger except Investment for Norway, and all are less autocorrelated except the Price Index for Norway. Overall, the correlations are

stronger for Sweden than for Norway in four of the six relationships, but four of the six are also substantially more autocorrelated for Sweden. Of the six relationships, only two are appreciably stronger for either country: Unemployment and the Price Index. Both favor Sweden and show more autocorrelation for Norway, but the correlations for Unemployment in both countries are once again far from being statistically significant. Although the one acceptable relationship shows a correlation that is not substantially stronger for Norway, the second hypothesis will be very tentatively accepted for the post-1905 time period.

### 3. Political Mobilization and Democratization

Table 6-3 lends some support to the third hypothesis: The two acceptable relationships both favor Norway. Compared with the total time period, the correlations are weaker except for Norway's relationships between Enfranchisement and Left Vote, Enfranchisement and Turnout, and Representation and Turnout. Overall, the correlations involving Enfranchisement are all stronger for Sweden, except in the case of Voter Turnout. This is ironic considering that most relationships involving Turnout have heretofore favored Sweden. But the latter correlation is barely non-significant, and the difference between the two countries there is very slight. On the other hand, all of the correlations involving Representation are stronger for Norway, except in the case of Labor Conflict, whose correlations are highly non-significant anyway. Thus, the only statistically significant correlations are Enfranchisement versus both Union





Membership and Left Vote for both countries, but favoring Sweden; and the two acceptable relationships, Representation versus both Left Vote and Voter Turnout for Norway.

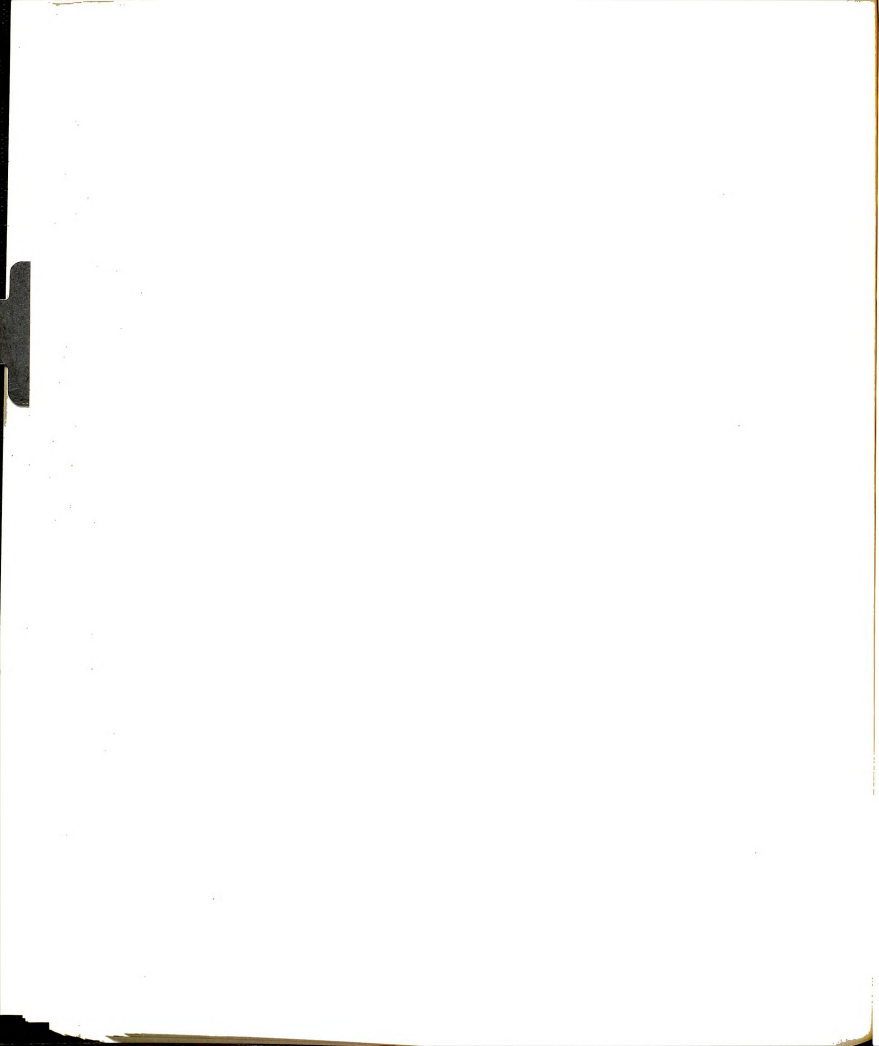
Table 6-3

Political Mobilization and Democratization, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Political Mobilization	Democratization			
	Enfranchisement		Representation	
	Norway	Sweden	Norway	Sweden
Union Membership	0.768 (0.354)	0.868 (0.751)	0.634 (0.806)	0.165 (0.762)
Labor Conflict	-0.168 (0.211)	-0.529 (1.026)	-0.121 (0.491)	-0.187 (0.704)
Left Vote	0.909 (1.097)	0.921 (0.865)	0.832 * (1.247)	0.538 (0.955)
Voter Turnout	0.721 (0.735)	0.714 (0.884)	0.836 * (1.834)	0.393 (0.681)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

Compared with the total time period, the extent of autocorrelation is reduced in all of the relationships. The more strongly correlated relationships are also considerably less autocorrelated in every case except Enfranchisement versus Left Vote, which is more autocorrelated for Sweden, and Enfranchisement versus Voter Turnout, which is more autocorrelated for Norway. Although the correlations for the two acceptable relationships are relatively low, they are substantially



stronger for Norway than for Sweden. Thus, the third hypothesis will be very tentatively accepted for the post-1905 time period.

#### 4. Social Mobilization and Democratization

Table 6-4 lends no further support to the fourth hypothesis. Compared with the total time period, all of the relationships are weaker but less autocorrelated. All of the twelve relationships are still severely autocorrelated, and only three of them are statistically significant. Furthermore, although eight of them are stronger for Norway, none of these is statistically significant. All six of the correlations involving Representation are substantially stronger for Norway except Urban Population, which is only somewhat stronger. Enfranchisement versus both Gross Domestic Investment and the Price Index are also stronger for Norway, although the latter is not substantially so. Thus, Representation and Investment continue to favor Norway consistently. Of the four correlations that are stronger for Sweden, only Urban Population is substantially so. But all of them except Unemployment are statistically significant.

Interestingly, the relationships involving Representation are not only stronger for Norway than for Sweden but also substantially more autocorrelated, except for Total Population, which is somewhat more autocorrelated for Sweden. In the relationships involving Enfranchisement, the stronger relationships also tend to be somewhat less autocorrelated, except for Unemployment and the Price Index. But since all of the relationships are not acceptable because

of the extent of autocorrelation, the fourth hypothesis still cannot be accepted.

Table 6-4

Social Mobilization and Democratization, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Social Mobilization	Democratization			
	Enfranchisement		Representation	
	Norway	Sweden	Norway	Sweden
Total Population	0.825 (0.426)	0.829 (0.505)	0.681 (0.815)	0.243 (0.772)
Agricultural Employment	-0.715 (0.325)	-0.776 (0.452)	-0.555 (0.651)	-0.190 (0.761)
Gross Investment	0.662 (0.308)	0.508 (0.306)	0.514 (0.611)	0.048 (0.743)
Urban Population	0.502 (0.248)	0.771 (0.478)	0.260 (0.494)	0.201 (0.760)
Unemployment	0.152 (0.179)	0.172 (0.175)	0.402 (0.376)	0.229 (0.754)
Price Index	0.683 (0.396)	0.632 (0.588)	0.340 (0.575)	0.142 (0.782)

##### 5. Democratization and Government Penetration

Table 6-5 lends no further support to the fifth hypothesis. Compared with the total time period, all of the relationships are weaker, and all but Sweden's relationships involving Representation are less autocorrelated. All of the relationships are severely autocorrelated and statistically non-significant. But all are substantially stronger and less autocorrelated for Norway, except for

Enfranchisement versus Revenue, which is slightly less autocorrelated for Sweden. Thus, the fifth hypothesis still cannot be accepted.

Table 6-5

Democratization and Government Penetration, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Democratization	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Enfranchisement	0.661 (0.268)	0.514 (0.271)	0.661 (0.273)	0.497 (0.193)
Representation	0.491 (0.301)	0.047 (0.151)	0.547 (0.304)	0.026 (0.108)

#### 6. Social Mobilization and Government Penetration

Table 6-6 strengthens the support for the sixth hypothesis: A fourth acceptable relationship, Agricultural Employment versus Revenue, is added to those uncovered in the total time period, and that relationship is Norwegian. Compared with the total time period, all of the relationships are weaker except Norway's relationships involving Gross Domestic Investment and the Price Index, and all of the relationships are less autocorrelated. Overall, all of the correlations favor Norway, except those involving either Unemployment or the Price Index, plus the relationship between Urban Population and Civil Service, and the one relationship that is acceptable for both countries, Investment versus Revenue. None of the correlations that favor Norway are substantially stronger, and only the

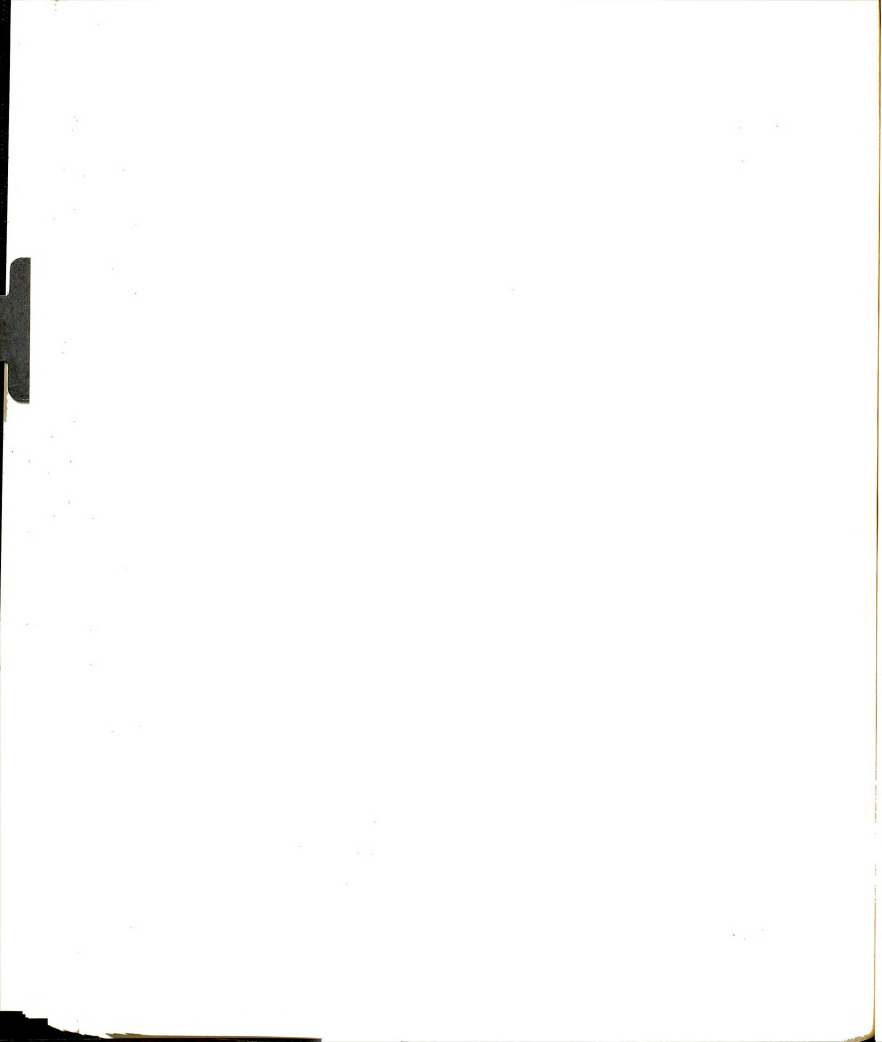


Table 6-6

Social Mobilization and Government Penetration, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Social Mobilization	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Total Population	0.939 (0.687)	0.869 (0.365)	0.952 (0.452)	0.875 (0.207)
Agricultural Employment	-0.977 * (1.486)	-0.909 (0.546)	-0.981 (0.984)	-0.908 (0.381)
Gross Investment	0.982 * (1.953)	0.999 * (1.867)	0.973 * (1.815)	0.945 (0.611)
Urban Population	0.946 (0.636)	0.908 (0.338)	0.888 (0.876)	0.916 (0.220)
Unemployment	-0.381 (0.321)	-0.473 (0.348)	-0.378 (0.195)	-0.594 (0.425)
Price Index	0.899 (0.815)	0.922 (0.865)	0.875 (0.422)	0.890 (0.703)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

statistically non-significant relationships involving Unemployment are substantially stronger for Sweden. The extent of autocorrelation is considerably lower in every stronger relationship except Urban Population versus Civil Service. But on the basis of the two relationships that are both acceptable and stronger for Norway and not for Sweden, Agricultural Employment versus Revenue and Investment versus Civil Service, the sixth hypothesis can be accepted with a little more assurance.



## 7. Political Mobilization and Government Penetration

Table 6-7 casts further doubt on the seventh hypothesis: The one acceptable relationship, Union Membership versus Civil Service, is Norwegian; and it is substantially stronger than its Swedish counterpart, indicating a difference between the two countries.

Table 6-7

Political Mobilization and Government Penetration, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Political Mobilization	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Union Membership	0.954 (0.991)	0.773 (0.334)	0.965 * (1.442)	0.797 (0.249)
Labor Conflict	-0.576 (0.704)	-0.345 (0.406)	-0.579 (0.810)	-0.303 (0.320)
Left Vote	0.786 (0.529)	0.454 (0.226)	0.840 (0.306)	0.410 (0.177)
Voter Turnout	0.719 (0.553)	0.727 (0.782)	0.748 (0.805)	0.775 (0.750)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

The differences between the total time period and the post-1905 period in terms of the strength of the correlations is mixed; but all of the post-1905 relationships are less autocorrelated. Overall, the relationships involving Union Membership, Labor Conflict, or Left Vote are substantially and consistently stronger and less autocorrelated for Norway than for Sweden, although the ones



involving Labor Conflict are not statistically significant. Again, Voter Turnout favors Sweden, although the differences are very slight. Furthermore, the relationship for Revenue is just barely non-significant, but substantially less autocorrelated for Sweden than for Norway; and the relationship for Civil Service, although barely significant, is more autocorrelated for Sweden than for Norway. But the one acceptable relationship means that the seventh hypothesis still cannot be accepted.

#### 8. Government Penetration and Government Expenditures

Table 6-8 does not change the earlier assessment of the eighth hypothesis: The relationships between indicators of government

Table 6-8

Government Penetration and Government Expenditures, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures	Government Penetration			
	Revenue		Civil Service	
	Norway	Sweden	Norway	Sweden
Total	0.993 (1.086)	0.963 (0.684)	0.957 * (1.517)	0.943 (0.901)
Non- defense	0.987 * (1.530)	0.987 (0.941)	0.962 * (1.678)	0.969 (0.608)
Health	0.918 (0.719)	0.997 * (2.446)	0.893 (0.851)	0.955 (0.710)
Education	0.839 (0.634)	0.988 (0.758)	0.813 (0.725)	0.933 (0.532)
Welfare	0.960 * (2.063)	0.953 (0.769)	0.933 * (1.721)	0.973 (0.674)

\*Correlation significant at 0.0005 and Durbin-Watson statistic not significant at 0.05.

penetration and government expenditures for the post-1905 period are not very different from the same relationships for the total time period. For all of the relationships involving Revenue and two of the relationships involving Civil Service, the differences in strength of correlation are reduced slightly. Furthermore, the extent of autocorrelation in the relationships is generally reduced. But five of the six acceptable relationships are still Norwegian, and thus the eighth hypothesis still cannot be accepted.

#### 9. Democratization and Government Expenditures

Table 6-9 does not change the earlier assessment of the ninth hypothesis: Compared with the total time period, all of the

Table 6-9

Democratization and Government Expenditures, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures	Democratization			
	Enfranchisement		Representation	
	Norway	Sweden	Norway	Sweden
Total	0.635 (0.274)	0.633 (0.292)	0.452 (0.282)	0.083 (0.121)
Non- defense	0.648 (0.320)	0.602 (0.236)	0.472 (0.310)	0.078 (0.108)
Health	0.621 (0.299)	0.511 (0.275)	0.464 (0.284)	0.041 (0.162)
Education	0.519 (0.375)	0.619 (0.284)	0.372 (0.345)	0.085 (0.137)
Welfare	0.665 (0.359)	0.648 (0.260)	0.512 (0.377)	0.068 (0.102)

relationships are weaker and now statistically non-significant, although all but Sweden's relationships involving Representation are also less autocorrelated. But the fact that none of the relationships are acceptable means that the ninth hypothesis still cannot be accepted.

#### 10. Economic Wealth and Government Expenditures

Table 6-10 does not change the earlier assessment of the tenth hypothesis: Compared with the total time period, all of the relationships for Sweden except the one involving Health Expenditures are weaker; but all are also less autocorrelated.

Table 6-10

Economic Wealth and Government Expenditures, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Gross National Product per Capita	Government Expenditures				
	Total	Non- defense	Health	Education	Welfare
Norway	0.963 * (1.193)	0.958 * (1.409)	0.965 (0.924)	0.917 (0.633)	0.934 (1.128)
Sweden	0.976 * (1.235)	0.994 * (2.078)	0.988 (1.124)	0.990 * (1.503)	0.972 (1.124)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

Two acceptable relationships, involving Total Expenditures for both countries, are added to the three remaining from the total time period. The relationships involving Total and Non-defense Expenditures



are acceptable for both countries, and those involving Welfare Expenditures just barely miss being acceptable for both countries. But the relationship involving Education Expenditures is acceptable only for Sweden, and the relationship involving Welfare Expenditures just misses being acceptable for Sweden. Furthermore, all of the correlations in the table are stronger for Sweden, although most of them not substantially. Nevertheless, the relationships in general seem to favor Sweden, so that the tenth hypothesis still cannot be accepted.

#### 11. Government Expenditures and Personnel Services

Table 6-11 sheds no further light on the eleventh hypothesis: Compared with the total time period, all of the relationships except for the health sector are stronger, and all are less autocorrelated. Although Sweden's relationships are now consistently stronger and less autocorrelated than Norway's, none are acceptable because of severe autocorrelation, so that the eleventh hypothesis still cannot be accepted.

Table 6-11

Government Expenditures and Personnel Services, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures in Sector	Personnel Services	
	Health	Education
Norway	0.925 (0.560)	0.792 (0.565)
Sweden	0.941 (0.492)	0.902 (0.369)

## 12. Government Expenditures and Objective Security

Table 6-12 does not change the earlier assessment of the twelfth hypothesis: The differences between the total period and the post-1905 period in terms of the strength of correlation are mixed, and the relationships are all less autocorrelated for the post-1905 period. However, only the relationships involving Infant Mortality are statistically significant, and none are acceptable because of significant autocorrelation. Thus, the twelfth hypothesis still cannot be accepted.

Table 6-12

Government Expenditures and Objective Security, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Government Expenditures in Sector	Objective Security			
	Infant Mortality	Death Rate	Pupil Rate	Relief Rate
Norway	-0.871 (0.388)	-0.661 (0.937)	-0.063 (1.291)	-0.741 (1.298)
Sweden	-0.758 (0.247)	-0.669 (0.276)	0.520 (1.003)	-0.328 (0.392)

## 13. Personnel Services and Objective Security

Table 6-13 does not change the earlier assessment of the thirteenth hypothesis: Although the pattern of difference is mixed, there is only one acceptable relationship, and it is Norwegian. The differences between the total period and the post-1905 period in terms of the strength of correlation are also mixed, and the relationships are all less autocorrelated for the post-1905 period. The relationships for



the education sector for both countries are not statistically significant; the difference between the countries in the relationships involving Infant Mortality are slight; and the acceptable relationship involving the Death Rate for Norway is just barely acceptable and actually shows a weaker correlation than for Sweden. All of this evidence argues for no significant difference between the countries. Thus, the thirteenth hypothesis still cannot be accepted.

Table 6-13

Personnel Services and Objective Security, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Personnel Services in Sector	Objective Security		
	Infant Mortality	Death Rate	Pupil Rate
Norway	-0.951 (0.377)	-0.763 * (1.317)	-0.112 (1.291)
Sweden	-0.921 (0.341)	-0.850 (0.428)	0.551 (0.992)

\*Correlation significant at 0.0005 and Durbin-Watson Statistic not significant at 0.05.

#### 14. Economic Wealth and Objective Security

Table 6-14 does not change the earlier assessment of the fourteenth hypothesis: Although the pattern of differences is mixed, there are still no acceptable relationships in the table. The differences between the total period and the post-1905 period in terms of the strength of correlation are also mixed, and the relationships



are all less autocorrelated for the post-1905 period. But only the relationships involving Infant Mortality are statistically significant, and there Norway's is substantially stronger than Sweden's. Furthermore, there is only one relationship, involving the Death Rate for Norway, that comes close to being acceptable. Thus, the fourteenth hypothesis still cannot be accepted.

Table 6-14

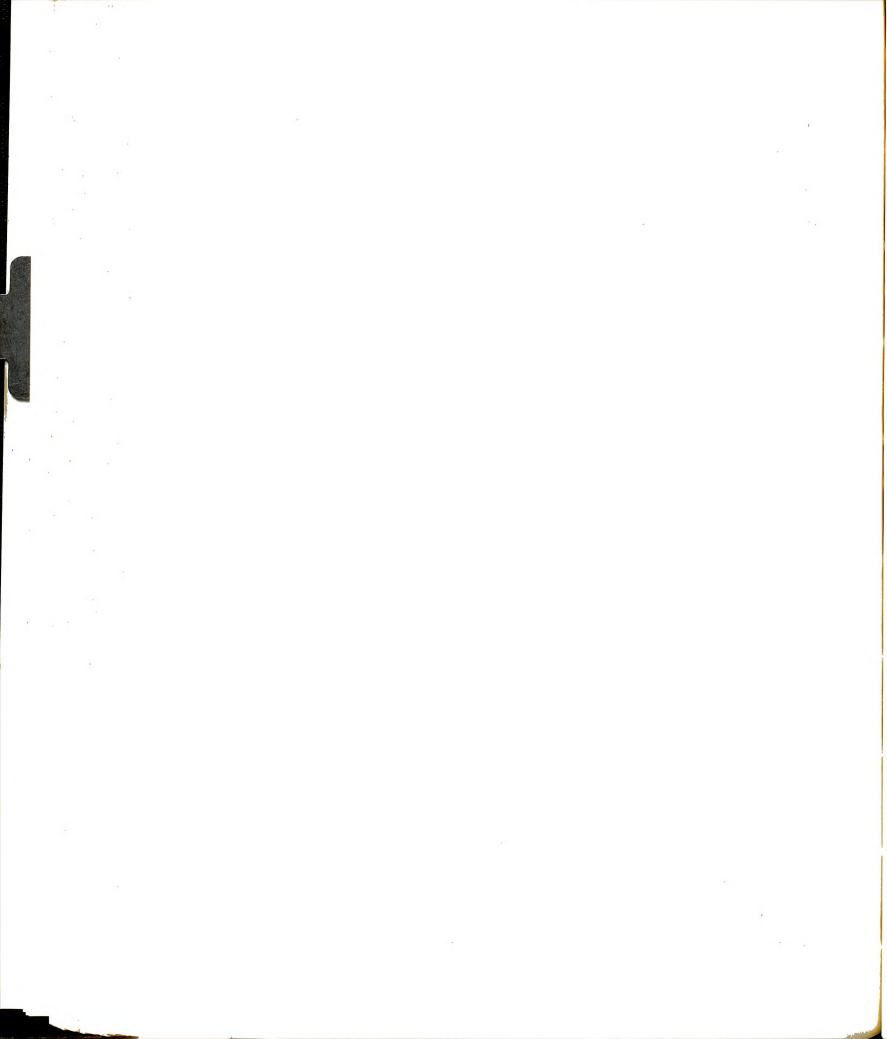
Economic Wealth and Objective Security, Post-1905 Period.  
Correlation Coefficients and Durbin-Watson Statistics.

Gross National Product per Capita	Objective Security			
	Infant Mortality	Death Rate	Pupil Rate	Relief Rate
Norway	-0.939 (0.407)	-0.734 (1.182)	-0.250 (1.287)	-0.657 (0.943)
Sweden	-0.829 (0.277)	-0.743 (0.367)	0.445 (1.041)	-0.349 (0.403)

## B. Linear, Multiple Relationships

### 1. Procedure

In order to attempt to remove the autocorrelation from the relationships for the post-1905 period, the procedure previously outlined in Section B of Chapter Five was again employed to try to find the missing variable causing the systematic disturbance in each autocorrelated relationship. Again, the mobilization model guided the identification of independent-variable candidates for inclusion in such multiple regression equations. Then followed a comparison of the autocorrelated pattern of the residuals for the relationship



between each proposed independent variable and the particular dependent variable needing explanation. If their patterns were even roughly opposite, so that they could be expected to compensate for each other's errors in predicting the dependent variable, then a multiple regression equation including those variables was tried on the LS program. The equation was again deemed acceptable if the F-test for the proportion of variance explained in the dependent variable was significant at the 0.0005 level and the Durbin-Watson Statistic was not significant at the 0.05 level. The corresponding critical value of the Durbin-Watson Statistic with two independent variables was now 1.02, and the significance level of the proportion of variance explained was again determined directly from the LS program.

## 2. Results

Despite numerous attempted equations, this procedure yielded only two acceptable equations for Norway and nine for Sweden. These equations are statistically summarized in Table 6-15, using the same format as in Table 5-15. The first acceptable relationship for Norway is only a slight improvement over the bivariate relationship between Left Vote and Enfranchisement, and shows the effects of high multicollinearity: The standard error of estimate for the multiple equation is actually slightly higher than for the simple bivariate relationship between Left Vote and Enfranchisement. This can be attributed to the high correlation, 0.915, between the two independent variables in the multiple equation. This correlation is higher than

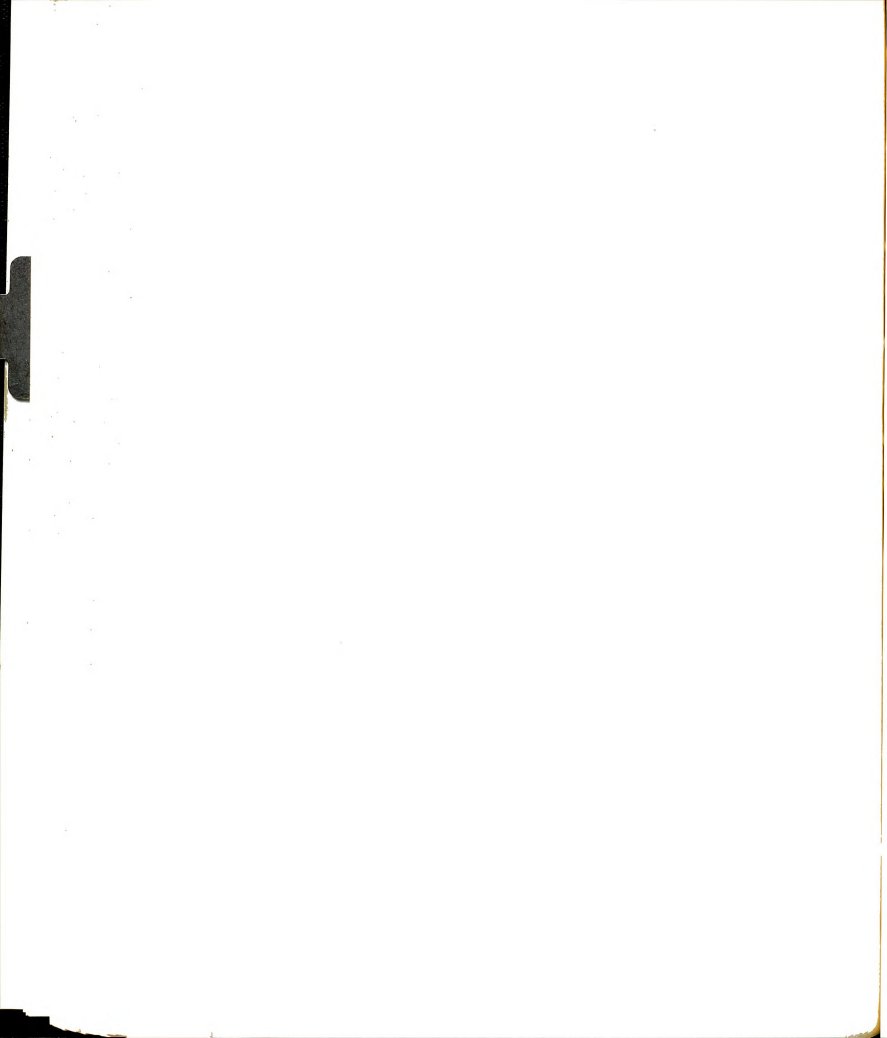


Table 6-15  
Acceptable Multiple Regression Equations, Post-1905 Period.

Variables	Multiple and Simple Statistics				Partial Statistics		
	Durbin-Watson Statistics	Multicollinearity and Simple Correlations	Multiple Correlation and Variance Explained	Standard Errors	Partial Correlations	Beta Weights	Significance Levels
N O R W A Y							
<u>Enfranchisement</u>	1.140	0.915	0.910	0.072			0.0005
<u>Total Population</u>	0.426	0.825	0.827	0.095	-0.042	-0.043	0.878
<u>Left Vote</u>	1.097	0.909		0.070	0.678	0.949	0.004
<u>Revenue</u>	2.398	0.836	0.991	84.1			0.0005
<u>Urban Population</u>	0.636	0.946	0.983	202.0	0.900	0.493	0.0005
<u>Union Membership</u>	0.991	0.954		186.7	0.915	0.542	0.0005
S W E D E N							
<u>GNP per Capita</u>	1.944	0.864	0.999	176.2			0.0005
<u>Gross Investment</u>	0.466	0.997	0.997	427.1	0.992	0.788	0.0005
<u>Total Population</u>	0.398	0.916		1318.9	0.917	0.236	0.0005
<u>GNP per Capita</u>	1.863	0.902	0.999	166.3			0.0005
<u>Gross Investment</u>	0.466	0.997	0.998	427.1	0.989	0.741	0.0005
<u>Urban Population</u>	0.370	0.946		1066.2	0.927	0.278	0.0005
<u>GNP per Capita</u>	1.821	-0.907	0.998	219.0			0.0005
<u>Gross Investment</u>	0.466	0.997	0.996	427.1	0.980	0.749	0.0005
<u>Agric. Employment</u>	0.653	-0.947		1059.8	-0.869	-0.268	0.0005





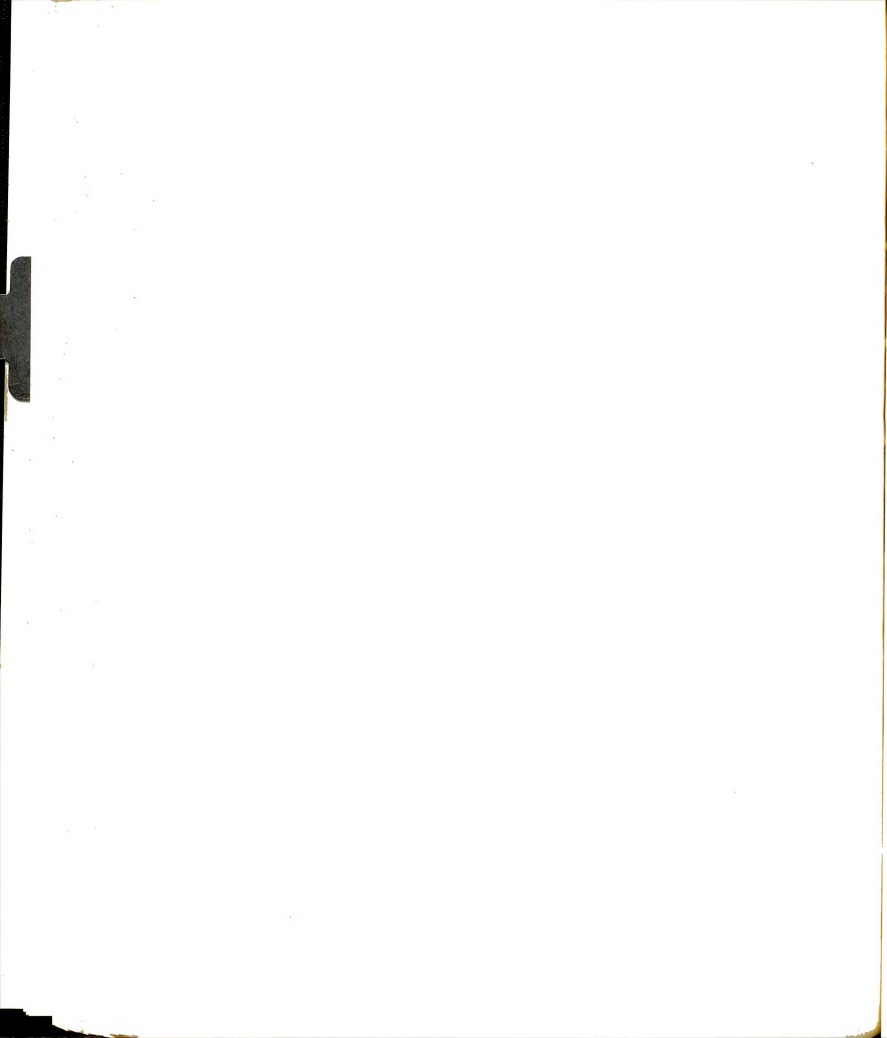
Table 6-15 (continued)

Variables	Multiple and Simple Statistics				Partial Statistics		
	Durbin-Watson Statistics	Multicollinearity and Simple Correlations	Multiple Correlation and Variance Explained	Standard Errors	Partial Correlations	Beta Weights	Significance Levels
<u>Total Expenditures</u>	1.333	0.497	0.962	38.61			
<u>Enfranchisement</u>	0.292	0.633	0.926	105.96	0.571	0.218	0.0005
<u>Civil Service</u>	0.901	0.943		45.44	0.936	0.835	0.0005
<u>Non-defense Expend.</u>	1.402	0.514	0.993	13.15			
<u>Enfranchisement</u>	0.236	0.602	0.987	87.71	0.691	0.129	0.0005
<u>Revenue</u>	0.941	0.987		17.57	0.989	0.921	0.0005
<u>Education Expend.</u>	1.798	0.514	0.996	1.73			
<u>Enfranchisement</u>	0.284	0.619	0.992	15.04	0.829	0.151	0.0005
<u>Revenue</u>	0.758	0.988		2.99	0.994	0.910	0.0005
<u>Welfare Expend.</u>	2.179	0.497	0.992	6.58			
<u>Enfranchisement</u>	0.260	0.648	0.984	37.70	0.828	0.218	0.0005
<u>Civil Service</u>	0.674	0.973		11.33	0.986	0.865	0.0005
<u>Welfare Expend.</u>	1.124	0.584	0.977	10.94			
<u>Enfranchisement</u>	0.260	0.648	0.954	37.70	0.422	0.122	0.0005
<u>GNP per Capita</u>	1.124	0.972		11.66	0.960	0.900	0.0005
<u>Welfare Expend.</u>	1.031	0.514	0.971	12.26			
<u>Enfranchisement</u>	0.260	0.648	0.943	37.70	0.610	0.215	0.0005
<u>Revenue</u>	0.769	0.953		14.94	0.949	0.843	0.0005

that between either independent variable and the dependent variable. Furthermore, Total Population contributes practically nothing to the equation. In essence, Left Vote really only needs some benign variable to make the relationship a multiple one so that the critical value required for the Durbin-Watson Statistic can drop enough to make the relationship acceptable.

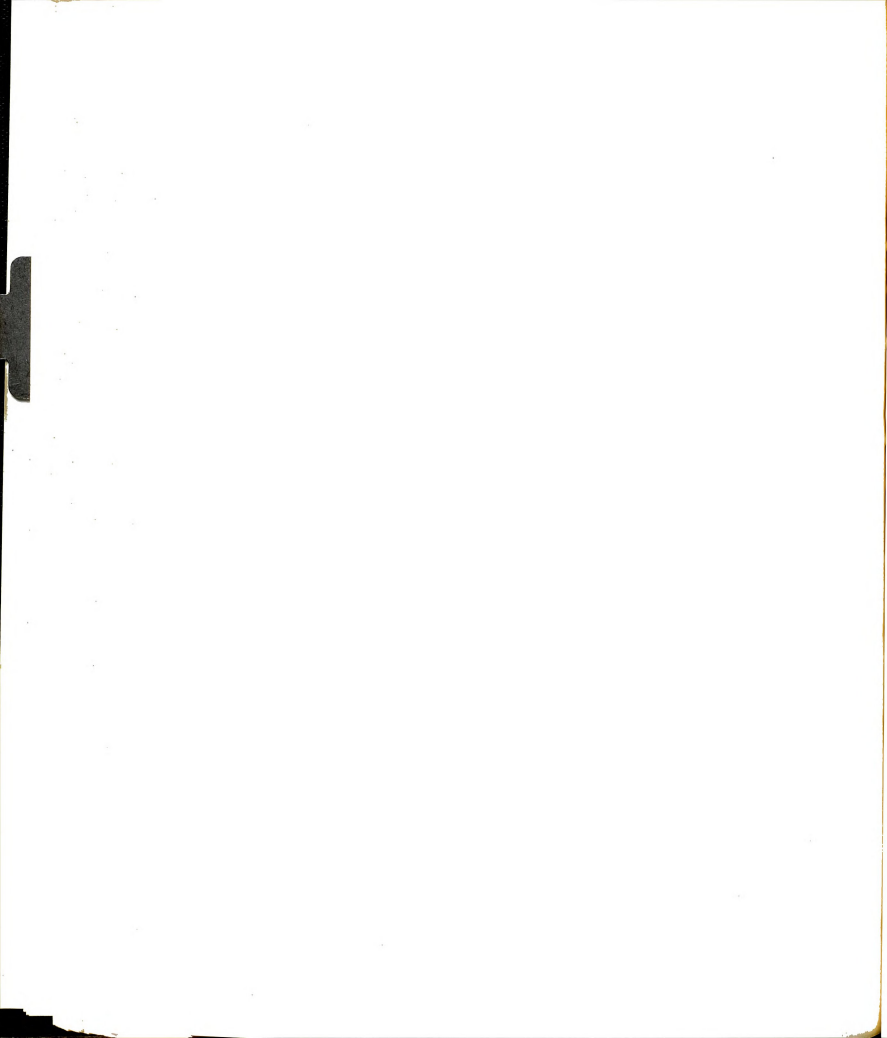
The second equation for Norway in Table 6-15 differs a great deal from the first. Here the two independent variables, Urban Population and Union Membership, are both highly related to the dependent variable, Revenue, but not so highly to each other. This yields a substantial rise in the multiple correlation coefficient and in the Durbin-Watson Statistic, and a substantial drop in the standard error of estimate. Furthermore, both independent variables are very important for the equation in terms of their contributions to the explanation of the dependent variable: The partial correlations and beta weights are roughly equal, and both variables are significant at the 0.0005 level. Union Membership is slightly more important in all of the statistics, but the difference is always slight. Thus, the equation is highly acceptable.

The first three acceptable equations for Sweden involve Gross National Product as the dependent variable and Gross Domestic Investment as the primary independent variable, with some other indicator of social mobilization needed to remove the autocorrelation, reduce the standard error of estimate, and slightly boost the correlation. All three equations are very similar. First, the



multiple correlation is almost perfect, so that the proportion of variance explained in Gross National Product is almost 100 percent. Second, both independent variables are significant at 0.0005, although Investment always has the higher partial correlation and beta weight. Finally, all show high multicollinearity, although it is always less than the simple correlations between the independent variables and the dependent variable, while the standard error of estimate is always substantially reduced. Thus, all three equations can be considered highly acceptable.

The remaining six acceptable equations for Sweden involve each of the categories of government expenditures except Health as the dependent variable, and an indicator of government penetration or economic wealth as the primary independent variable, with Enfranchisement needed only, in most cases, to remove the autocorrelation from the original relationship. The economic independent variable is always significant at 0.0005 and has a substantially higher partial correlation and beta weight than Enfranchisement, which is significant at 0.0005 only in two equations, Education Expenditures versus Revenue and Welfare Expenditures versus Civil Service. But none of the equations show high multicollinearity, so that all of them may be considered acceptable. Furthermore, the three equations in which Enfranchisement is significant at less than 0.01, the two previously mentioned plus the one involving Non-defense Expenditures versus Revenue, will be considered highly acceptable. These three also show the highest multiple correlations, the least amount of

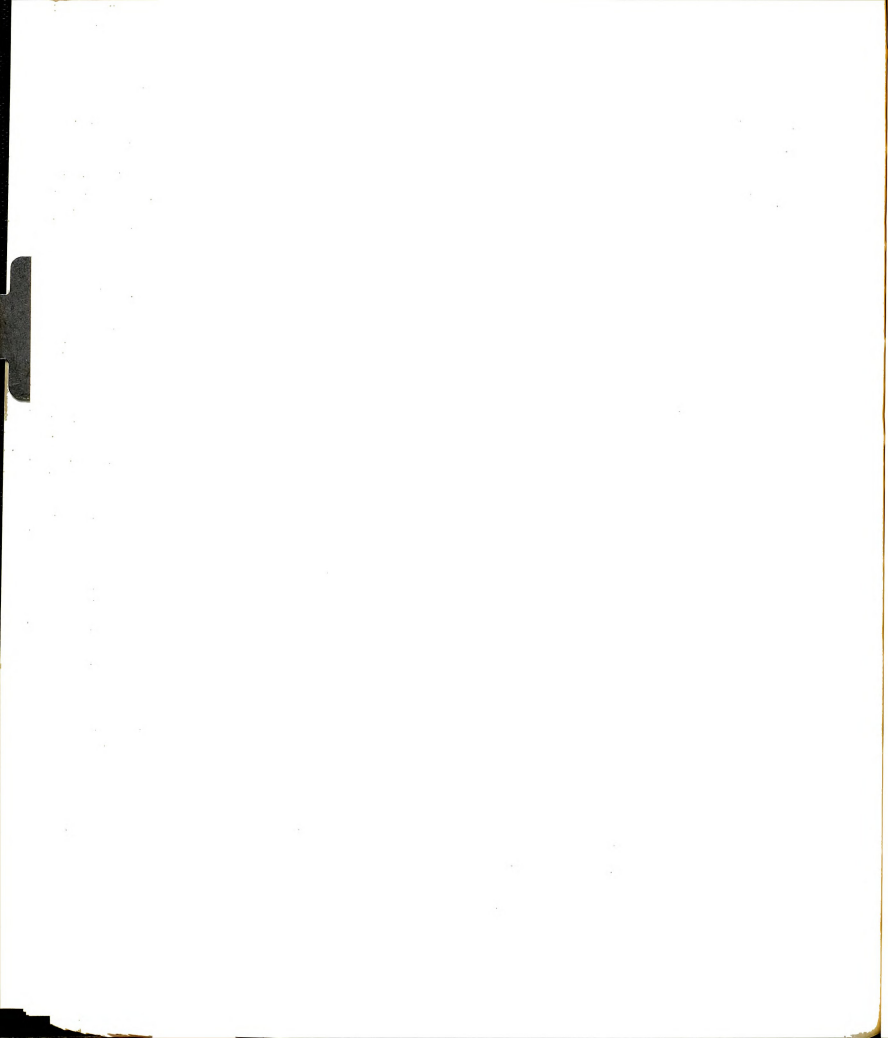


autocorrelation, and the lowest standard errors (except the one involving Non-defense Expenditures).

### 3. Implications for the Hypotheses

These results for Norway and Sweden strengthen some of our earlier assessments of the hypotheses and alter others. The second hypothesis must now be rejected: Our earlier tentative acceptance of it was based on one acceptable bivariate relationship between economic wealth and social mobilization that was not substantially stronger for Norway. Table 6-15 shows three highly acceptable multiple equations involving indicators of social mobilization and economic wealth for Sweden, but none for Norway. Thus, in retrospect, the data for the total time period show no acceptable relationships between social mobilization and economic wealth; whereas the data for the post-1905 period show only one acceptable bivariate relationship for Norway and three highly acceptable multivariate relationships for Sweden. Overall, the second hypothesis cannot be accepted: If anything, the relationship between social mobilization and economic wealth is stronger for Sweden than for Norway.

The multiple-equation results do lend further support to the third hypothesis: The first equation for Norway in Table 6-15 adds another acceptable relationship for post-1905 Norway between political mobilization and democratization, leaving Sweden with none. Although that multiple equation is not highly acceptable, it is consistent with the two acceptable bivariate relationships for post-1905 Norway shown earlier in Table 6-3. The equation lends no further

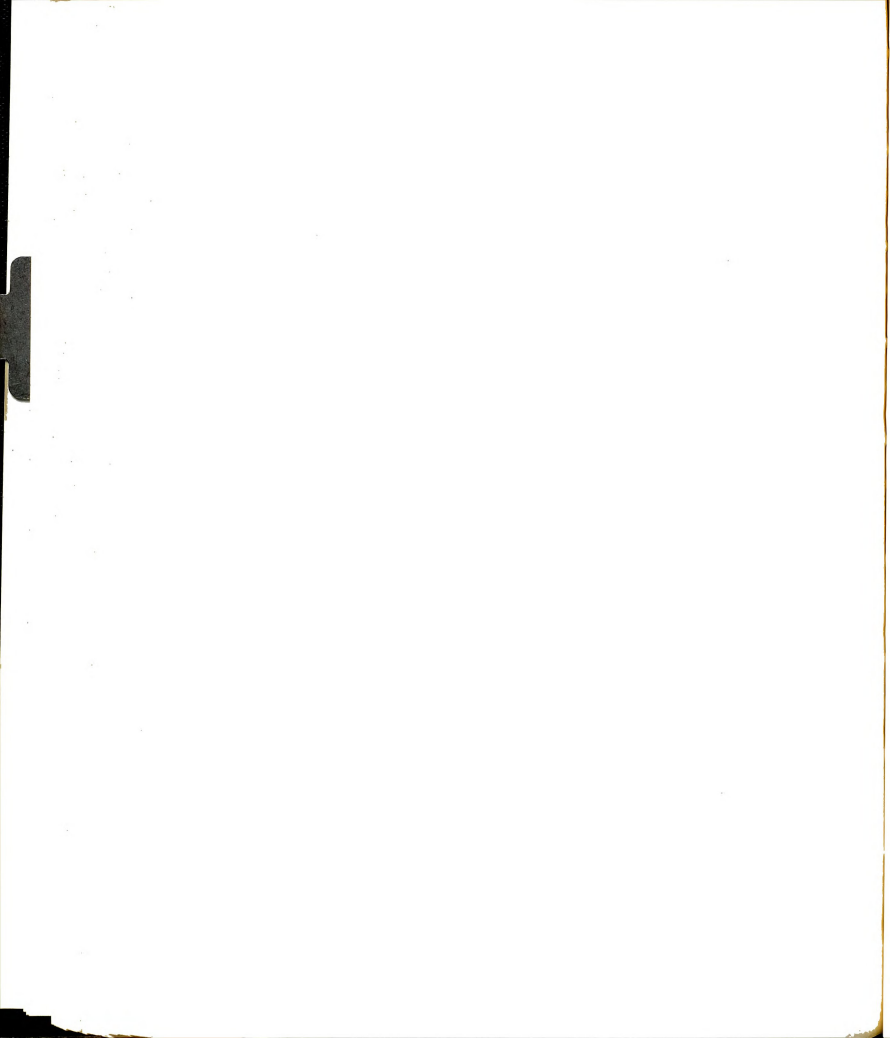


support to the fourth hypothesis because Total Population is useful only for removing the autocorrelation from the relationship between Left Vote and Enfranchisement. But the third hypothesis can be accepted for the post-1905 period.

The multiple-equation results also further strengthen the support for the sixth hypothesis, but further discredit the seventh: The second equation for Norway in Table 6-15 adds a fifth acceptable relationship between social mobilization and government penetration to the four already uncovered for both the total and post-1905 periods; but that same equation also adds a second acceptable relationship between political mobilization and government penetration for post-1905 Norway. That equation is highly acceptable, and both of its independent variables are highly significant. Thus, the sixth hypothesis can be accepted for both the total and post-1905 periods, but the seventh hypothesis must likewise be rejected for both periods.

The multiple-equation results do alter the earlier assessment of the eighth hypothesis: Five of the last six acceptable multiple equations for Sweden mean that Sweden has as many acceptable relationships between government penetration and government expenditures as does Norway. All of the evidence based on bivariate relationships for both the total and post-1905 periods indicated a stronger relationship between penetration and expenditures for Norway than for Sweden. But all of the acceptable multiple equations are Swedish, in contradiction to the bivariate findings. The fact that the

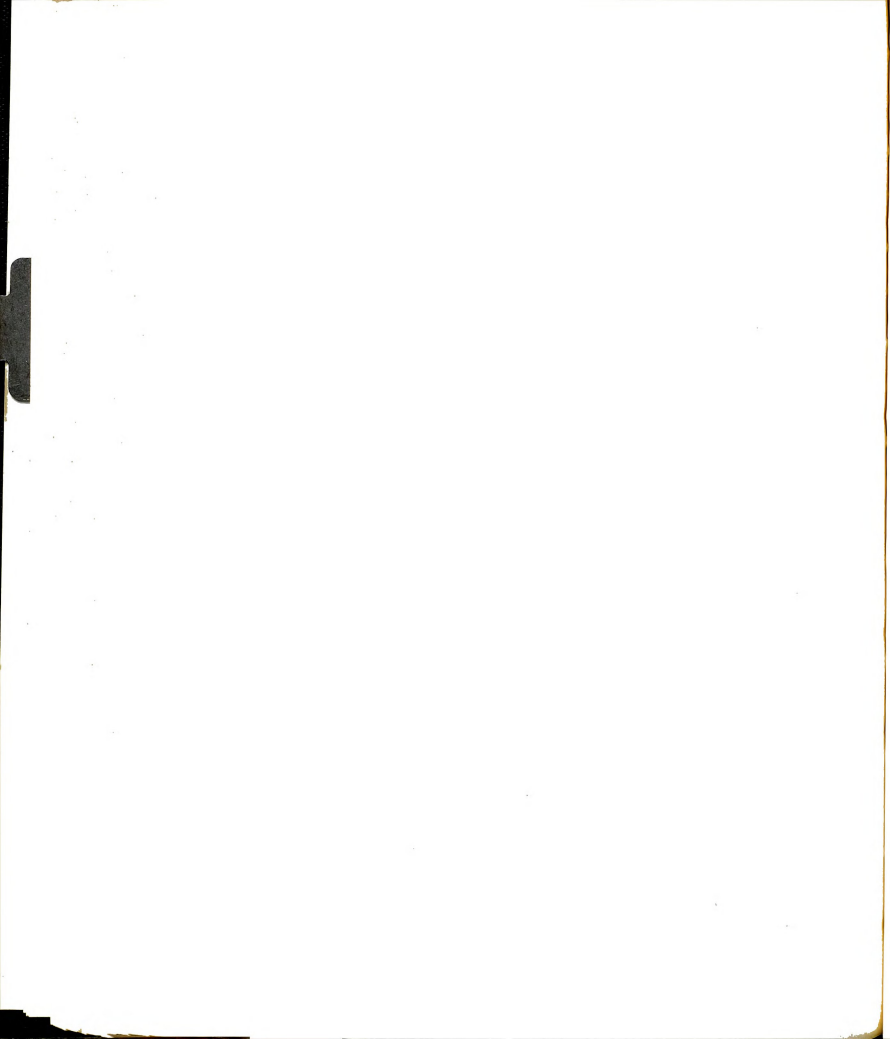




Swedish indicators of penetration need help from Enfranchisement in removing the autocorrelation does not mean that they are any less capable of explaining expenditures than are the Norwegian indicators. In each of the equations the indicator of penetration is significant at 0.0005. Thus, the eighth hypothesis can now be accepted for the post-1905 period.

However, the multiple-equation results do not change the earlier assessment of the ninth hypothesis, although they do differ from the bivariate results. Previously, none of the relationships between democratization and government expenditures were acceptable because of autocorrelation. Now, Enfranchisement works in several multiple regression equations predicting expenditures; but all of those equations are Swedish, contrary to the hypothesis. In only two of those equations, Revenue versus Education Expenditures and Civil Service versus Welfare Expenditures, is Enfranchisement significant at 0.0005. But it is significant at less than 0.01 in one other equation, involving Revenue versus Non-defense Expenditures. These three equations were earlier deemed highly acceptable, meaning that there are three acceptable relationships for Sweden and none for Norway. Thus, the ninth hypothesis still cannot be accepted because democratization and expenditures is stronger for Sweden than for Norway.

Finally, the multiple-equation results support the earlier rejection of the tenth hypothesis. One more acceptable post-1905 relationship between economic wealth and government expenditures is



added to those established in the bivariate results, and it is Swedish. Despite the fact that it is a multiple regression predicting only Welfare Expenditures and requires the inclusion of Enfranchisement to remove the autocorrelation from the original relationship, Gross National Product per Capita is significant at 0.0005 in the equation. And although the equation is not one of the most highly acceptable ones, it is consistent with the earlier bivariate results for the post-1905 period. Thus, the tenth hypothesis can be rejected with more confidence because the results show that, if anything, the relationship between economic wealth and government expenditures is stronger for Sweden than for Norway.

## II. Acceptable Relationships

Figure 6-1 summarizes the acceptable relationships established for the post-1905 period on the basis of both bivariate and multivariate linear patterns of correlation and autocorrelation. As in Figure 5-1, the major dependent-variable concepts of the mobilization model are listed above their indicators that can be explained by the listed independent variables. The first feature of this figure to be noted is that the two countries have almost exactly the same number of acceptable relationships: eighteen for Norway and seventeen for Sweden.

The second interesting feature of this figure is that only four relationships are duplicated: Voter Turnout versus Total Population; Revenue versus Investment; and Total and Non-defense Expenditures versus Gross National Product per Capita. As with the total time



Figure 6-1. Acceptable Relationships, Post-1905 Period.

N O R W A Y		S W E D E N	
Dependent Variable	Independent Variables	Dependent Variable	Independent Variables
Political Mobilization			
Voter Turnout	Total Population	Voter Turnout Voter Turnout Voter Turnout	Total Population Agric. Employ. Urban Population
Economic Wealth			
GNP per Capita	Agric. Employ.	GNP per Capita GNP per Capita GNP per Capita	Investment, Total Pop. Investment, Urban Pop. Investment, Agric. Employ.
Democratization			
Enfranchisement	Total Population, Left Vote		None
Representation	Left Vote		
Representation	Voter Turnout		
Government Penetration			
Revenue Revenue Revenue	Investment Agric. Employ. Urban Pop., Union Membership	Revenue	Investment
Civil Service	Investment		
Civil Service	Union Membership		

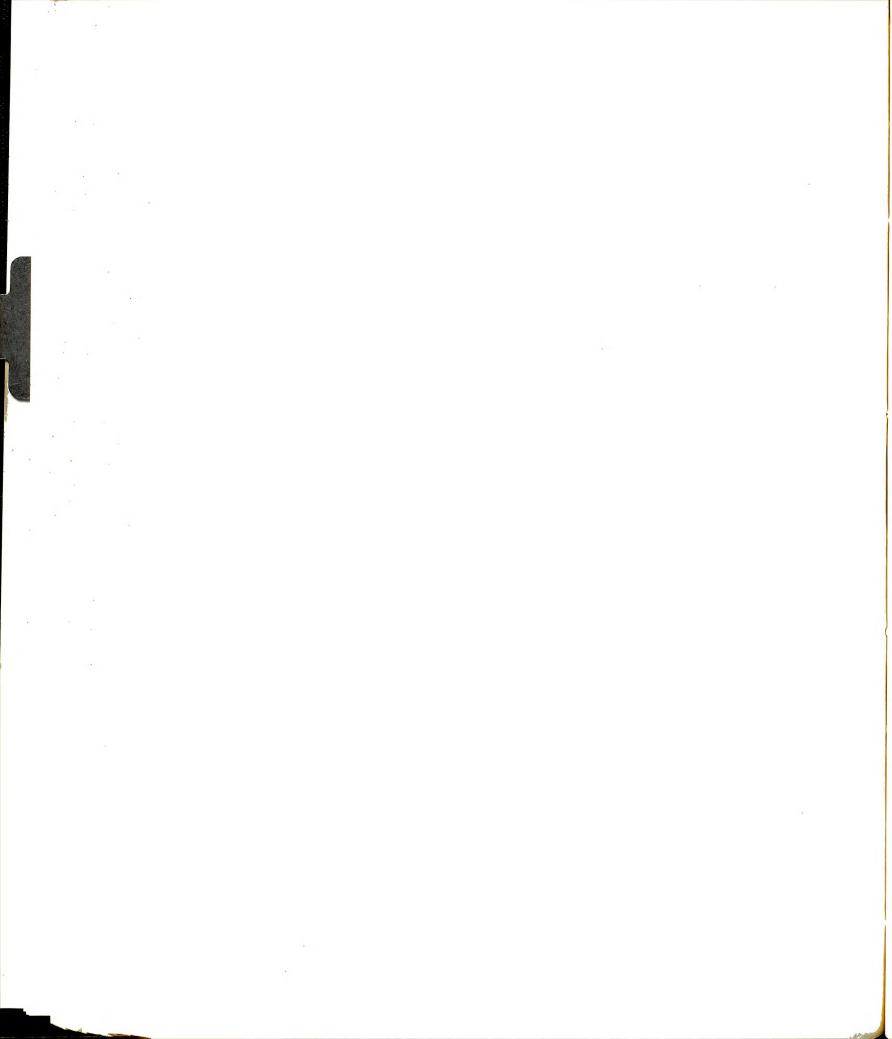
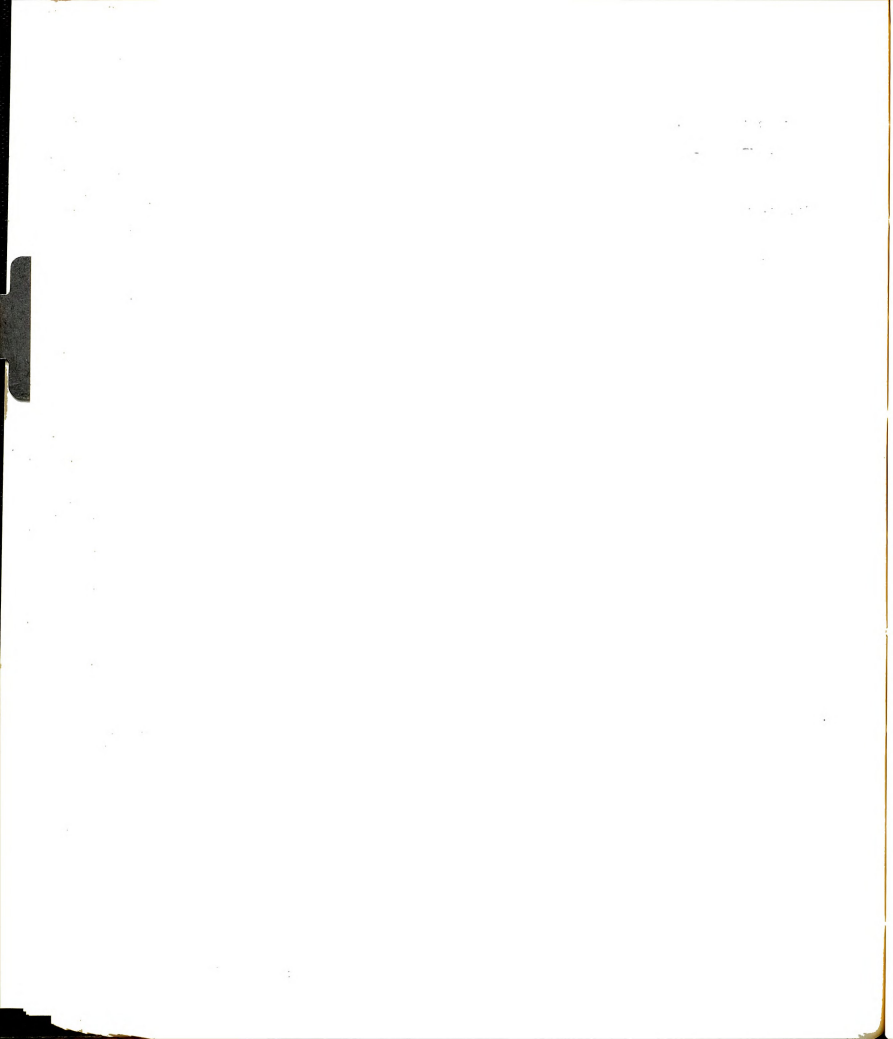


Figure 6-1 (continued).

N O R W A Y		S W E D E N	
Dependent Variable	Independent Variables	Dependent Variable	Independent Variables
Government Expenditures			
Total	Civil Service	Total	Enfranchisement, Civil Service
Total	GNP per Capita	Total	GNP per Capita
Non-defense	Revenue	Non-defense	Enfranchisement, Revenue
Non-defense	GNP per Capita	Non-defense	GNP per Capita
Non-defense	Civil Service	Health Education	Revenue Enfranchisement, Revenue
Welfare	Revenue	Education Welfare	GNP per Capita Enfranchisement, Revenue
Welfare	Civil Service	Welfare	Enfranchisement, GNP per Capita
Objective Security			
Death Rate	Doctors per Capita	None	

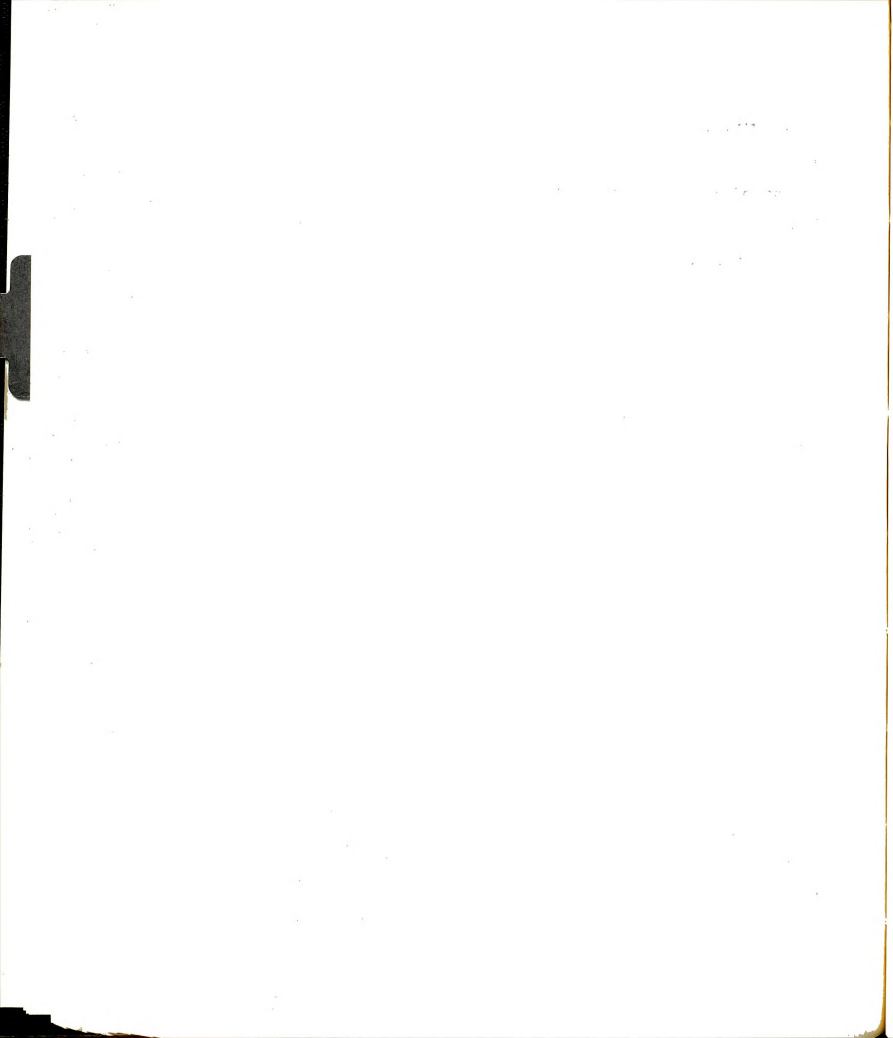




period, this indicates that there are significant differences between the two countries. The most noticeable difference is the presence of acceptable relationships under democratization and objective security for Norway but not for Sweden. Norway also has many more acceptable relationships under government penetration than does Sweden. On the other hand, Sweden has more entries under political mobilization, economic wealth, and government expenditures than does Norway.

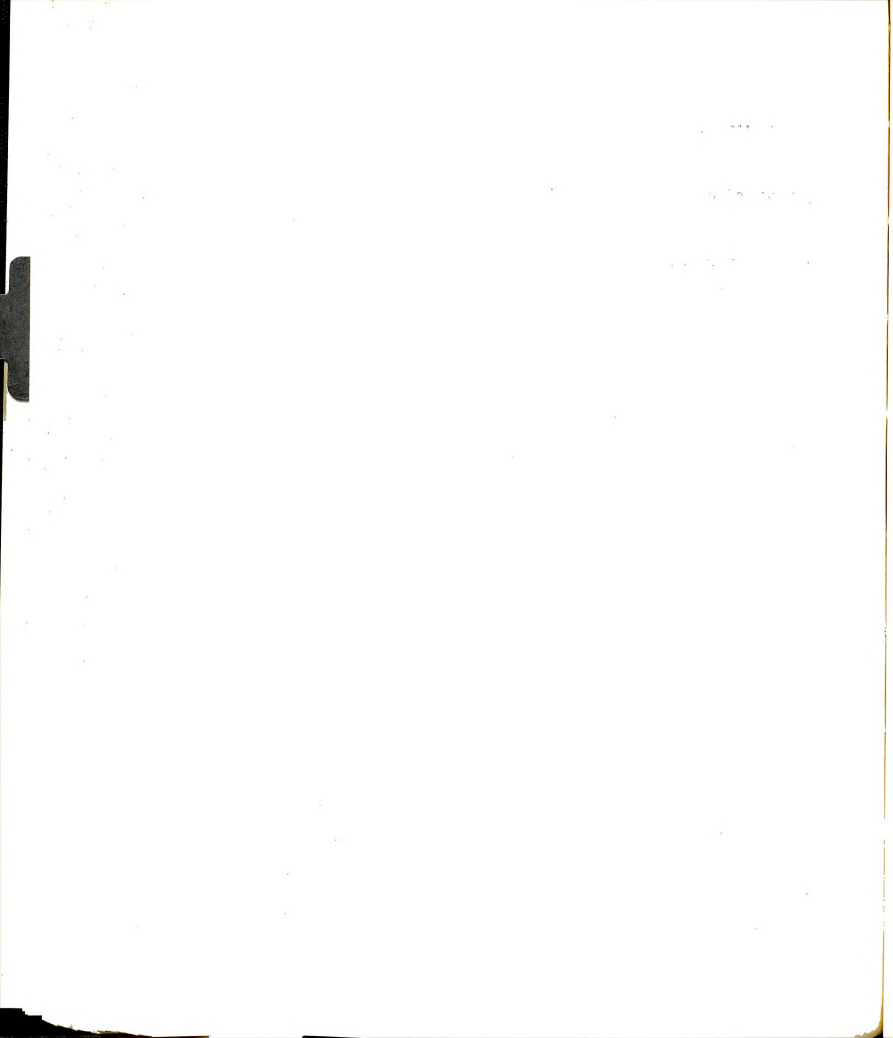
Another difference is that, in addition to the Death Rate and Doctors per Capita, the variables Representation, Left Vote, and Union Membership appear in the Norway column but not in the Sweden column. Similarly, in addition to the Death Rate, Enfranchisement, and Representation, the variable Civil Service appears as a dependent variable for Norway but not for Sweden; whereas Health and Education Expenditures appear as dependent variables for Sweden but not for Norway. Enfranchisement helps explain expenditures for Sweden but not for Norway, which is associated with the fact that nine of Sweden's fifteen acceptable relationships are multivariate, compared to only two of eighteen for Norway.

But again, as with the total time period, perhaps the most significant feature of the acceptable relationships for the post-1905 period is the preponderance of economic, monetary measures over social and political measures. Again, the Price Index is the only economic measure not involved in an acceptable relationship. Only eight of the 33 relationships do not involve a monetary measure or



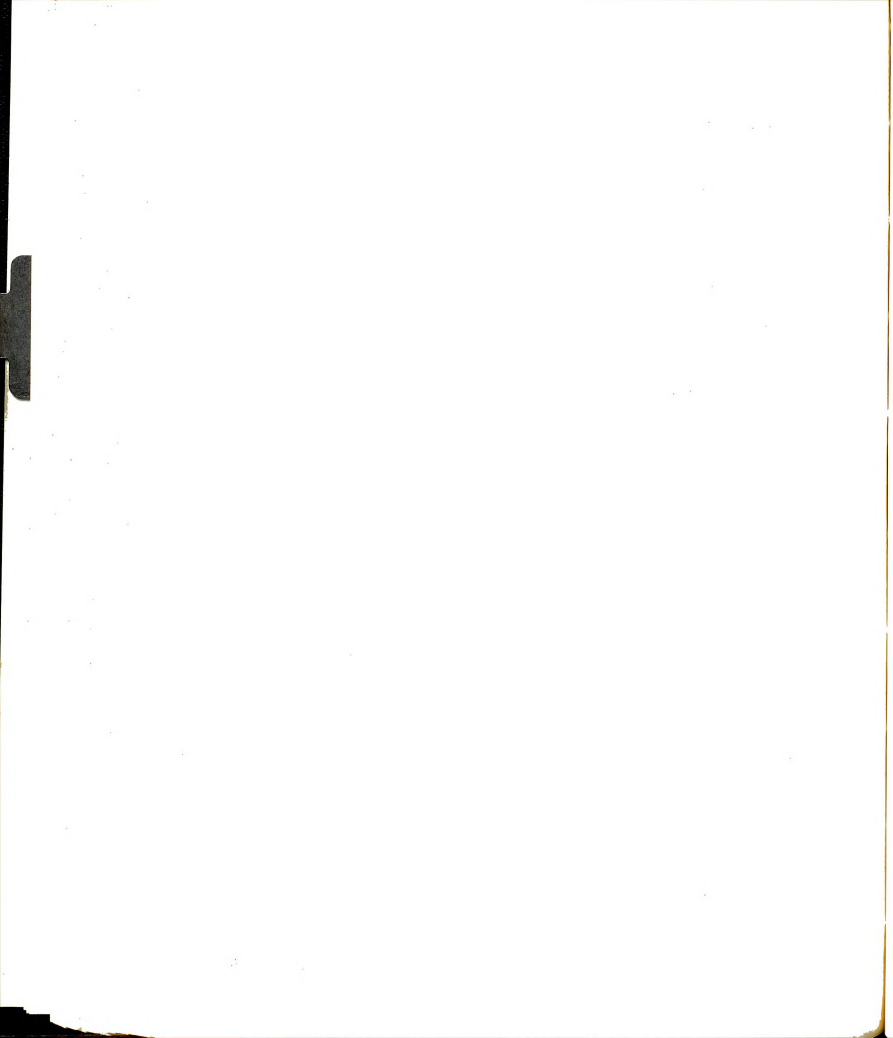
Civil Service, which has already been conceptualized as part of the same economic syndrome. In addition, only nine of the 22 bivariate relationships involve a non-economic measure at all, although all of the multivariate relationships involve at least one non-economic measure. Furthermore, some of the social measures appearing in the acceptable relationships may be considered conceptually closer to the economic syndrome, particularly Agricultural Employment and Urban Population. This feature strengthens the interpretation that most of the acceptable relationships either involve monetary and related measures that are more reliable than social and political measures, or which indicate an economic milieu of phenomena that is more cohesive than socio-political phenomena. Further interpretation of these results will follow in the next chapter.

Another possibility is that social and political phenomena are more often related in a curvilinear fashion. However, a few transformations were tried with the LS program on variables whose relationships had residuals that were obviously curvilinear, without acceptable results. An example involves the relationships between Urban Population and Gross National Product, Union Membership, and Revenue for Norway's total time period. Each of these relationships showed residuals that were initially positive, decreased and went negative fairly monotonically, then increased and went positive again fairly monotonically. An exponential transformation was tried for each relationship on the independent variable, Urban Population, and in every case the correlation coefficients and the Durban-Watson



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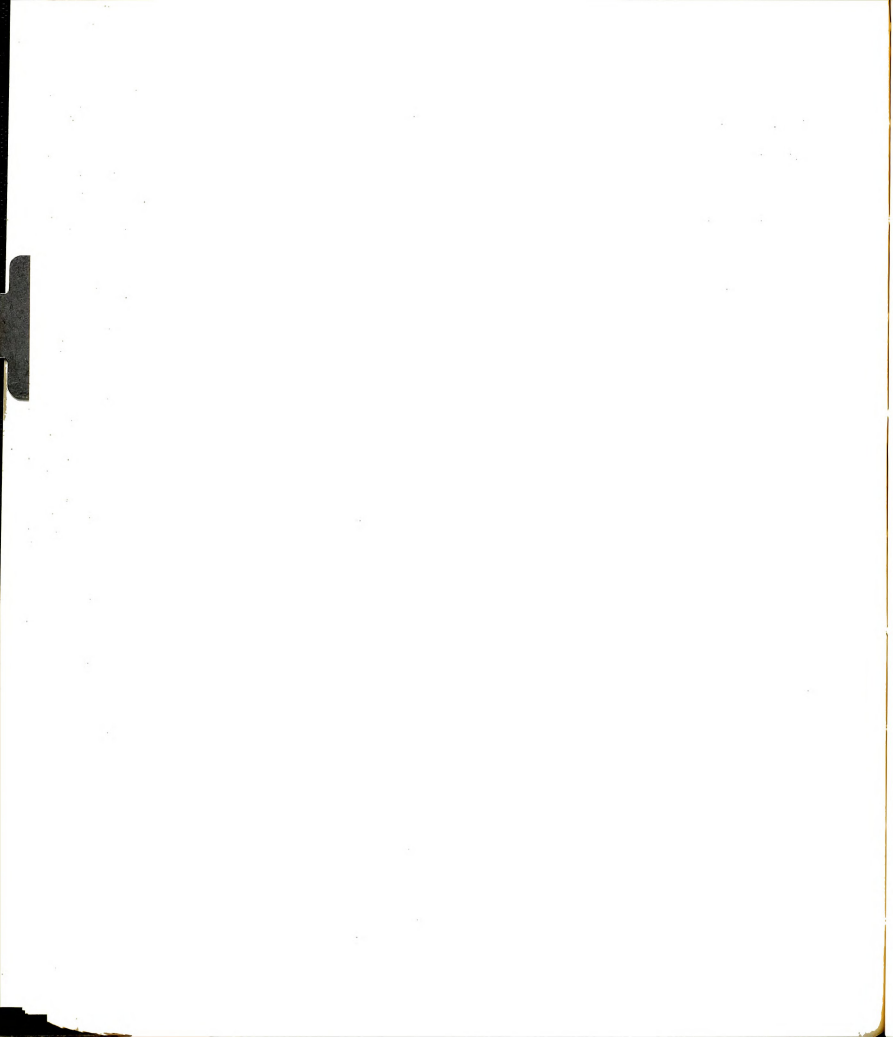
Statistics were both improved only by about five one-hundredths, certainly not enough to make the relationships significant.

This implies that the non-acceptable relationships in the mobilization model may be intrinsically non-linear in the regression parameters as well as in the variables themselves (Kmenta 1971: 451-472). If this is the case, then the best procedure would be to break the total time period down into even smaller portions in order to find the precise points in time at which the parameters change. But the intervals in our data are fairly large, so that analyzing smaller time periods would mean working with an unreliably small total number of observations. Such analyses could be performed on data for every year in the total time period; but such data are beyond the scope of this dissertation. In addition, determining whether the low Durbin-Watson values are due to autocorrelation caused by unmeasured variables or to intrinsic non-linearity would be difficult, because most of our variables increase monotonically over time. Specific transformations designed simply to remove the autocorrelation bodily from the data might also prove useful (Kmenta 1971: 287-292); but they would not be very satisfying theoretically. More will be said about this in the next chapter.

### III. Summary of the Analysis

The hypotheses stated in Chapter Four were tested by comparing acceptable relationships for Norway and Sweden between the sets of indicators of development stated in each hypothesis. This required the computerized use of simple and multiple correlation and regression





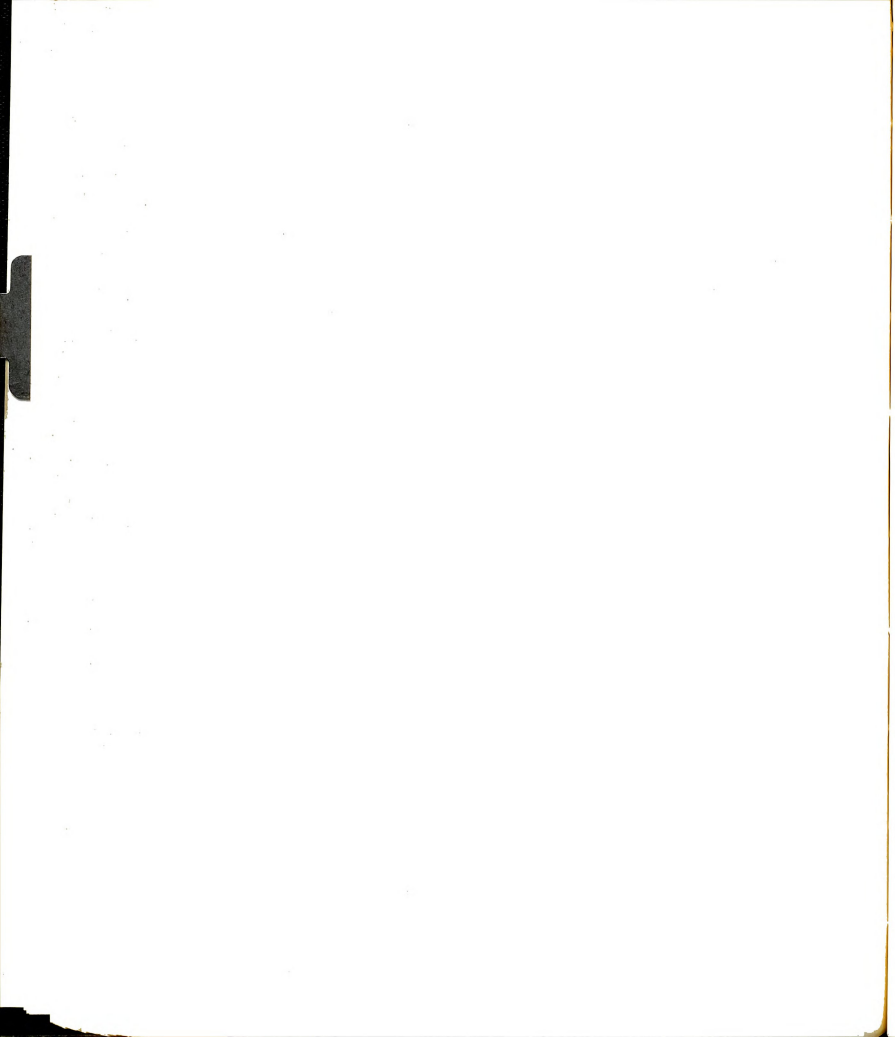
analysis. A relationship was deemed acceptable if its simple or multiple correlation coefficient was significant at 0.0005, indicating a strong relationship, and if its Durbin-Watson Statistic was not significant at 0.05, indicating a lack of significant autocorrelation in the relationship. This analysis was performed for both the total time period covered by the data and the period following the disruption of the union between the two countries in 1905. It uncovered too few acceptable relationships common to both countries to permit direct comparison of the strength of the relationships between the two countries; therefore, comparison was based upon the number of significant relationships for each country.

The results of this analysis indicate that only the sixth hypothesis can be accepted for both the total time period and the post-1905 period; that is, the indicators of social mobilization do seem to be more strongly associated with the indicators of government penetration for Norway than for Sweden. Furthermore, only the third and eighth hypotheses can be accepted for the post-1905 period only; that is, the indicators of political mobilization do seem to be more strongly associated with the indicators of democratization for Norway than for Sweden; and there does seem to be no difference between Norway and Sweden in the strength of association between the indicators of government penetration and government expenditures. None of the hypotheses can be considered acceptable only for the total time period. All of the other hypotheses must be rejected for both the total time period and the post-1905 period, at least



on the basis of this analysis of this data. The relationships for those hypotheses were either too severely and consistently autocorrelated to permit acceptance of the hypotheses; or they showed no difference between the two countries where they should have favored Norway; or they favored Sweden instead.

The next chapter will attempt to interpret these results by examining the methodological problems involved in the analysis and by integrating them with Peters' assessment of the mobilization model for Sweden, Lafferty's comparison of Norway and Sweden, and the descriptive histories of the two countries. Finally, it will attempt to derive some theoretical meaning from the acceptable relationships established in the analysis.



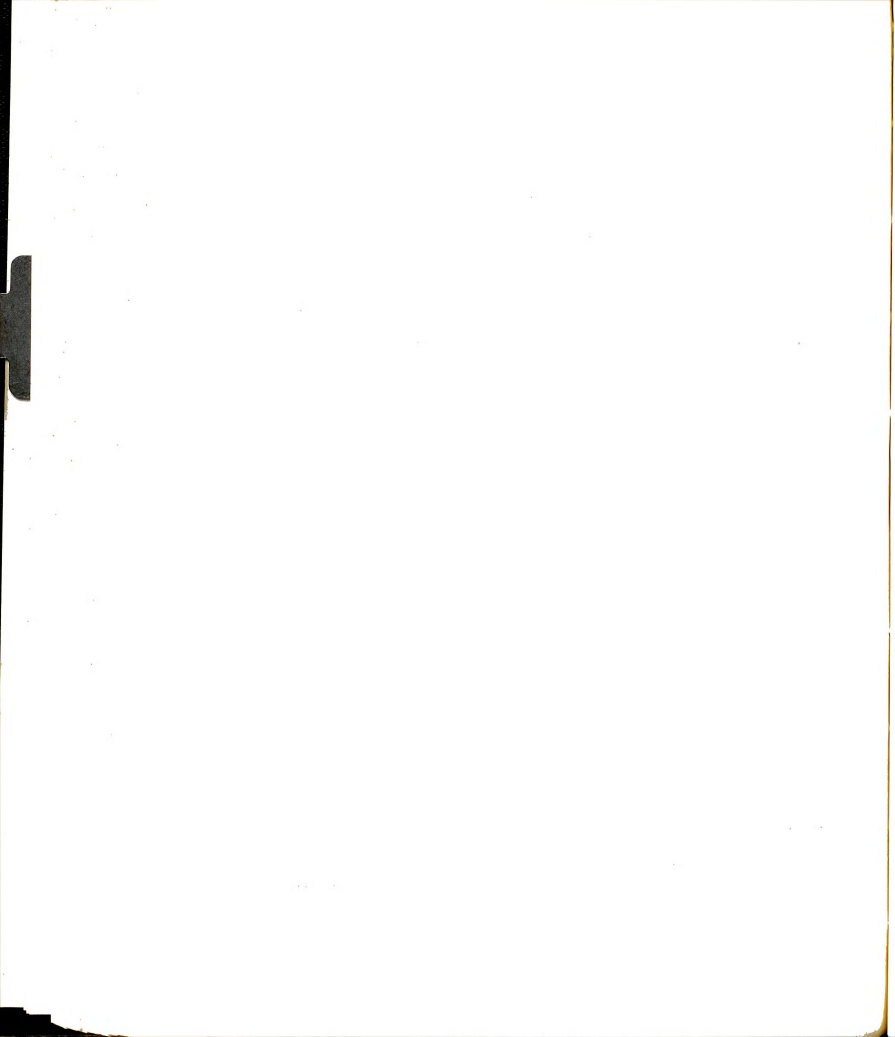
## CHAPTER SEVEN

### INTERPRETATION

The previous two chapters presented the results of simple and multiple correlation and regression analysis designed to test specific hypotheses concerning the differences and similarities in relationships among time-series indicators of development for Norway and Sweden. The hypotheses were derived from a previous analysis of such differences (Lafferty 1971) and from the developmental histories of the two countries, all organized within the framework of the mobilization model of political development (Peters 1970). In the analysis, relationships among the indicators were deemed acceptable on the basis of significant correlation and significant lack of autocorrelation. The analysis uncovered only thirteen acceptable relationships for the total time period, 1875 to 1965, and only 35 for the period following the disruption of the union between the two countries, 1905 to 1965. These few acceptable relationships confirmed only three of the original fourteen hypotheses.

#### I. Explaining the Failure of the Hypotheses

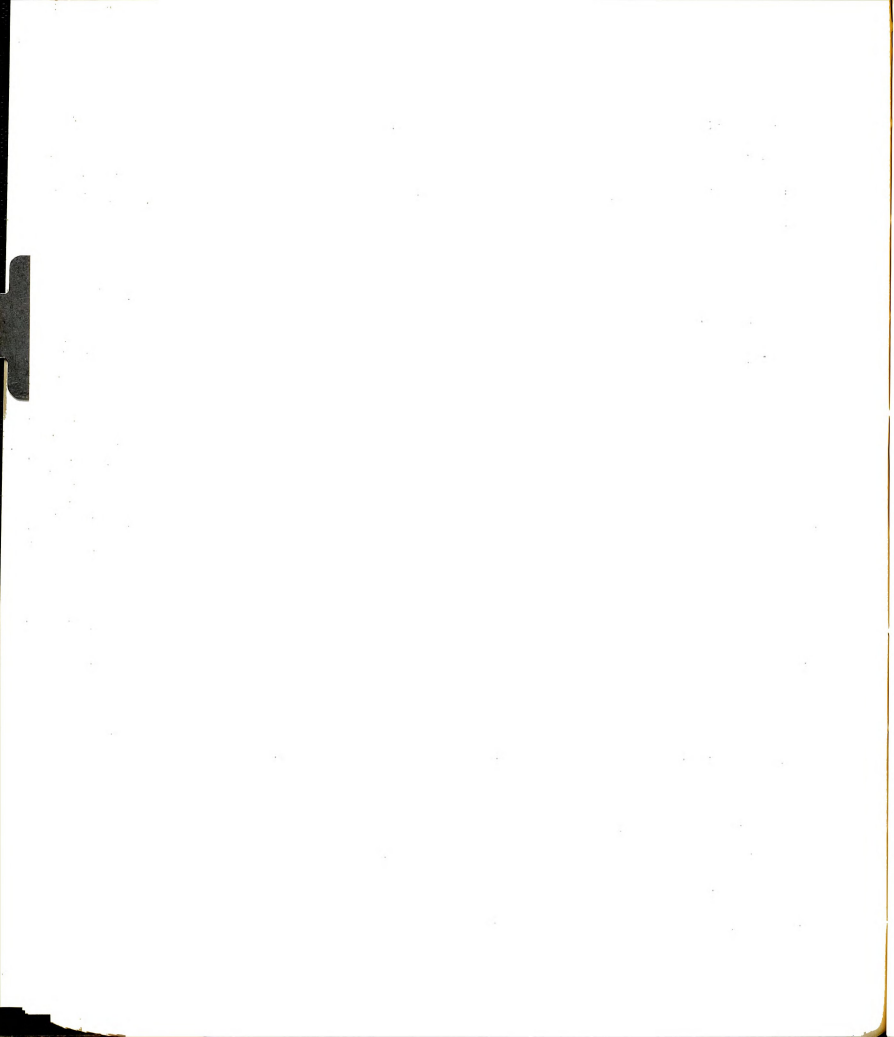
Confronted with these results, the problem of finding meaningful explanations and interpretations now arises. First of all, why were so few of the hypotheses confirmed? One obvious possibility is that



the previous descriptive accounts and analyses from which our hypotheses were derived bore little resemblance to the actual historical events and processes under consideration. This proposition is not entirely unreasonable or implausible: Historians frequently describe history without the benefit of "hard" empirical data, such as official national statistics, or at least without thorough quantitative analysis of such data. This is obviously due to their concern with phenomena which often cannot be measured quantitatively. But given our concern with quantifiable phenomena, and assuming that such data are reliable and valid, descriptive accounts of such phenomena could simply have failed to describe accurately the actual history involved. This would mean that quantitative analysis could not be expected to confirm hypotheses based on such accounts.

However, in our case rejecting the historical accounts as being inaccurate proves unfounded. In the first place, only certain aspects of the historical accounts can be questioned. Most of our hypotheses were based on the expected timing or coincidence of the movement of our variables over time, derived not only from purely descriptive historical accounts of the events and processes on which those data were based, but also from the recent quantitative analysis by Lafferty (1971). Specifically, the hypotheses concerning the relationships of social mobilization versus economic wealth and political mobilization were based on Lafferty's findings. But the hypotheses concerning the relationships among those concepts and

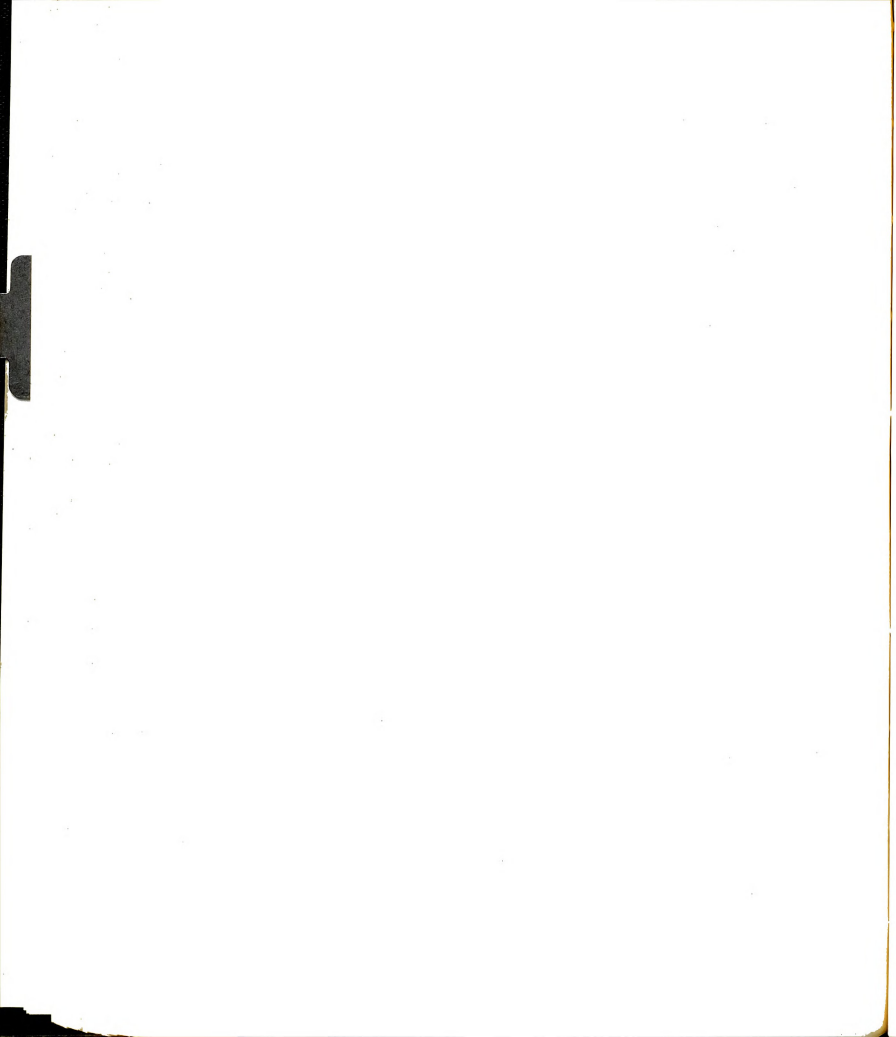




democratization, government penetration and expenditures were derived by comparing the movement of the mobilization and wealth variables, as reported by Lafferty, with the occurrence of electoral and legislative reforms and social legislation, as reported by historical accounts. Information on the various relationships among expenditures and their societal impacts was almost completely lacking; thus no difference between the two countries in those relationships was hypothesized by default, so that the lack of confirmation there is not really surprising.

But the point is that one cannot seriously question the descriptive accounts of the timing or coincidence of the movement over time of the phenomena under consideration. That is, most historians agree on when the events occurred. One can, of course, question their interpretations of why those events occurred when they did. For example, as reported in Chapter Four, Lafferty's analysis demonstrated that Norway's more radical political labor movement was not due to any direct social dislocation caused by massive shifts of workers from agriculture to industry, as had been assumed by earlier historians and subsequent labor economists and sociologists. But again, our hypotheses were derived not from historical interpretations but from the actual timing of events.

So why were some of the hypotheses not borne out by quantitative analysis of empirical data relating to those events? Some sort of discrepancies must have existed between our data or methods of analysis and the timing of events reported by previous historical descriptions



and analyses. Probably the best place to look for such discrepancies is in the single most important source of our hypotheses, namely the work of Lafferty. Furthermore, it might also prove useful to compare our results with earlier analyses by Peters (1970; 1972) of similar data on Sweden that provided his strongest confirmation of the mobilization model of political development, the conceptual framework within which our hypotheses were organized.

#### A. Comparison with Previous Works

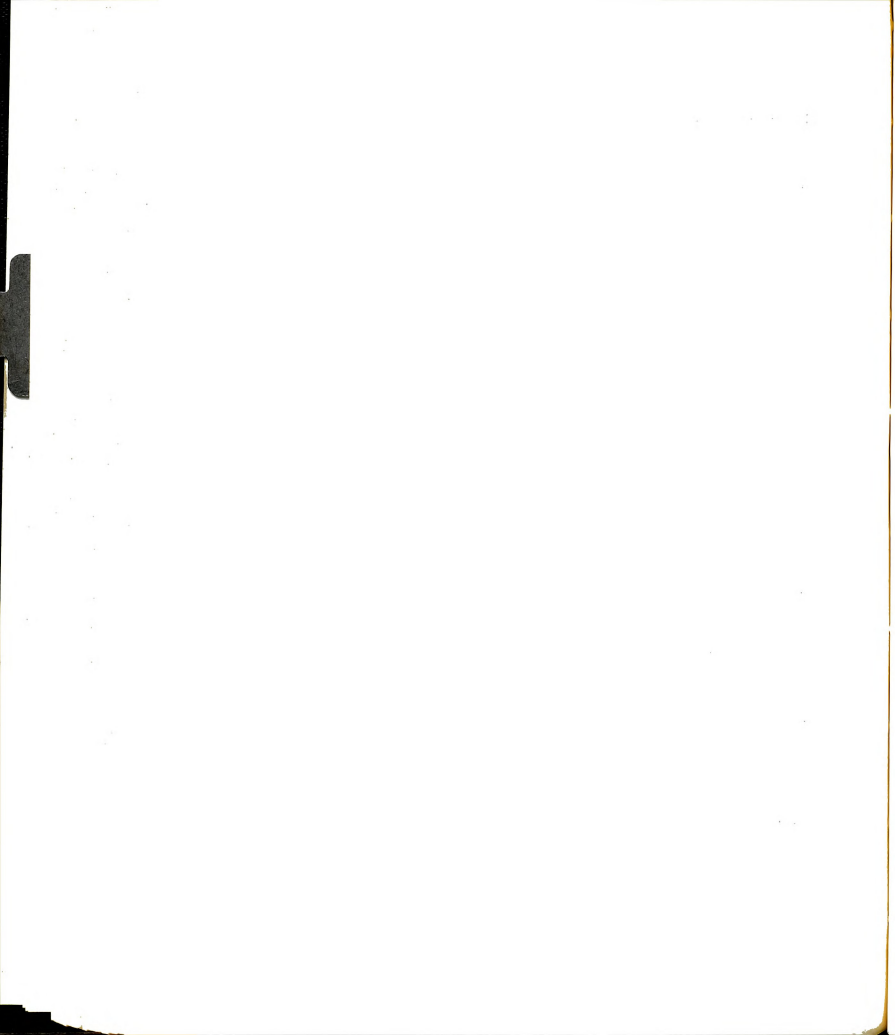
##### 1. Peters (1970; 1972)

Our data base for Sweden was almost identical to that used by Peters (1970) in his three-way comparison of that country, the United Kingdom, and France. The variables used in both his study and ours were for the most part very similar in operationalization. But the observations or time-points selected were quite different. Whereas Peters used every fifth year beginning with 1865, yielding 21 observations, we used the election years, every third and then fourth year, beginning with 1875, yielding 27 observations. In addition, he split his total period into two halves at the 1910 point, leaving only ten and eleven observations in each half, compared with 17 in our post-1905 period. As expected with a larger number of more frequent observations, our relationships generally showed slightly lower levels of correlation and significantly higher levels of autocorrelation. Of the 28 common relationships, eleven were significantly different for the total period, all but two of which showed significantly different correlations as well as autocorrelation. We each had one acceptable



relationship, but not the same one. Comparing his post-1910 period and our post-1905 period, 20 of the 28 common relationships were significantly different, of which only six showed significantly different correlations as well as autocorrelation. Here only two of the different relationships were acceptable to us, whereas 16 were acceptable to him.

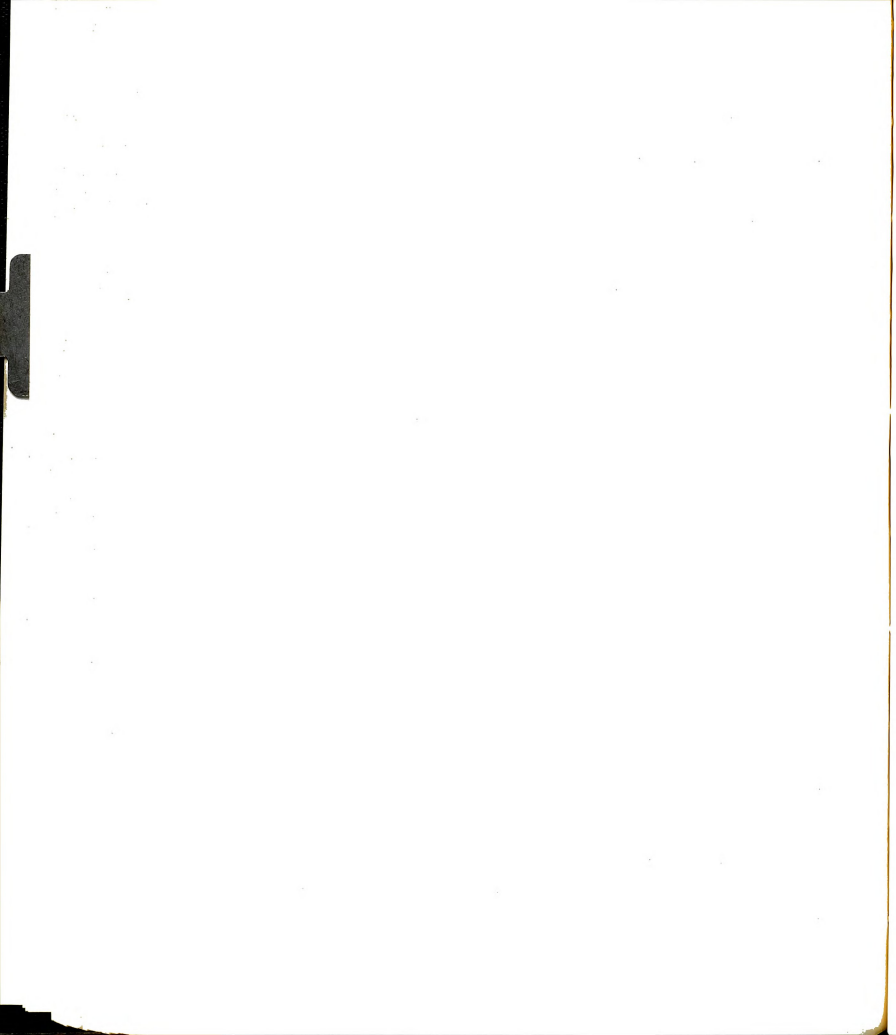
Interestingly, the relationships that showed significantly different correlations as well as autocorrelation were between the indicators of political mobilization and government penetration, and between democratization and penetration. Furthermore, in the later half-period he accepted several of these relationships while we accepted none. Large differences in autocorrelation are understandable given our more frequent observations. But why should almost identical data have yielded significantly different correlations for just two specific sets of relationships, just because more frequent observations were used? Why were the differences not on the same order of magnitude throughout the entire data base? There are no satisfactory answers to these questions, except for two possibilities involving differential sampling of time-points. First, the observations selected for the penetration indicators, which were common to both sets of relationships, may have just happened to yield patterns that correlated differently with the indicators of political mobilization and democratization. Second, there may have been a lag effect in the relationships between those concepts. That is, the political variables were measured in election years in both data bases. But



the penetration indicators were measured for the election years also in our data base, but were measured for usually subsequent years in Peters' data base. Comparison of the results indicates that this lag in his data may have produced somewhat stronger correlations. But why did such a lag effect not emerge in other relationships as well?

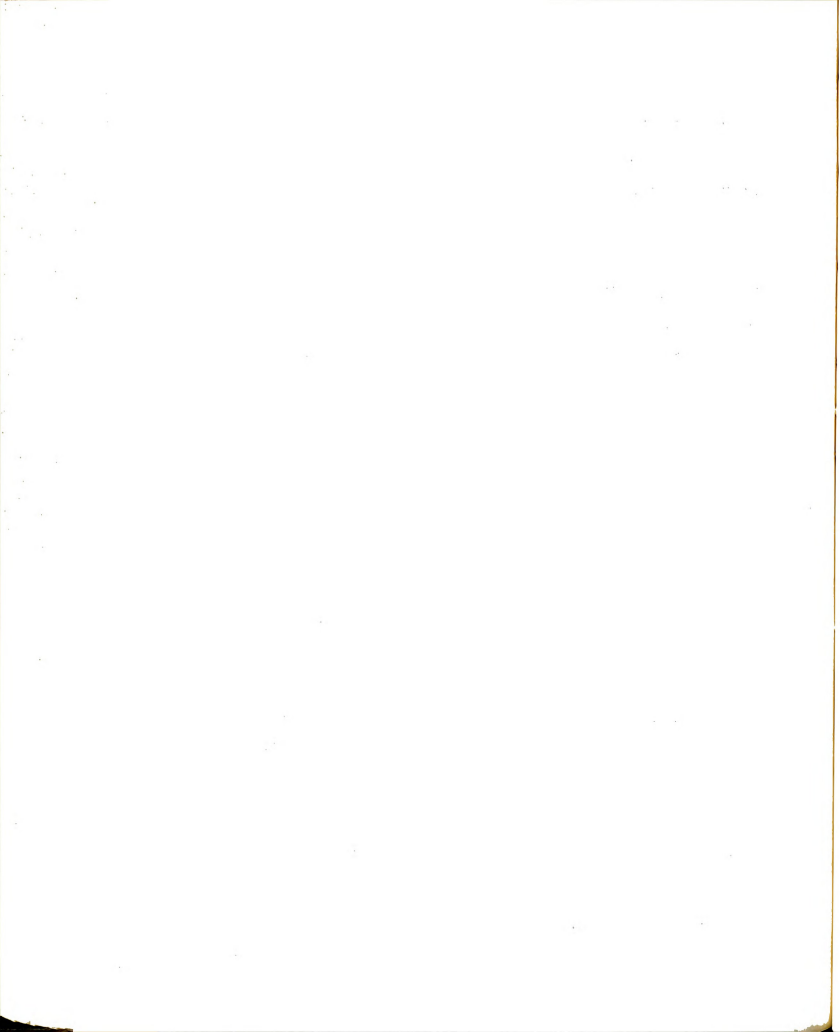
Except for those two sets of relationships, the correlations were essentially similar. Of course, the extent of autocorrelation in Peters' data base was sufficiently lower to warrant confirming every link in the mobilization model of political development for Sweden, at least by our criteria. Nevertheless, the relationships were usually similar. Besides confirming the link between social mobilization and political mobilization for the post-1910 period, he also verified the weaker effect of political mobilization on government penetration by partialling out the effects of social mobilization on penetration. He also confirmed the link between democratization and government expenditures only in multiple regression equations with economic wealth, although his indicators of democratization were different. Finally, he also failed to confirm most of the relationships common to both data bases on the output side of the mobilization model, namely the effects of government expenditures on personnel services and objective security. Here the lower level of autocorrelation in his data permitted him to confirm only the relationships between health expenditures and the indicators of objective security in the health sector, infant mortality and the death rate, for the post-1910 time period.





In a later work (1972), Peters contributed to the current debate originating in the area of "comparative American state politics" referred to in our first chapter, over whether political variables or socio-economic variables explain more of the variance in public policy variables. Using one socio-economic variable, Gross National Product per Capita, with two political variables, Civil Servants per Capita and a subjectively-coded Index of Democratization, in separate multiple regressions on sectoral Government Expenditures per Capita, he compared beta weights and found that both the socio-economic and political variables were important in explaining public policy. Specifically, for the total period of 1850 to 1965 in France and Britain, the inclusion of both the socio-economic variable and a political variable in the regressions was necessary to remove autocorrelation. And from examination of the residual patterns for these regressions he determined that the influence of the socio-economic variable was declining over time. Sweden presented a special case because the autocorrelation could not be eliminated for the total period of 1865 to 1965, so it was split in half at the 1910 time-point. Again, the political variable, Civil Service, had stronger effects in the second period than in the first, and was consistently stronger than the socio-economic variable in the second period, although they were roughly equal in the first.

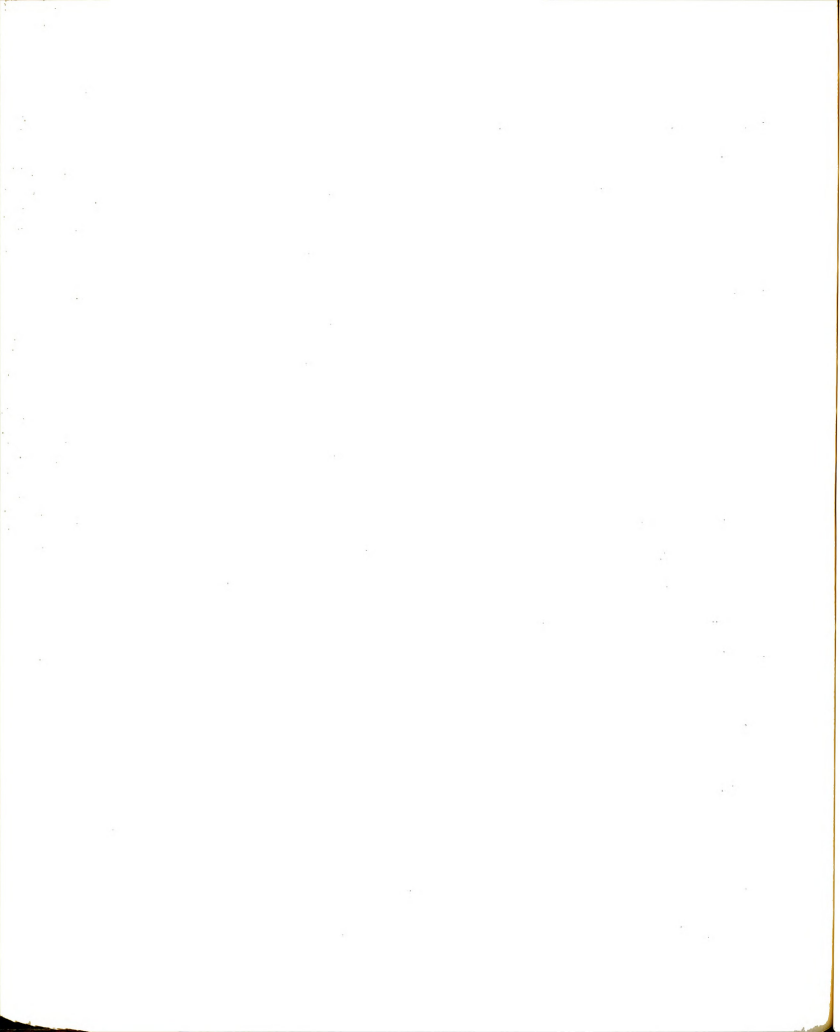
These results cannot be compared directly with ours because our indicator of democratization was different and because Civil Service appeared in only one acceptable relationship with expenditures for



Sweden. Also, in our results acceptable relationships for the post-1905 period were usually formed by multiple regressions of the two "political" variables on expenditures. That is, Civil Service and Revenue were indicators of government penetration in the original mobilization model. In his article (1972), Peters formed multiple regressions of government penetration (Civil Service) and economic wealth (GNP) on expenditures, whereas our acceptable multiple regressions involved government penetration (Revenue) and democratization (usually Enfranchisement) on expenditures. Notice that he disregards the likely possibility of multicollinearity in those regressions, a problem he himself warns against in the introductory portion of the article. But more importantly, our results for Sweden indicated that the socio-economic variable (GNP) was more substantially associated with expenditures than was Peters' political variable (Civil Service), and that these results were reversed for Norway, with that political variable being more substantially associated with expenditures than was the socio-economic variable. Nevertheless, these discrepancies are the product of his use in this later article of a different conceptual framework for organizing the relationships, namely the relative impacts of political and socio-economic variables on public policy, rather than the mobilization model of political development.

## 2. Lafferty (1971)

Most of the hypotheses of our study were derived by superimposing descriptive and historical writings about Norway and Sweden upon Lafferty's (1971) empirical comparisons and interpretations concerning



those two countries, then organizing them conceptually according to the mobilization model of political development (Peters 1970).

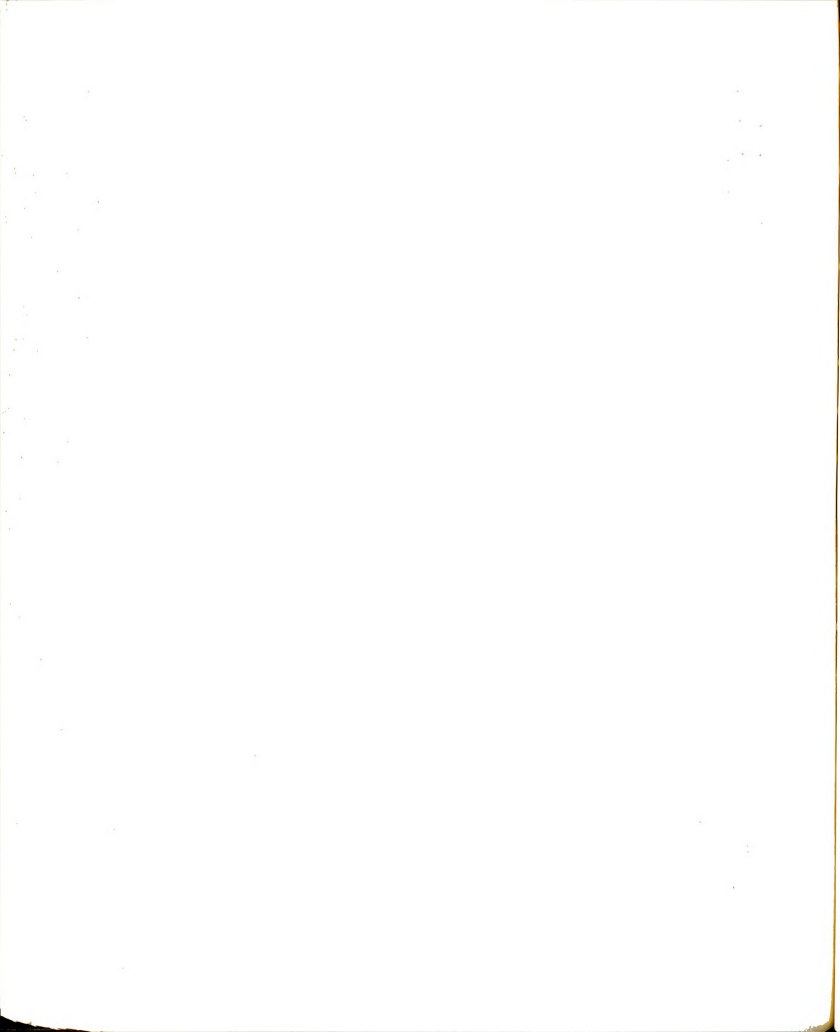
Lafferty's analysis implicitly focussed on the mobilization-model concepts of economic wealth, social mobilization, political mobilization, and democratization. However, his methods of analysis did not always involve systematic, quantitative testing of the relationships among these concepts, but often emphasized the timing of events in each of those areas. We combined these specific depictions with the descriptive and historical accounts of those events and of government activity to produce specific hypotheses.

In retrospect, the problem with this procedure may have involved the brevity of the time-span covered by Lafferty's analysis in comparison with ours. That is, most of the developments he discussed occurred in the period from about 1890 to about 1930, whereas our analysis covered the entire span from 1875 to 1965 and the shorter period from 1905 to 1965. Whenever Lafferty did attempt quantitative analysis, his data base contained a dangerously low number of observations, usually decennial or quintennial averages over that brief forty-year period. This, plus differences in variables and operationalizations and in the specific relationships tested, made it impossible to compare correlations directly. But even without these differences, such a vast difference in the time-span covered in the data base might have produced vastly different results. That is, testing hypotheses about the similarities and differences between Norway and Sweden over a long period, based on information concerning the middle

portion of that period, required assuming that the early and late portions of the period would not significantly affect the results.

Now that the data are at hand, how accurate was this assumption? We should first point out that it involved two competing dimensions: first, that the relationships would be similar for the two countries in the early and late portions of the total time period; and second, that the relationships would remain stable throughout the entire time period for both countries. The first of these dimensions constituted the initial assumption made prior to the analysis. The second dimension remained tacit until after the analysis. In lieu of correlation analysis of the shorter periods, which would involve too few observations for reliable estimates, the best way to demonstrate this involves examining the residuals of the relationships, that is, the errors in predicting the dependent variables from the independent variables specified in the regressions. These reveal the trends in the data over time and permit detection of shifts in the relationships.

Figure 7-1 presents a summary of an examination of the residuals in the relationships among four of the six indicators common to our analysis and Lafferty's: Investment, Union Membership, Left Vote, and Representation. The latter is what Lafferty called the Voter Mandate Ratio, the leftist parties' proportion of legislative seats divided by their proportion of the total vote. He also used the proportion of the labor force employed in agriculture, but that variable behaved very similar to Investment in the residual patterns. Both of these variables were indicators of our mobilization-model concept of social





Union Membership versus Investment				Left Vote versus Investment			
Norway		Sweden		Norway		Sweden	
Years	Pattern	Years	Pattern	Years	Pattern	Years	Pattern
1906-1918	Linear	1905-1911	Random	1906-1918	Linear	1905-1917	Linear
1918-1953	Random	1911-1948	Linear	1918-1945	Random	1917-1940	Random
1953-1965	Linear	1948-1964	Linear	1945-1965	Linear	1940-1964	Linear
Representation versus Union Memb.				Representation versus Left Vote			
Norway		Sweden		Norway		Sweden	
Years	Pattern	Years	Pattern	Years	Pattern	Years	Pattern
1906-1933	Random	1905-1914	Linear	1906-1965	Random	1905-1914	Linear
		1914-1936	Random			1914-1928	Linear
1933-1965	Linear	1936-1964	Linear			1928-1964	Random
Representation versus Investment							
Norway		Sweden					
Years	Pattern	Years	Pattern				
1906-1930	Random	1905-1914	Linear				
		1914-1936	Random				
1930-1965	Linear	1936-1964	Linear				

Figure 7-1. Patterns of Residuals for Selected Relationships, Post-1905 Period Only.

mobilization. Lafferty also used Gross National Product, which we conceptualized separately from social mobilization, but which he included along with Investment and Agricultural Employment under the general rubric of economic development. Finally, Figure 7-1 ignores the period before 1905 because of its lack of significant variation in the variables, reflecting the fact that development did not really begin until the early 1900's.

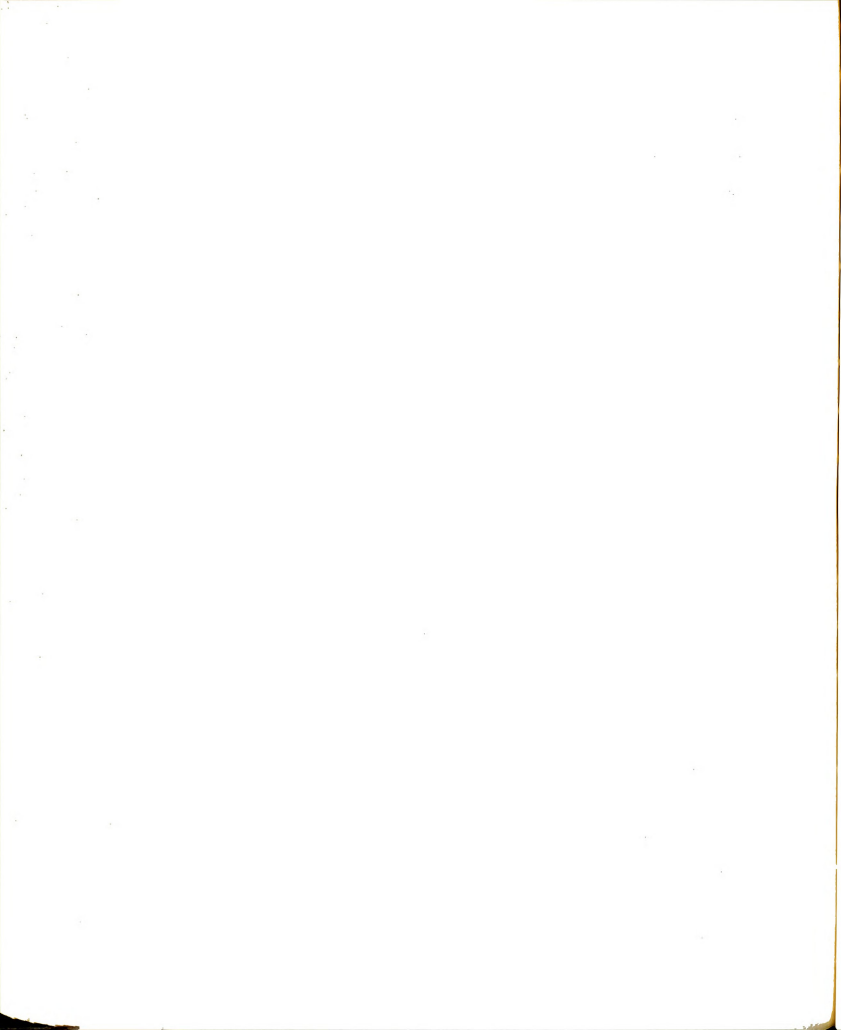
Figure 7-1 shows that for the most part the relationships were similar in Norway and Sweden for the post-War period, and that most of the differences between the two countries did occur in the period covered by Lafferty's analysis, although the period of differences did extend until after the War for some relationships. This suggests that our initial assumption was reasonably well justified, so that our analysis could proceed to cover a longer period of time in order to include more observations while still focussing on the crucial period of difference between the two countries. However, the shifts in the nature of the relationships over time reflect the severe autocorrelation in the data over such a long period of time, which of course could not be detected until the analysis had been performed. Also notice that these shifts occur at widely varying points in time for different relationships, so that it is really inaccurate to talk of distinct periods for all of the relationships in the first place. Such wide variation in temporal shift-points seems to apply to the other variables in our data base as well.

The shifting nature of the relationships over time provides a possible explanation for the failure of some of our hypotheses: Those

expected relationships simply did not hold up over the entire period from 1905 to 1965, although others did. Detailed analysis of more frequent data points might show that the variables moved coterminously during some portions of that period, but independently in others. Of course, the residuals indicate that different relationships would be confirmed in different portions of the period. And such analysis must await the collection of more frequent data-points. Finally, the shifting in the nature of the relationships over time requires historical and methodological interpretations.

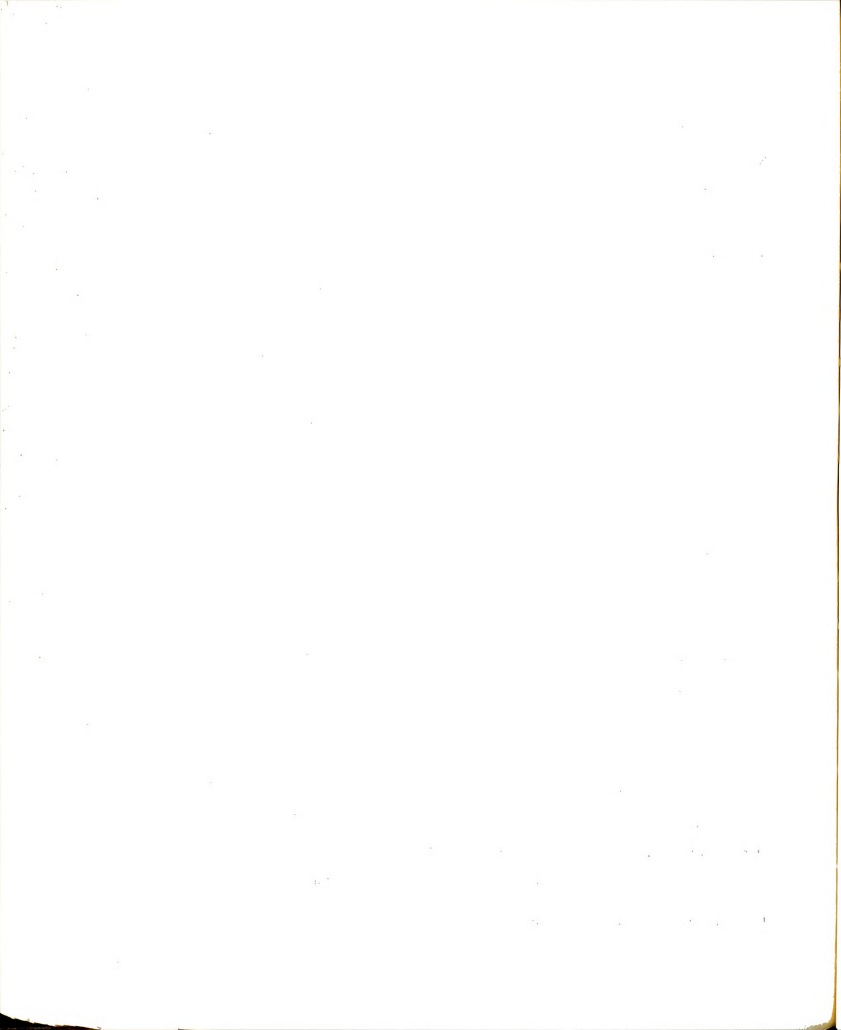
#### B. Methodological and Historical Interpretations

The major reason why so few acceptable relationships emerged from our data, and thus why many of our hypotheses could not be accepted, was high autocorrelation, which is almost unavoidable in time-series data. Again, autocorrelation arises when the residual errors in predicting a dependent variable from one or more independent variables are not independent across observations, but rather reflect a systematic disturbance lingering over several observations. In time-series data such a disturbance may be due to a missing variable that should be included in the regression equation; non-linearity in the relationships among the variables included; or non-linearity in the regression parameters over time, indicating different successive equations for that relationship. The extent of autocorrelation increases as the number of observations taken from a given time-span increases, that is, as the observations become more frequent. This was obviously the reason for the high level of autocorrelation in our



data; but the nature of that exaggerated autocorrelation has yet to be determined.

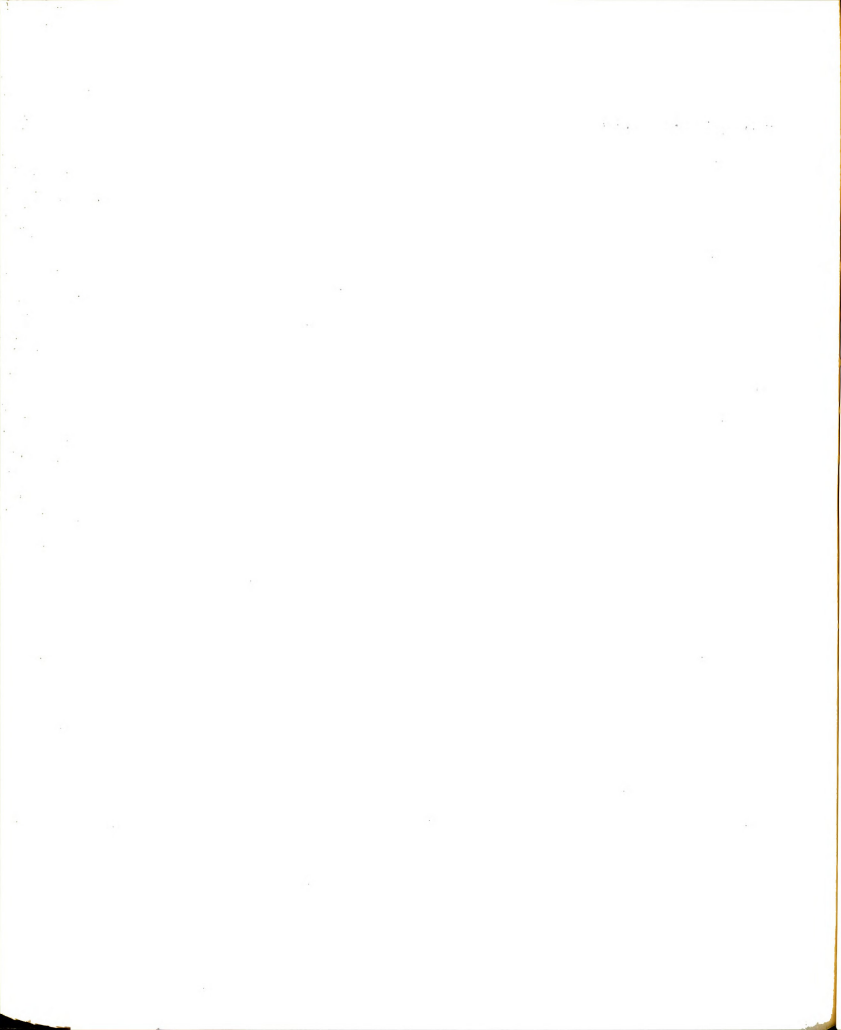
Some of the most likely sources of systematic disturbances capable of producing autocorrelation are episodic events that can cause systematic depression or inflation of estimates of a dependent variable by one or more independent variables, similar to the "missing variable" cause of autocorrelation. Such events must alter the relationship between two or more variables and must have effects strong enough to last over several time-points in order to produce significant autocorrelation. Although the entire examination of the residual patterns in our data need not be presented here, some of the results are interesting. One might expect political variables to be most affected by historical events, and the one variable that seemed to behave most differently in comparing Norway and Sweden was Voter Turnout, the proportion of eligible voters actually voting. Sweden's Turnout steadily increased in an oscillating fashion throughout most of the time period, whereas Norway's reached its highest peaks in the mid-1880's and again in the mid 1890's, then dropped precipitously at 1900, then climbed steadily in an oscillating fashion thereafter. (See Figure A-2 in the Appendix.) This early inflation of Norway's Turnout can easily be explained by the occurrence of the constitutional crises concerning first the parliamentary principle and then universal manhood suffrage, whereas Sweden's electoral reforms came later. Norway's drop in Turnout at 1900 was due to the poor showing among newly enfranchised voters. This historical difference is significant



enough to have affected most of the total-period relationships involving Turnout, causing significant autocorrelation when that early period was included in the analysis.

But not all political variables showed such historical differences, and non-political variables did not escape the effects of such differences. Two variables which displayed essentially similar residual patterns in their relationships with other variables in Norway and Sweden were Union Membership and Left Voting. This supports earlier suggestions that the political labor movements progressed similarly in the two countries; but it does not mean, of course, that the two variables formed similar relationships within each country, as was evident by their appearance in different acceptable relationships in the original analysis. Likewise, Total Population, Agricultural Employment, and Infant Mortality all tended to behave the same in both Norway and Sweden, although not necessarily the same as each other; whereas Urban Population, Gross National Product, Government Expenditures, and all "impact" measures except Infant Mortality tended to behave differently across the two countries. The differences for many of these variables are puzzling because their univariate plots, some of which can be seen in the Appendix, appear to be very similar when the two countries are compared. This just illustrates the fact that the interaction among variables is exceedingly complex.

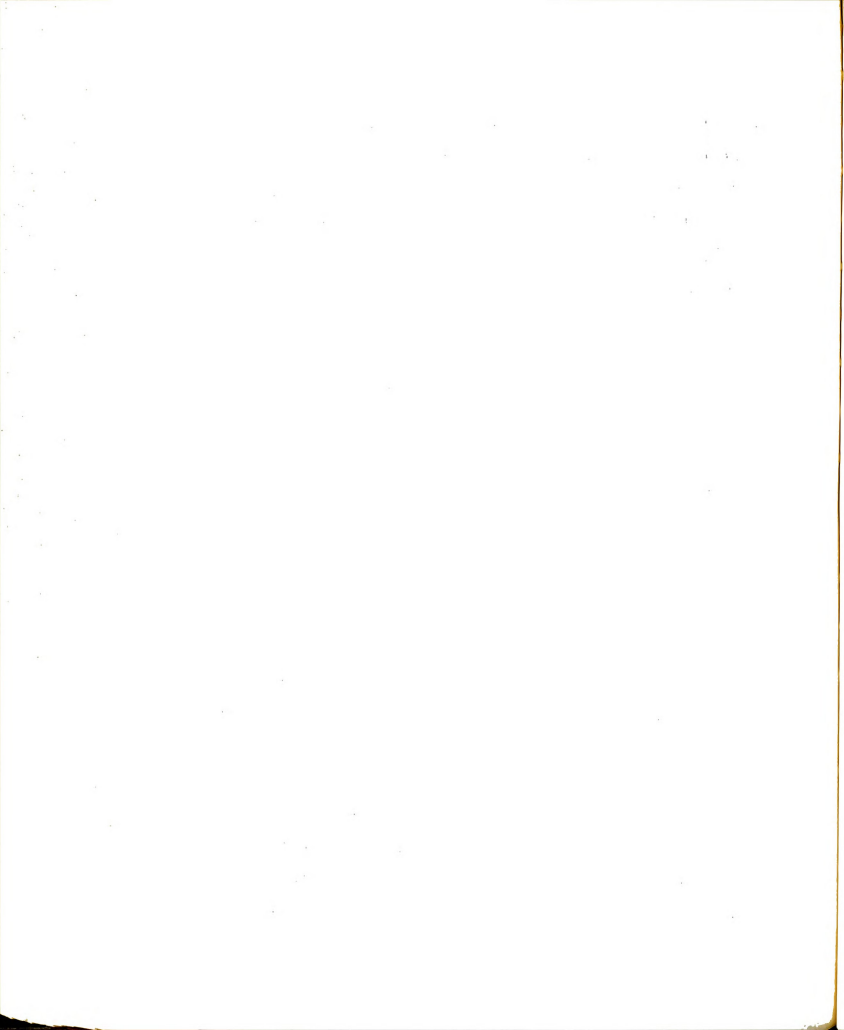
On the other hand, the way in which many of these variables combined to produce autocorrelated relationships is very understandable.





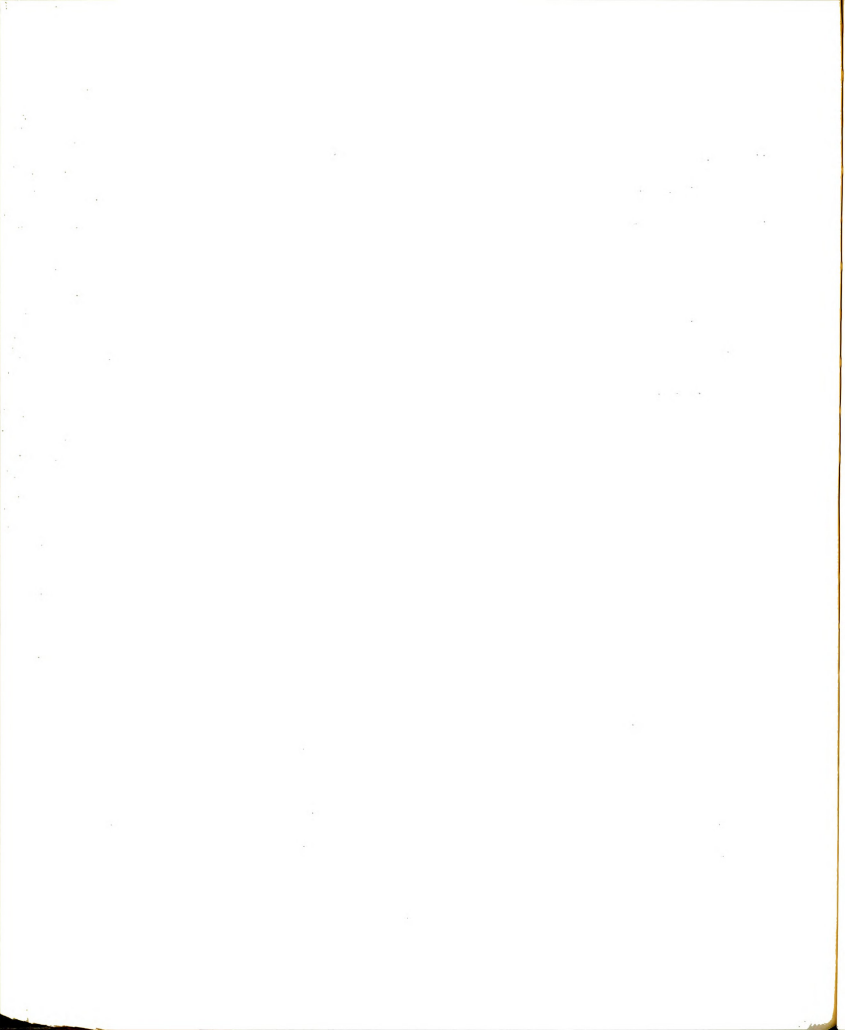
All of the variables measured in per capita monetary terms, namely Investment, GNP, Revenue, and Expenditures, were essentially exponential functions over the entire time period. (See Figures A-5 and A-6 in the Appendix.) When correlated with each other, acceptable relationships often resulted. However, when correlated with variables having different shapes over time, severely autocorrelated relationships usually resulted. The same was true of the political mobilization and democratization measures, which were generally logistic and logarithmic curves over the entire time period, approaching a ceiling toward the end because they were measured in proportional terms. (See Figures A-1 and A-2 in the Appendix.) Finally, the three basic measures of social mobilization, namely Total Population, Agricultural Employment, and Urban Population, tended to be smoothly increasing or decreasing functions over the entire time period. (See Figure A-3 in the Appendix.) However, none of the measures in any of these groups were identical, and the patterns of interaction among them were still complex.

In addition to the alteration of the nature of the variables and their interactions by historical events and processes, other possible explanations exist for the high levels of autocorrelation in our data. The most theoretically appealing possibility concerns "missing variables" not included in our analysis. Because autocorrelation in a relationship between two or more variables represents some sort of systematic disturbance lasting over several time-points, such a disturbance might be the result of a variable not included in that



relationship. That is, the exogenous variable might interact with the endogenous variables in such a way that the estimates of the dependent variable by the independent variables are systematically distorted, as reflected in the residual pattern. The best method of eliminating such autocorrelation is to identify the variable responsible for it by comparing the residual pattern of the relationship with the univariate distributions of suspect variables, then including each suspected variable or combination of variables in the relationship. Usually the selection of such variables is guided by theory as well as methodological convenience, and care must be exercised to avoid the added problem of multicollinearity, or high correlation among the independent variables in a relationship. This is usually a severe problem only when the correlations among the independent variables are higher than the correlations between each independent variable and the dependent variable. That is, only then will the standard error of estimate for the relationship actually increase with the addition of new variables.

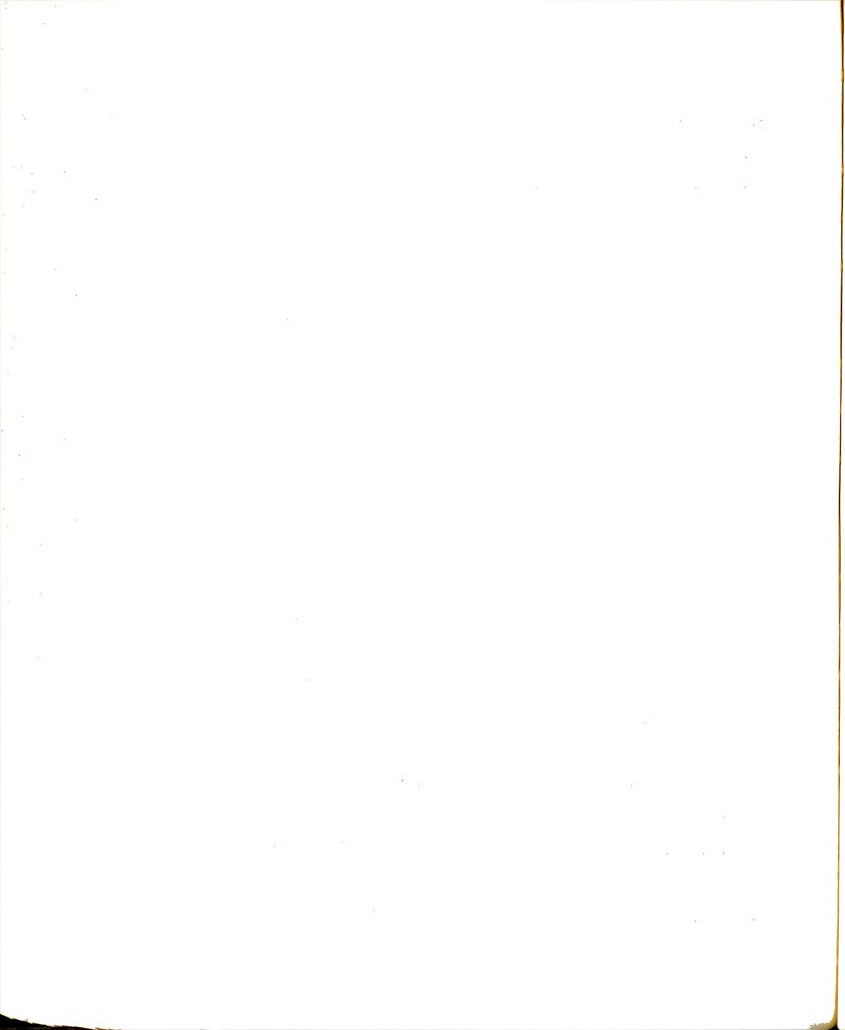
But even more fundamentally, such exogenous variables must be included in one's original data base in order to be even considered as candidates for inclusion in an autocorrelated relationship. If the "missing variable" has been so included and can be identified as the culprit causing the autocorrelation, then the autocorrelation may be eliminated. However, if the "missing variable" has not been included in the data base and thus cannot be identified as the disturbance, then the autocorrelation may not be eliminated. In our



case numerous multiple relationships were attempted in an effort to reduce the autocorrelation on the basis of residual patterns, and many such relationships succeeded, as reported in the previous chapters. Nevertheless, many relationships remained plagued by significant autocorrelation, possibly caused by exogenous variables not included in the original data base.

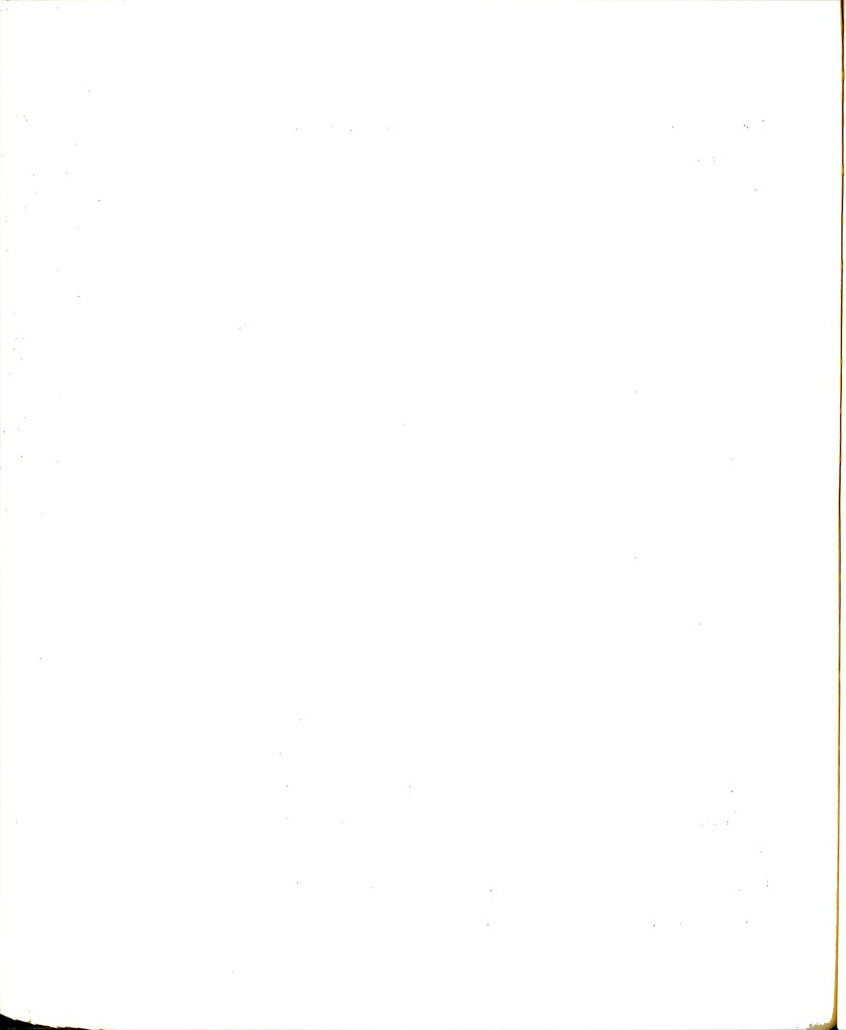
Such variables may or may not be measurable at this level of analysis. For example, one theoretically important set of variables not included in our analysis that still might be measured is technology, which might explain much of a government's ability to provide public services. As reported earlier, attempts were made to gather aggregate data on the number of patents issued, but they were not available for Norway before about 1950. Similar efforts to obtain complete and consistent data on energy consumption bogged down in a miasma of changing definitions of imports and exports of coal, oil, wood, and so forth. Examples of important missing variables which might not be susceptible to measurement at this level of analysis are cultural values and social, economic, and political attitudes that might affect public acceptance of collective rather than individual efforts at social amelioration. The inclusion of such variables as technology and values must await the development of better measurement techniques.

Another possible explanation of the high level of autocorrelation in our data is that the variables are not related to each other in a linear fashion. The method of analysis employed here involved



single-period linear correlation and regression; but Peters' (1970) analysis of successive time periods for Britain, France, and Sweden suggested that there is a curvilinear relationship between social mobilization and political mobilization. Although he did not clearly specify whether that curvilinearity resides in the variables or in the regression parameters, it is certainly possible that many of the relationships in our data are curvilinear in the variables themselves. That is, some variables may be expressed as logarithmic, exponential, logistic, or other, more complex mathematical functions of other variables, rather than as straight-line functions. Such relationships may be theoretically expected in such areas as social mobilization versus political mobilization, where increases in the smaller and larger values of social mobilization variables may not have an effect on political mobilization, but where increases in the middle range of values will have an effect. Plausible theoretical reasons why curvilinear relationships should occur in other areas might also be conjured. Then the variables may be transformed using appropriate mathematical functions in the attempt to specify curvilinear relationships. However, such transformations are often not powerful enough to straighten out the residual pattern and remove the autocorrelation completely, as indicated by our efforts in the previous chapter.

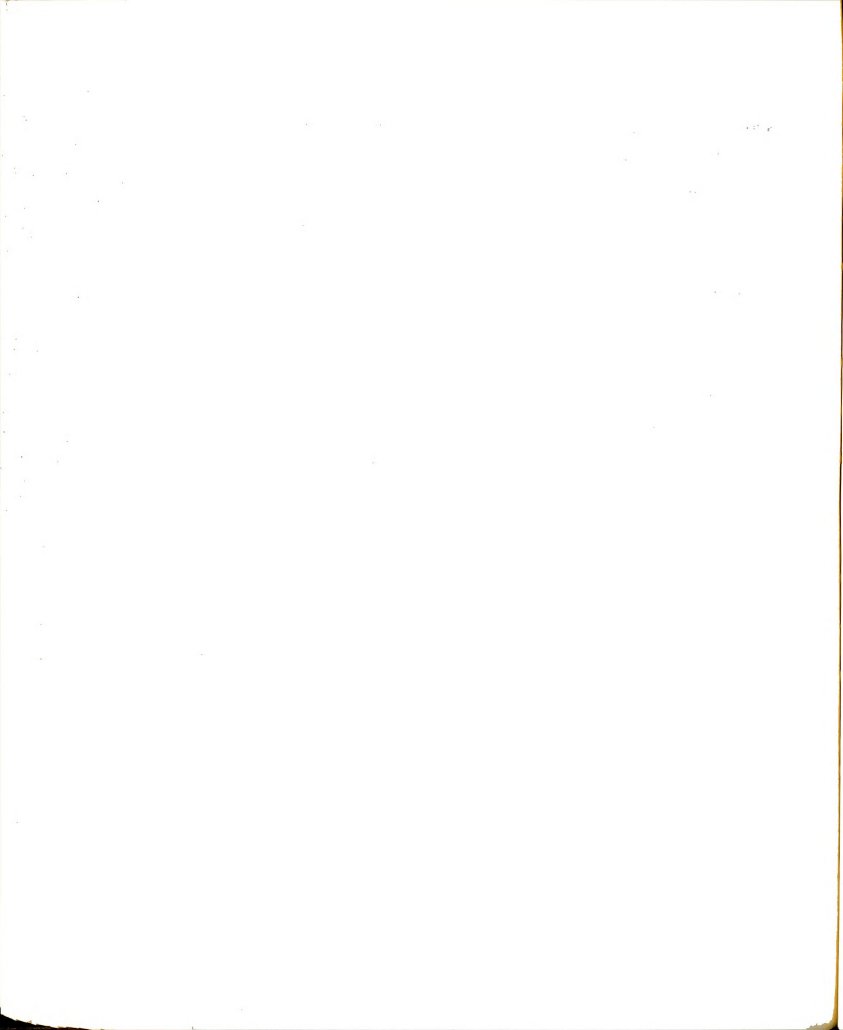
But the relationships may be curvilinear in the regression parameters rather than in the variables, in that the variables themselves are still related in a linear fashion, but at different "angles" over time. That is, the regression coefficients, giving the





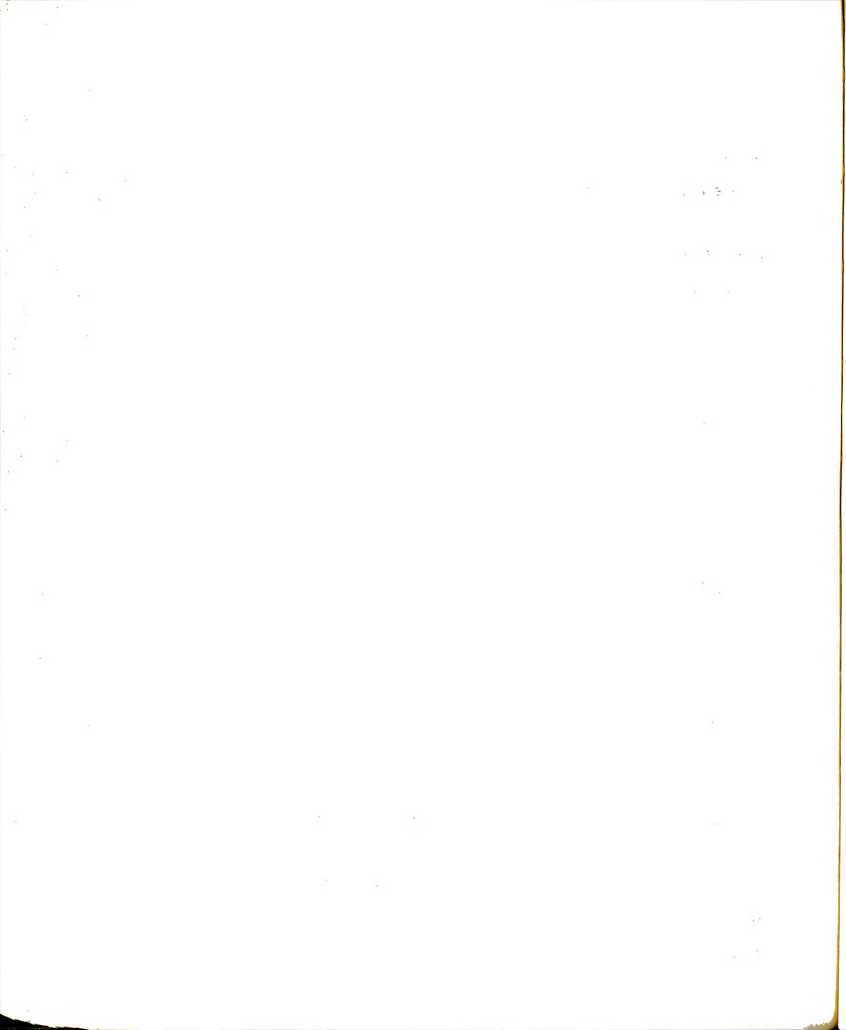
slope of the straight-line prediction from the independent variable to the dependent variable, may be different for different portions of the time period. This was suggested by our earlier discussion of the variation in temporal shift-points for certain relationships during the 1930's and 1940's. For a logistic-style residual pattern, the coefficient may be small during the early and late portions of the period, but large during the middle portions. Such a pattern could be found by breaking the total time period into smaller portions and testing the relationships in each portion to detect significant changes in the regression parameters. This may yield a better description of the relationship between social mobilization and political mobilization, for example, than a simple logistic-function linear transformation of the variables. But when the variables tend to increase monotonically over time, as most developmental variables do, then it is difficult to tell whether the curvilinearity is in the variables themselves or due to changes in the parameters of the relationship over time (Kmenta 1971: 469-472).

Regardless of the cause of the high level of autocorrelation in our data, it could be removed by one of a set of specific transformations of the data known as "de-trending." Such transformations involve adjusting the value of the selected variable for each observation according to the amount of autocorrelation between the residual for that observation and the residual for the previous observation (Kmenta 1971: 287-292). There is nothing unethical about this method, because it merely controls for autocorrelation as though it were a



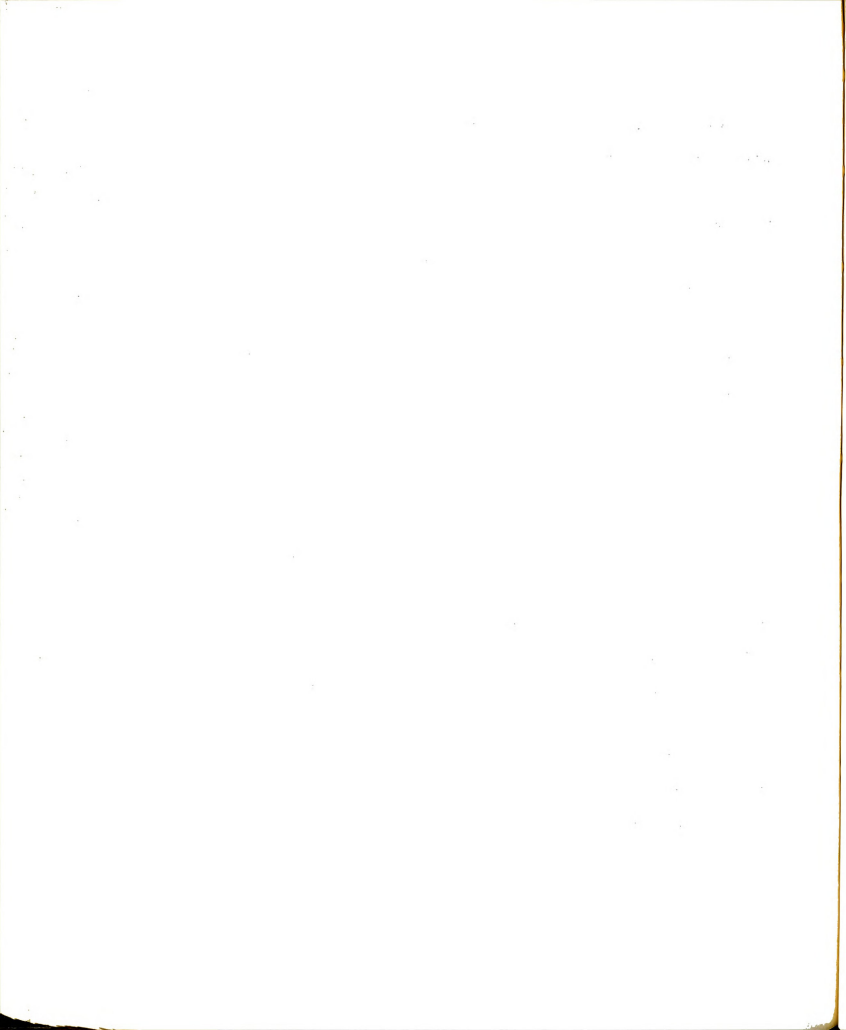
contaminating variable and operates essentially like a regular linear transformation. Nevertheless, in our opinion this method lacks theoretical justification because one does not know the nature of the contaminating variable being controlled. Other methods of removing autocorrelation should therefore be attempted before resorting to de-trending the data.

Finally, questions about the quality of measurement at the aggregate level of analysis were raised in the first chapter. One such argument involves simple reliability and validity, that aggregate measures often do not really represent the intended concepts, or do so in an inconsistent or unstable way. For example, Michael Drake (1972) has argued that even though Norway is quantitatively an urbanized country (if small towns are included in the definition of "urban"), most Norwegians retain strong ties to the rural subculture through relatives and recreation, often maintaining "second homes" in the countryside. This suggests that the aggregate measures of urbanization used in our analysis may not have been equivalent for Norway and Sweden. However, Figure A-3 in the Appendix shows that Sweden's proportion of the population living in cities larger than 20,000 continued to grow after 1903, whereas Norway's leveled off until after the Second World War. Today, Sweden has roughly 50 per cent of her population living in such cities, compared to Norway's 25 per cent. Thus, Drake was probably referring to official figures which often include small towns under 20,000 in size in the definition of "urban" areas. Besides, rural ties and orientations may be just as strong in Sweden.



The fact that most of the acceptable relationships in our analysis were economic in nature and were measured in monetary units suggests that our social and political measures may have harbored more error variance and may thus have been less reliable measures. However, our sectoral expenditures were plagued by error variance due to changes in budgetary classification over time. Also, the larger number of acceptable relationships among the economic variables may also have been due to the aforementioned similarity in shape of their distributions as measured in per capita monetary units. Or, as suggested in the previous chapter, economic variables may inherently be more clearly and simply related to each other than are social and political variables, in that social and political phenomena may inherently be more complex than economic phenomena.

Another argument is the notion that aggregate measures are too abstract and nebulous to be used as indicators of the concepts under examination, or that the system-level concepts themselves are too abstract and nebulous to describe the social, political, and economic phenomena of interest. Although the first chapter tried to lay these objections to rest, the possibility of their truth still remains in certain respects. The argument just cited, for example, is very similar to the "missing variable" cause of autocorrelation, in that aggregate variables may not interrelate in an acceptable fashion because there are missing links or intervening steps in between the processes they indicate, and those missing variables may not be susceptible to aggregate-level measurement. For example, why should

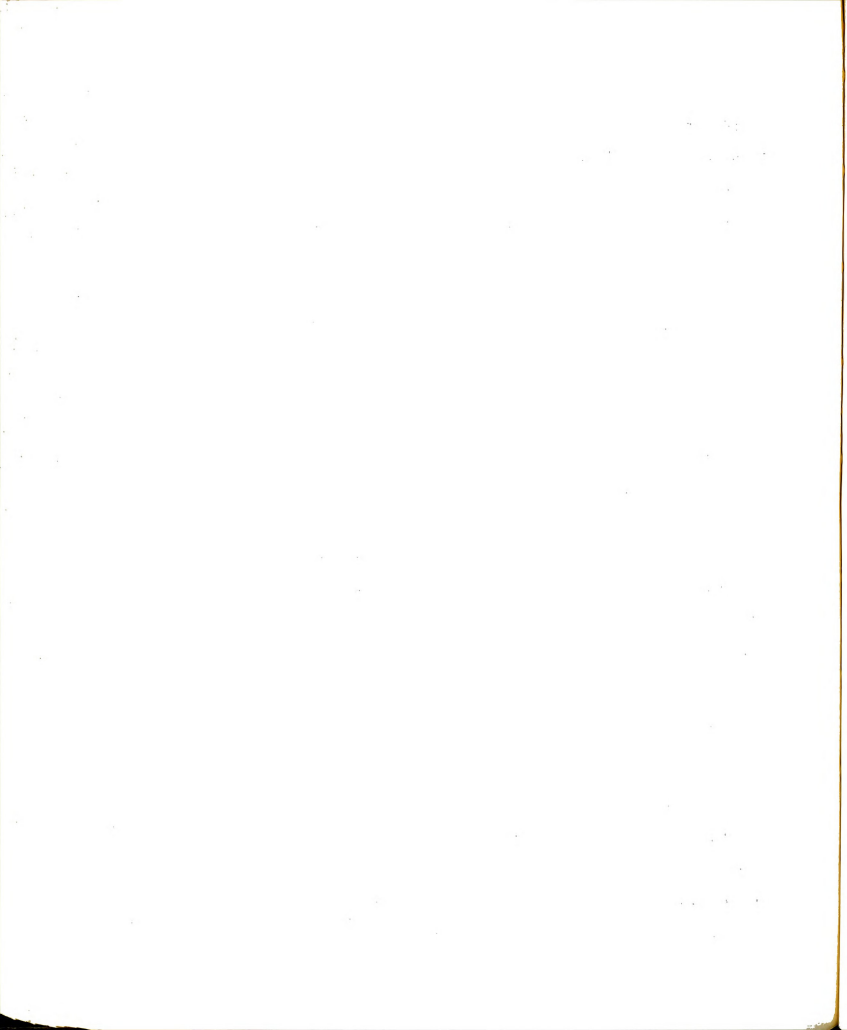


we expect democratization to be related to government penetration without considering the underlying changes in attitude expected of government bureaucrats? Similarly, why should we expect health expenditures to be related to infant mortality without considering whether those funds are channeled into pre-natal and post-natal care? Obviously any definitive explanation of a complex process in any science requires corroborating evidence at several levels of analysis. Nevertheless, if the components of a complex process are in fact related, that relationship will show up even at the highest level of abstraction if the techniques of analysis are appropriate and sufficiently sensitive. Our future task is to make these appropriate techniques of analysis more sensitive.

In summary, the failure of some of our hypotheses was due to severe autocorrelation in the relationships, which resulted from curvilinearity in the nature of the relationships over time, missing variables which distorted the relationships, and the tendency of variables with different shapes over time to associate with each other in an autocorrelated manner.

## II. A Substantive Interpretation

Even though the preceding discussion may have provided some explanations for the failure of the original hypotheses, we are still faced with the task of deriving some meaning from the acceptable relationships that did emerge from the data. To do this we must first extricate ourselves from the framework of the original hypotheses and re-examine the results from a different perspective. Probably the

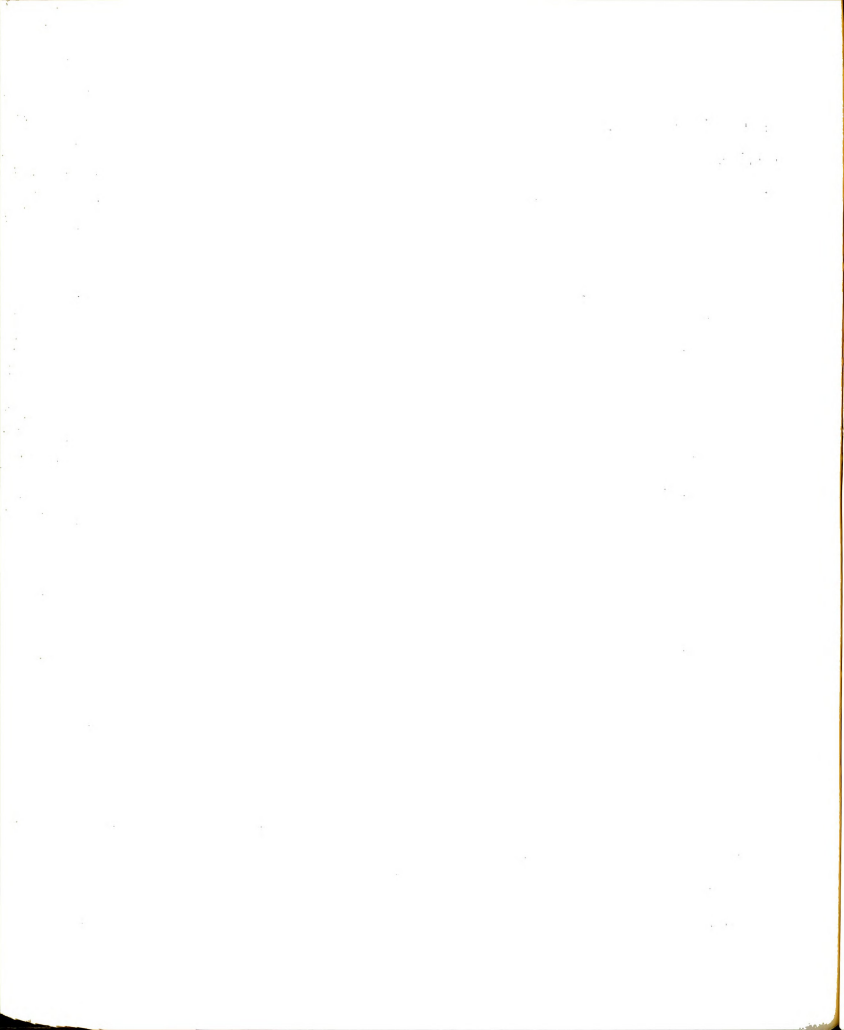




most useful strategy is to formulate separate mobilization models of development for Norway and Sweden based on the relationships deemed acceptable in our original analysis, and then compare the two models in terms of the presence and absence of specific links between the general concepts of the mobilization model, and the comparative strength of those links for the two countries.

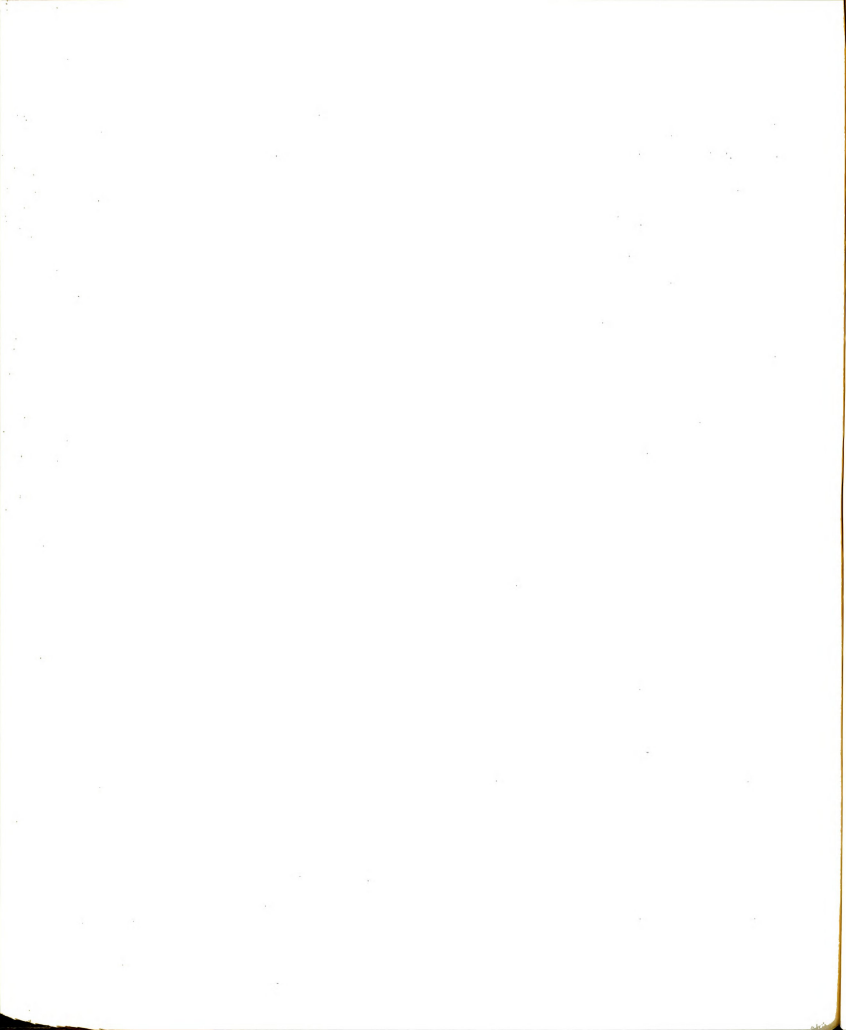
This re-examination of the results will not include the two mobilization-model concepts for the societal impacts of government expenditures. No link was confirmed between expenditures and impacts, and only one acceptable relationship emerged in that entire area: Doctors per Capita versus the Death Rate for post-1905 Norway. Besides, the correlation for that relationship was barely significant, so that it was not worth including here. The re-examination of the results will also focus only on the post-1905 time period, because in both countries development did not really begin until about the turn of the century. This descriptive historical generalization is borne out by the lack of variation in most of the variables in our data base before about 1900, which resulted in a dearth of acceptable relationships for the total time period. (See the Appendix.)

Also note from Figure 6-1 in the previous chapter that the two aspects of the response of Norwegian political elites to the demands of political mobilization, namely penetration and democratization, were associated with different indicators of political mobilization. Penetration was more substantially associated with Union Membership, whereas democratization was more substantially associated with Left



Vote and Voter Turnout. As discussed in Chapter Four, although Lafferty (1971) conceptualized Union Membership as being part of the response of the political labor movement to economic development, and although Peters (1970) conceptualized it as being an indicator of political mobilization, it could conceivably be conceptualized as another indicator of social mobilization, or perhaps as standing midway between the two concepts of mobilization. Certainly the size of the labor union movement can be considered another social aspect of the industrialization process, rather than a truly political response to that process. This re-conceptualization of Union Membership as an indicator of social mobilization rather than political mobilization is also supported by the more substantial association of social mobilization with government penetration for Norway than for Sweden. That is, if the only indicator of political mobilization associated with government penetration is Union Membership in Norway, and if social mobilization is also more substantially associated with government penetration in Norway, then it is reasonable to suspect that Union Membership may be an indicator of social mobilization rather than of political mobilization. Thus, although the relationships of union membership with the other indicators of social mobilization were significantly autocorrelated for both Norway and Sweden, the results support the re-conceptualization of Union Membership as an indicator of social mobilization rather than of political mobilization.

Figure 7-2 presents the links among the concepts of the mobilization models of political development confirmed by acceptable



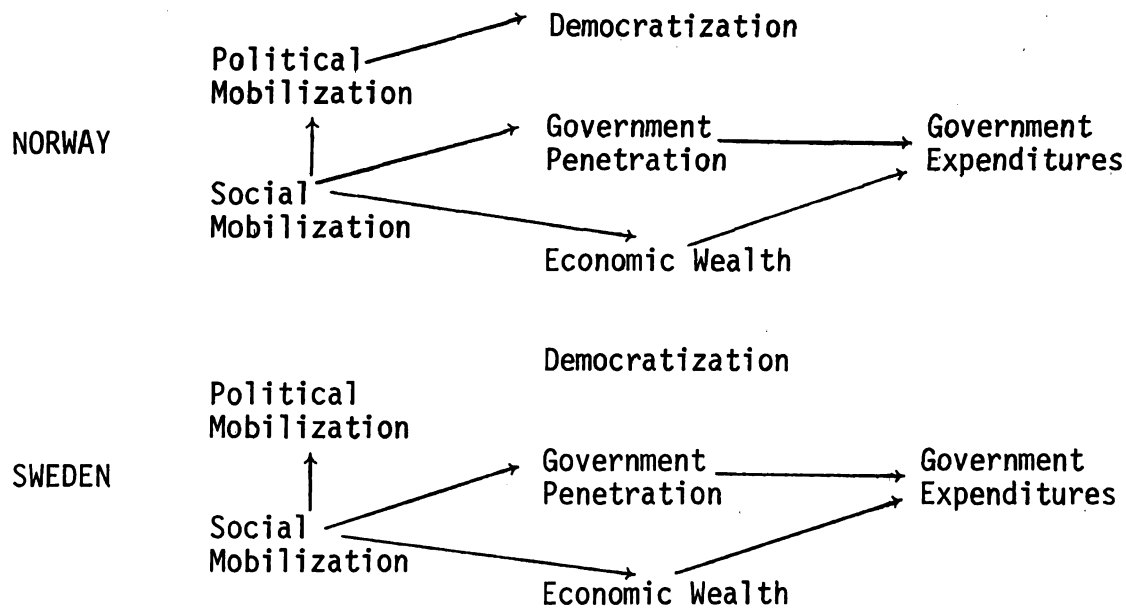


Figure 7-2. Confirmed Models of Development for Norway and Sweden, Based on Acceptable Relationships Among Concept Indicators, Post-1905 Period Only.

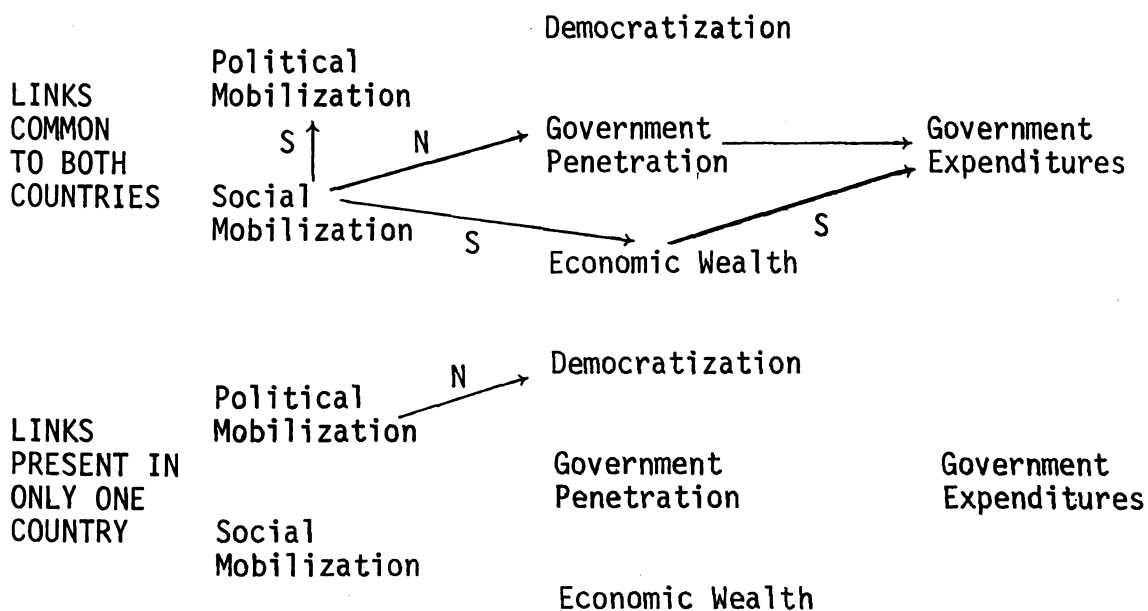
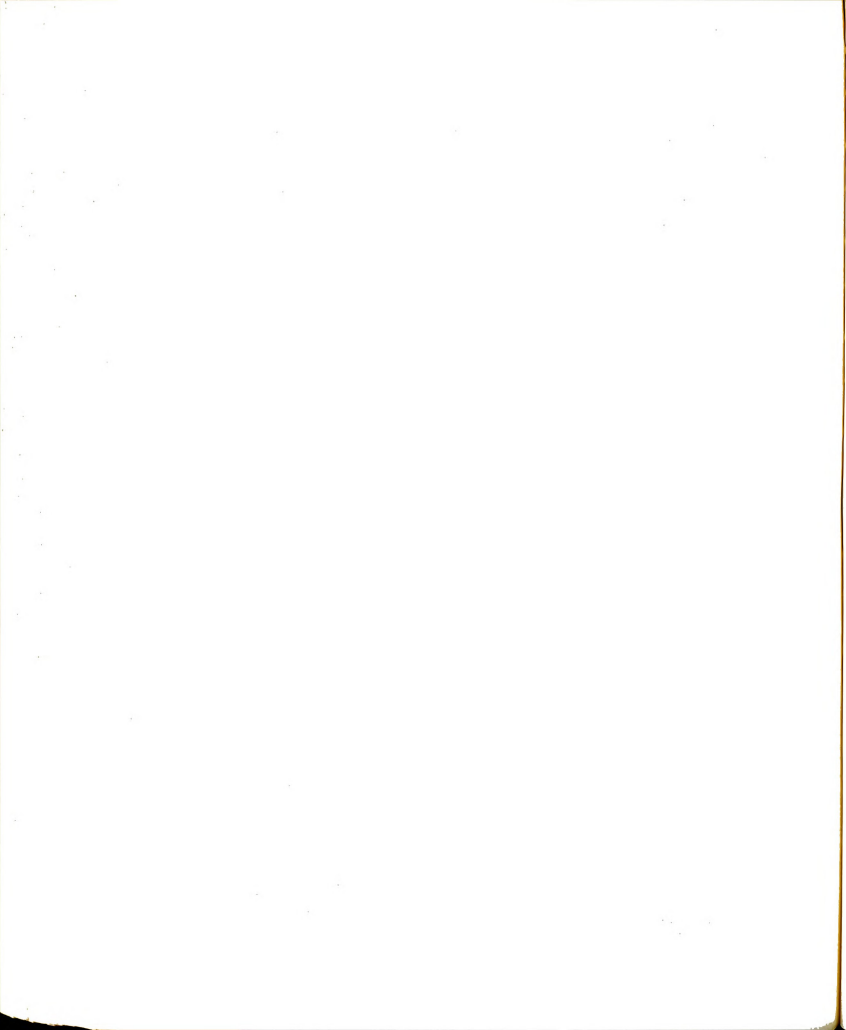
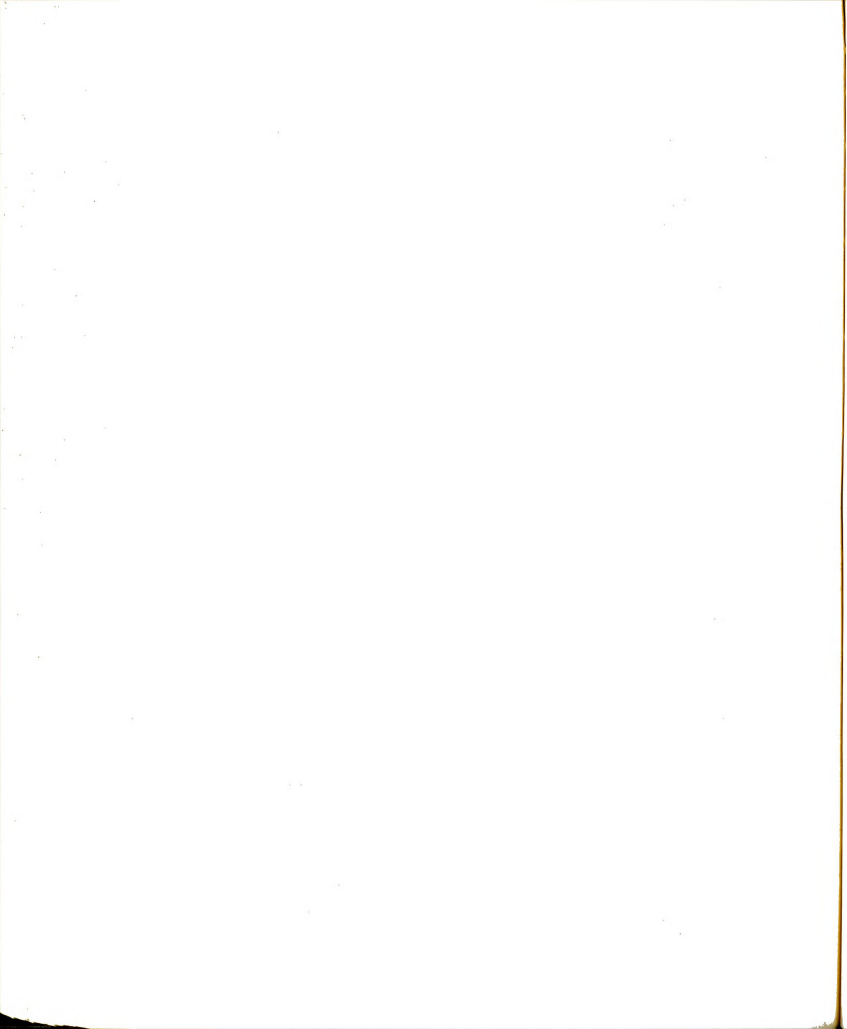


Figure 7-3. Common and Different Conceptual Links in Confirmed Models of Development for Norway and Sweden, with the Country for Which the Relationship Was More Substantial Indicated, Post-1905 Period Only.



relationships among the indicators of those concepts, for Norway and Sweden in the post-1905 period. Again, bivariate relationships were deemed acceptable on the basis of significant correlation and lack of significant autocorrelation. For multiple regression equations, acceptable relationships here involved only those independent variables whose beta weights were statistically significant in the majority of acceptable equations for the pair of concepts under consideration. That is, if the variable was usually brought into the equations only to eliminate autocorrelation and did not contribute significantly to the proportion of variance explained in the dependent variables, then that conceptual link was not considered here to be confirmed. The specific indicators involved in the confirmed conceptual links can be obtained from Figure 6-1 and Table 6-15 in the previous chapter.

The next step is to examine the similarities and differences between these models of development for Norway and Sweden. Figure 7-3 presents the conceptual links confirmed by acceptable relationships that were common to the models for both countries, and the links that were present in only one country. Each of the links in Figure 7-3 is labelled with the first letter of the name of the country for which the relationships in that link were more substantial. That is, the links labelled "N" had more numerous acceptable relationships for Norway than for Sweden. Links labelled "S" had more acceptable relationships for Sweden than for Norway. Finally, links not labelled showed no significant difference between the two countries in their number of acceptable relationships.





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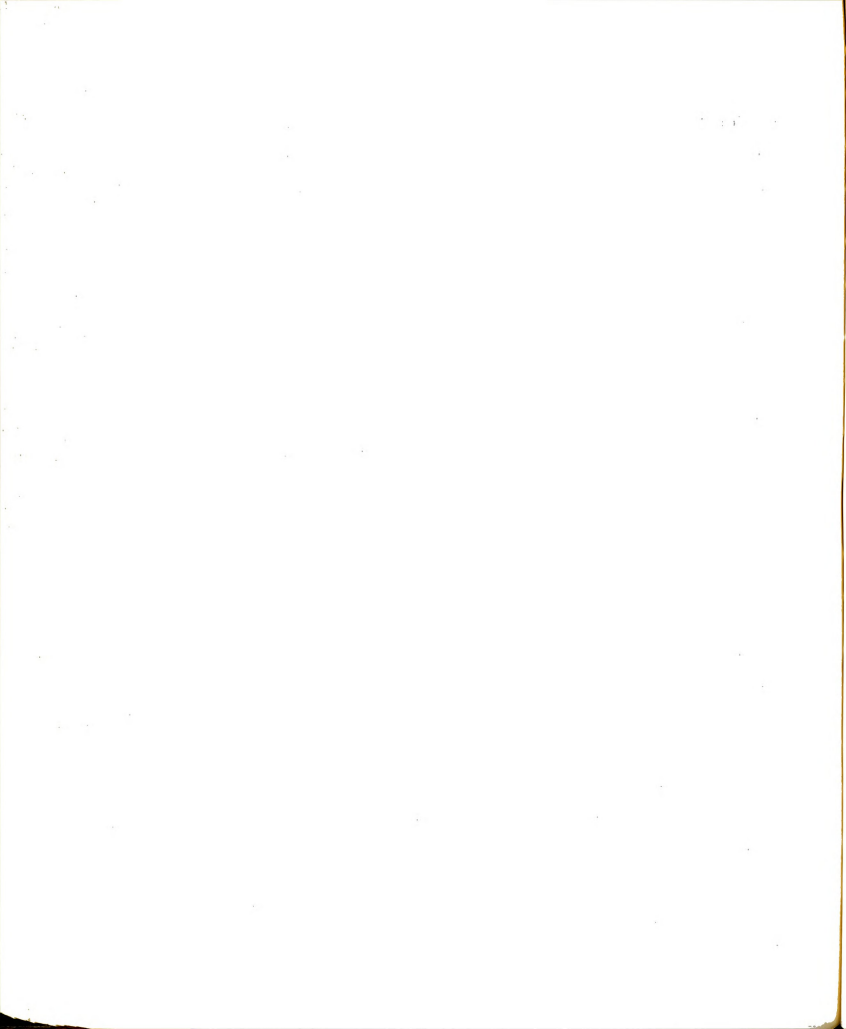
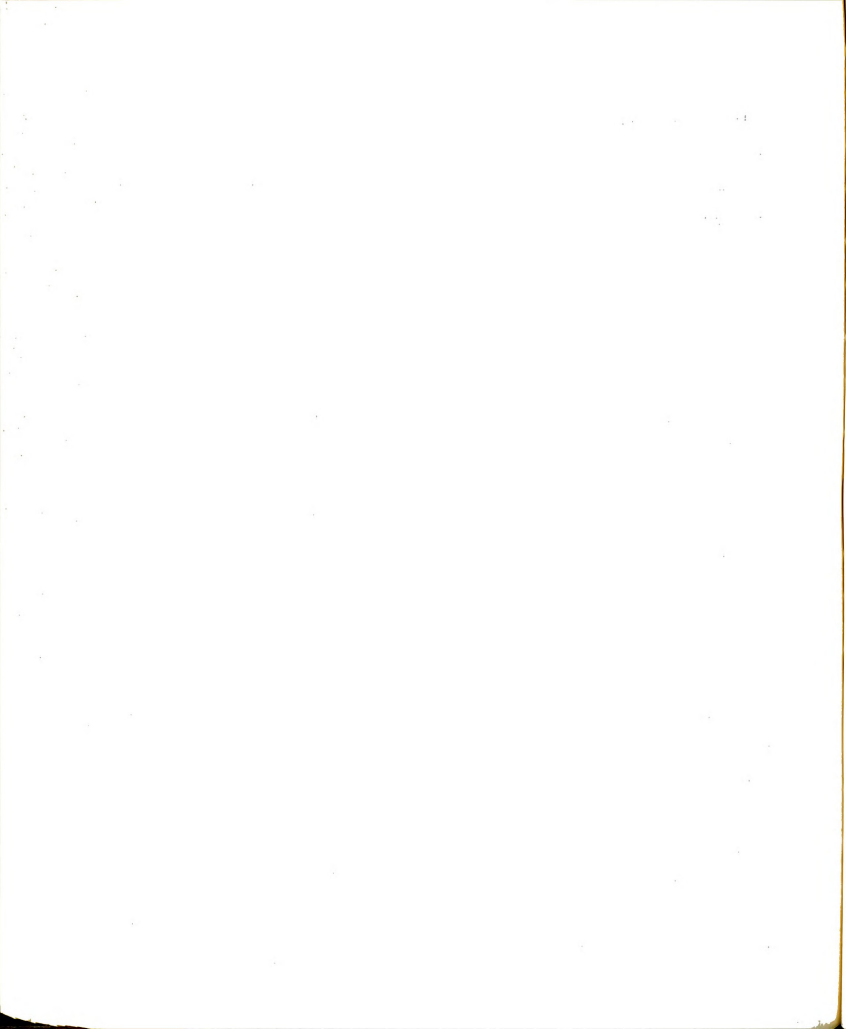


Figure 7-3 shows that the link confirmed for both countries between social mobilization and government penetration proved to be more substantial for Norway than for Sweden. On the other hand, the links between social mobilization and economic wealth, and between economic wealth and government expenditures, proved to be more substantial for Sweden than for Norway. Similarly, the link between social mobilization and political mobilization was more substantial for Sweden than for Norway. But the link between government penetration and government expenditures was equally substantial in both countries. Most importantly, Figure 7-3 shows that the only significant difference between the models of development for Norway and Sweden was the link between political mobilization and democratization, which was present in Norway but not in Sweden.

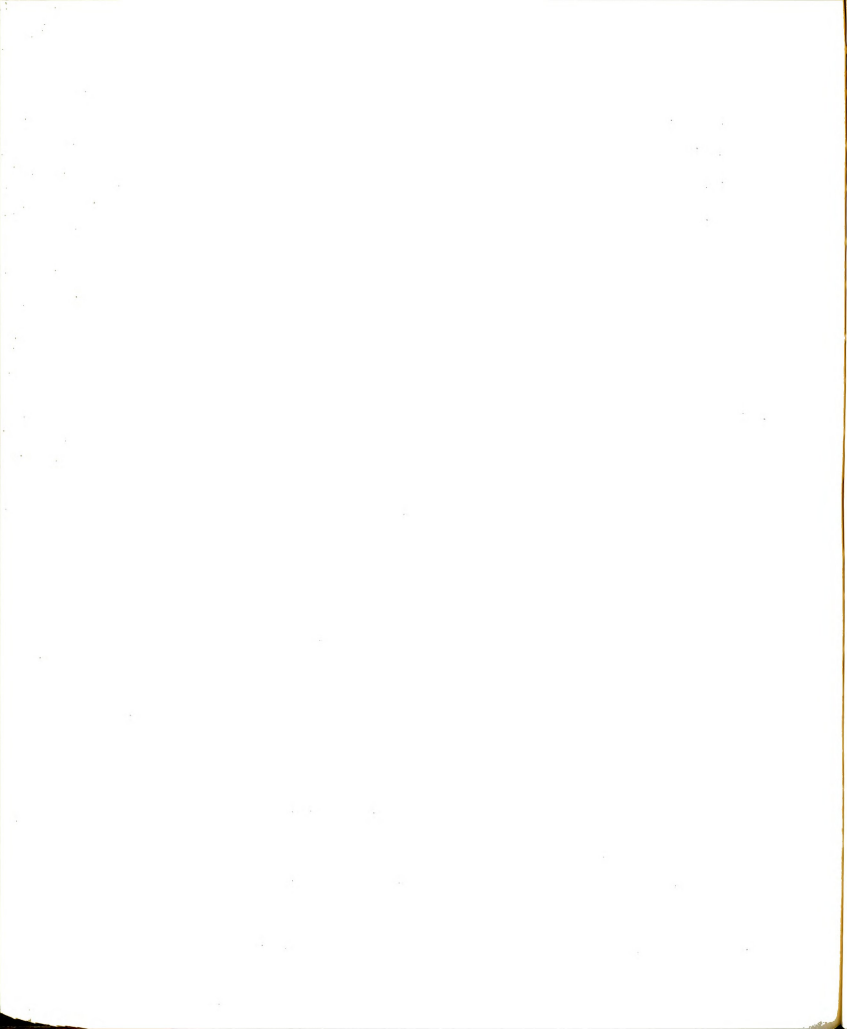
Obviously these similarities and differences between the models of development for Norway and Sweden indicate that, as expected, almost all of the major indicators of social mobilization and government penetration coincided more strongly with each other in Norway than in Sweden. The same was true of most of the major indicators of political mobilization and democratization. Finally, as expected, most of the major indicators of government penetration and government expenditures coincided equally strongly in both countries with each other.

However, contrary to expectation, all of the major indicators of social mobilization except Investment coincided more strongly with only one indicator of political mobilization, Voter Turnout, in Sweden than



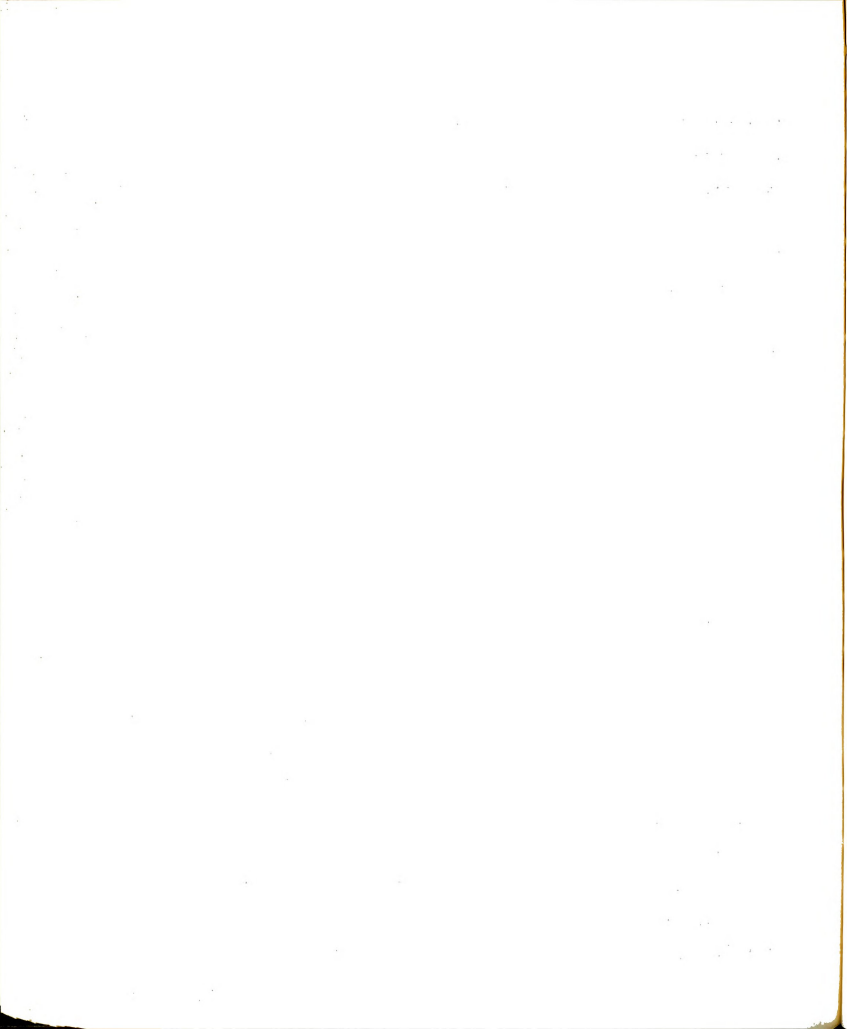
in Norway. Also, economic wealth unexpectedly coincided more strongly with most of the major indicators of social mobilization and government expenditures in Sweden than in Norway. Finally, no indicators of political mobilization or democratization coincided at all with any indicators of either government penetration or government expenditures.

Thus, the major unexpected findings focus on economic wealth, political mobilization, and democratization. However, further re-examination of the acceptable relationships involving economic wealth indicates that the differences between the two countries there are not really very substantial. Figure 6-1 in the previous chapter shows that the indicators of social mobilization for Sweden had to be combined into multiple regressions on economic wealth in order to obtain acceptable relationships, whereas Norway's wealth related acceptably to one indicator of social mobilization by itself, namely Agricultural Employment. Similarly, Sweden had only two more acceptable relationships between economic wealth and government expenditures than did Norway. Furthermore, visual examination of the distributions of economic wealth in the two countries over time reveals that they are remarkably similar. (See Figure A-6 in the Appendix.) Nevertheless, one could interpret the difference in the number of acceptable relationships involving economic wealth as indicating a greater level of "resource-consciousness" in Sweden than in Norway. That is, the formulation of public policy has perhaps depended more heavily on the availability of economic resources, and the development of those resources has perhaps responded more quickly



to industrialization and urbanization, in Sweden than in Norway. The impact of social change on public policy has perhaps been channeled more through the development of economic resources in Sweden, and more through the development of the public bureaucracy in Norway. There were far more acceptable relationships between social mobilization and government penetration in Norway than in Sweden, although the relationship between penetration and expenditures was equally substantial in both countries. Furthermore, Figure A-4 in the Appendix shows that Norway's Civil Service expanded a decade earlier, beginning in 1930, than did Sweden's. Thus, Norway's policy development may have depended primarily on the development of human resources rather than of economic resources, whereas Sweden's may have depended equally on both. This corroborates Peters' (1970) discussion of the intensive financial investment in public policy without bureaucratization in Sweden. But again, these differences do not appear to be great.

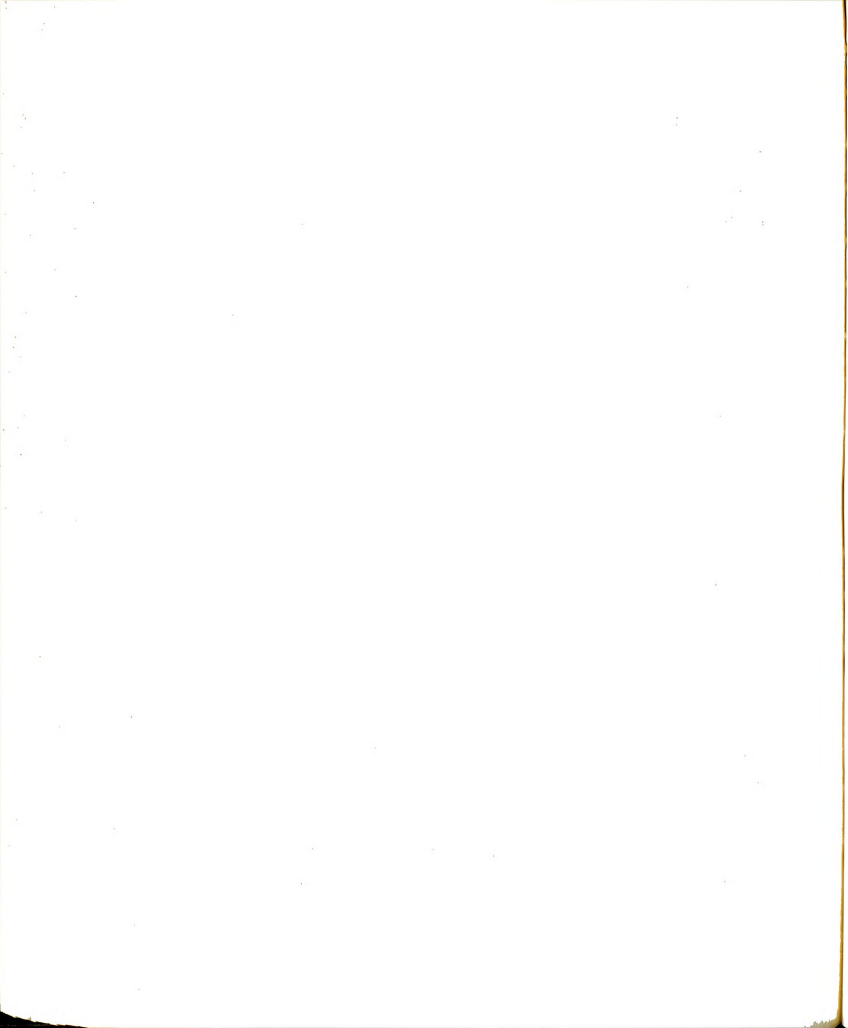
The major differences between Norway and Sweden and the major unexpected findings focus on political mobilization and democratization. This might have been anticipated from examination of the distributions of these variables over time, for they appear to be the distributions that differ the most between the two countries. (See Figures A-1 and A-2 in the Appendix.) In both countries indicators of social mobilization coincided with only one indicator of political mobilization, namely Voter Turnout. In Sweden there were three acceptable relationships between social mobilization and Turnout, and in Norway only one. As can be seen from Figure 6-1 in the previous chapter, the indicators involved suggest that in Norway increasing





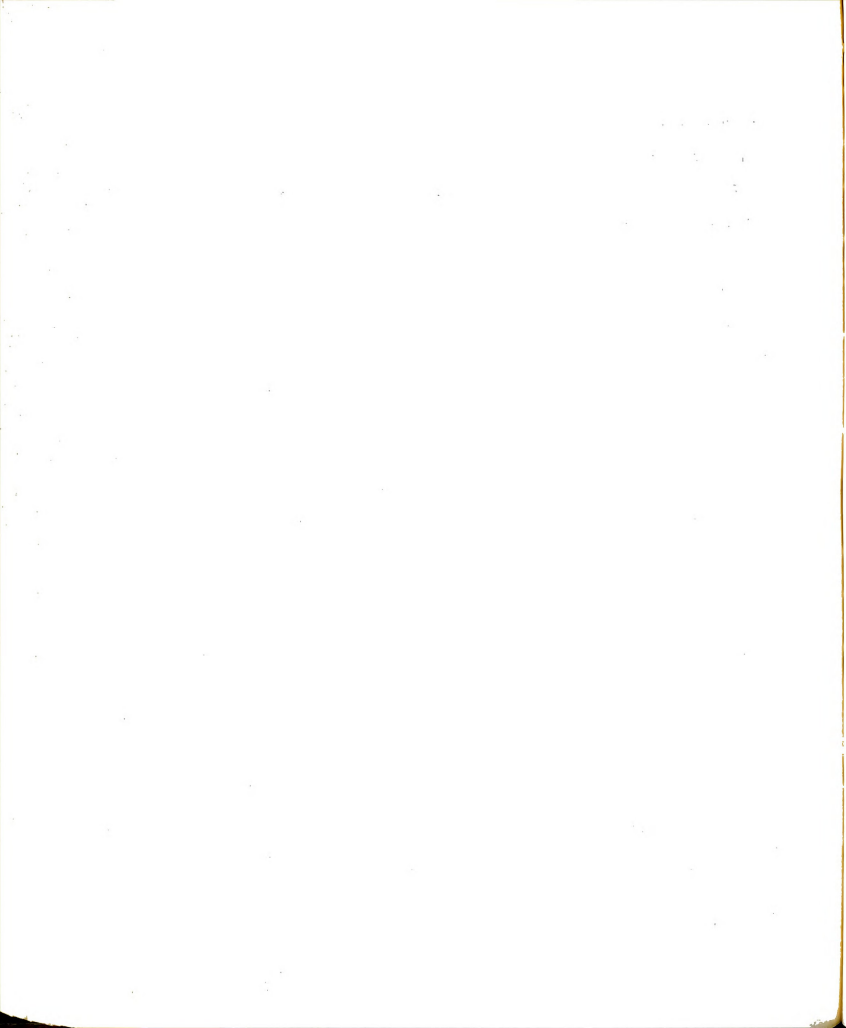
population pressures engendered increases in Voter Turnout, and in Sweden industrialization and urbanization also contributed to increasing Turnout. But apparently in both countries the socialist movement, as indicated by Left Voting, developed independently of social mobilization, or at least it depended on other factors as well. This supports the conclusion of Lafferty (1971) concerning the causes of the radicalness of the socialist movement in Norway. Furthermore, in Norway increases in Left Voting and Voter Turnout coincided with increases in democratization, as indicated by Enfranchisement and Representation, whereas in Sweden they did not. The latter two variables increased fairly gradually and evenly in Norway, but in rather large, isolated spurts in Sweden. (See Figures A-1 and A-2 in the Appendix.)

This runs counter to the general impression one derives from the descriptive historical literature, as expressed at the beginning of Chapter Four, that Sweden seemed to have developed more smoothly than Norway. But more importantly it suggests that the Swedish political elites resisted more strongly the leftist demands for democratic reform until the breakthroughs in 1908 and 1918. The aforementioned delay in the expansion of the Swedish Civil Service until after the Depression also suggests the Swedish elites' stronger resistance to change. All of this supports earlier historical descriptions of the firmly entrenched conservative rulers in Sweden during the late 1800's, but contradicts most descriptions of the progressive Swedish bureaucracy as planning and anticipating social change. Of course, in neither



country did political mobilization or democratization have an impact on the development of government social programs.

All of this seems to suggest the conceptual separation of the political system from the socio-economic system; the greater cohesiveness among the concepts of the socio-economic system than among those of the political system; and the greater impact of socio-economic variables than of political variables on indicators of public policy development. This interpretation obviously supports earlier works in the field of "comparative American state politics," discussed in Chapter One, and contradicts others. It also contradicts the cross-national interpretation of Peters (1972) that socio-economic and political variables are both important in determining expenditure patterns, and that the effect of political variables is increasing with time. This latter discrepancy is due partly to Peters' conceptualization of the Civil Service as a "political" variable, compared with our conceptualization of it as an effect of socio-economic development and a transmitter of the impact of that development on expenditure patterns. Of course, it might also be conceptualized as an effect of government social programs, namely the bureaucratization necessary to administer those programs. Obviously Civil Service is a difficult indicator to conceptualize in this type of research. But even so, our results for Sweden indicated that Peters' "socio-economic" variable, GNP per Capita, had a greater impact on expenditures than did his "political" variable, Civil Service. Furthermore, we rejected any link between democratization and either penetration or expenditures,

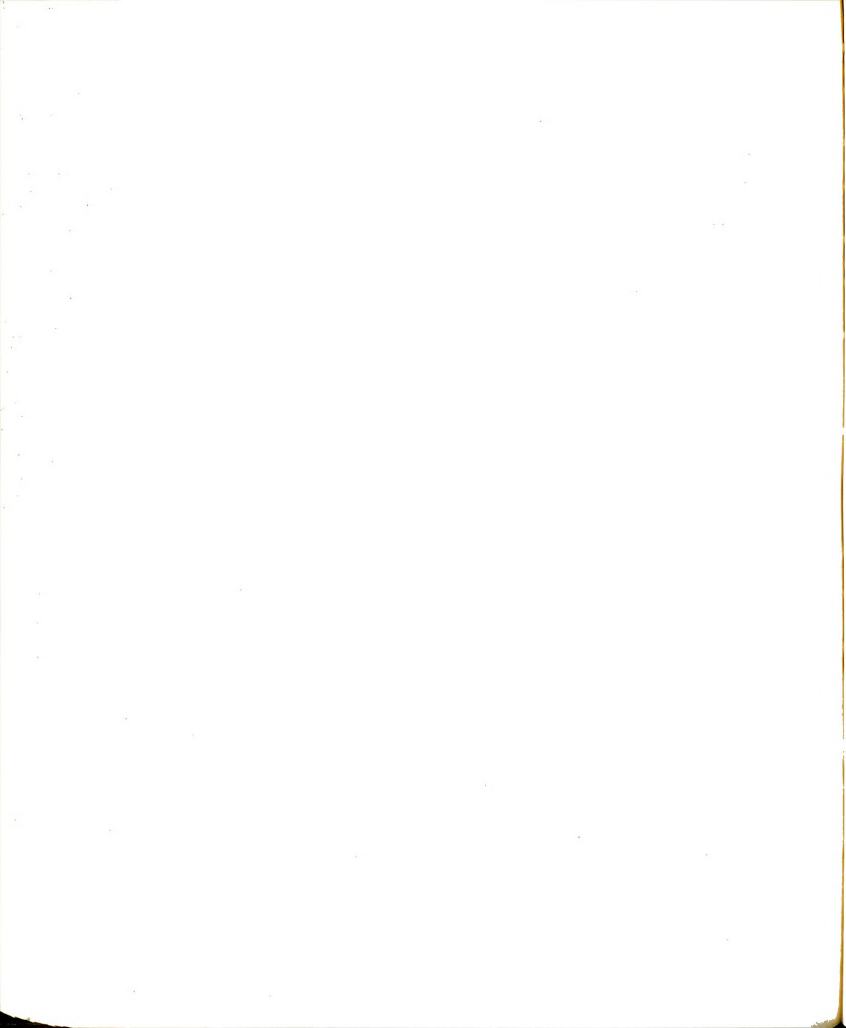


whereas Peters confirmed such a link for Sweden. This may have been due to the use of different indicators of democratization; but we still must conclude that the effects of truly political variables on expenditure patterns is far weaker than the effect of socio-economic variables in Norway and Sweden.

In summary, our results indicate that Norway and Sweden experienced very similar patterns of development. Both showed strong effects of social mobilization on public policy development, although Norway seemed to channel that effect more through government penetration and Sweden more through economic resources. Neither country showed any appreciable effect of political mobilization or democratization on either government penetration or government expenditures. In both countries the socialist movement developed independently of social mobilization, whose only impact on political mobilization was increasing Voter Turnout, an effect that was stronger in Sweden than in Norway. The only significant differences between the development patterns of the two countries were the closer association between the development of the socialist movement and democratization in Norway than in Sweden and the earlier expansion of the Civil Service in Norway than in Sweden. Both were probably due to stronger resistance of the Swedish political elites to leftist demands for democratic reform and government social programs.

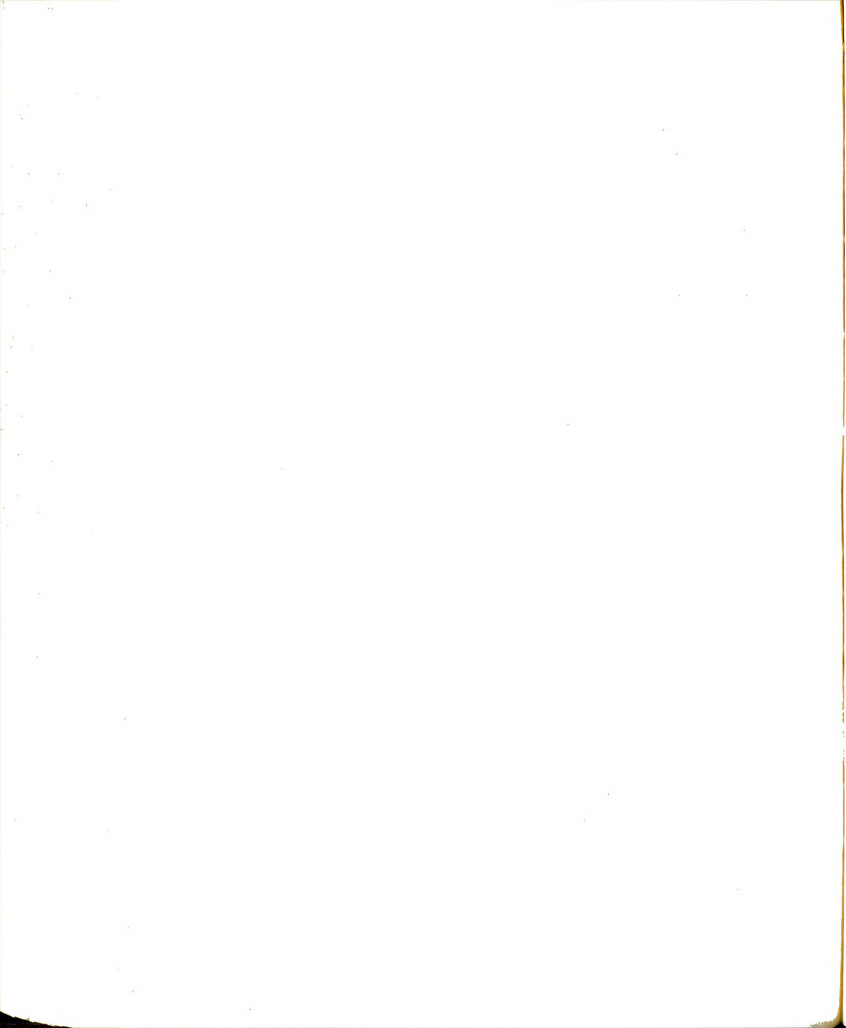
### III. Suggestions for Future Research

Improving the techniques of analysis of aggregate time-series data on the political systems of Norway and Sweden will require the following steps:



1. Further efforts should be made to bring the "missing variables" causing the autocorrelation into the data base. Specifically, some solid measure of technology must be found, whether in the area of energy consumption, research and development funding, mechanization of industry, product consumption, or even electronic communications. Data on mass communications, such as newspaper circulation, might prove useful in their own right. Further information should be sought on the nature of political institutions, especially the character of political parties and policy-making bureaucracies, and of the administrative machinery for carrying out government social programs. Perhaps some indication of the effect of socio-cultural cleavages on the developmental process could be obtained through data on the size of specific minority groups and through more detailed figures on the occupational structure than just agricultural employment. Hopefully some indirect indicators of mass and elite attitudes will someday be developed, perhaps through content analysis.

2. Just as some variables need to be added, some can be dropped and others modified. Particularly useless in our analysis were Unemployment, Labor Conflict, and the Price Index. Union Membership should be used as an indicator of social mobilization rather than political mobilization. To reduce the problem of similarity of univariate distributions among groups of variables measured in the same way, perhaps all variables, except such basic size variables as Total Population and Gross National Product, should be measured as proportions

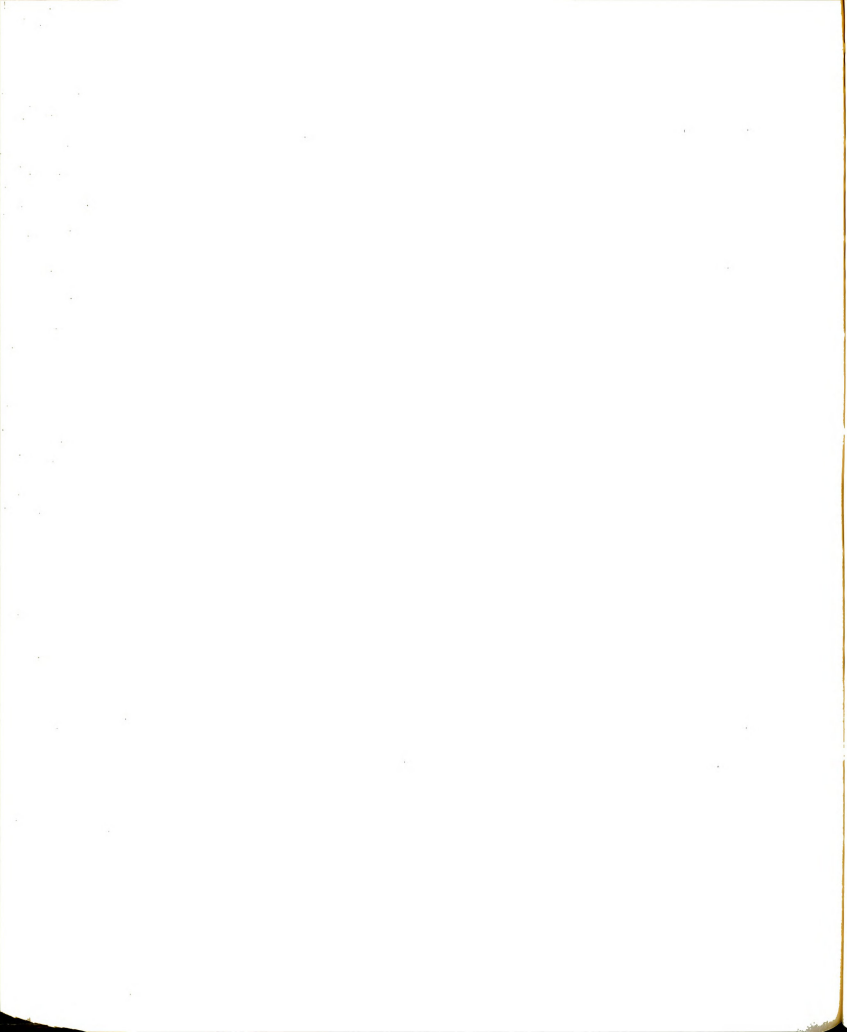




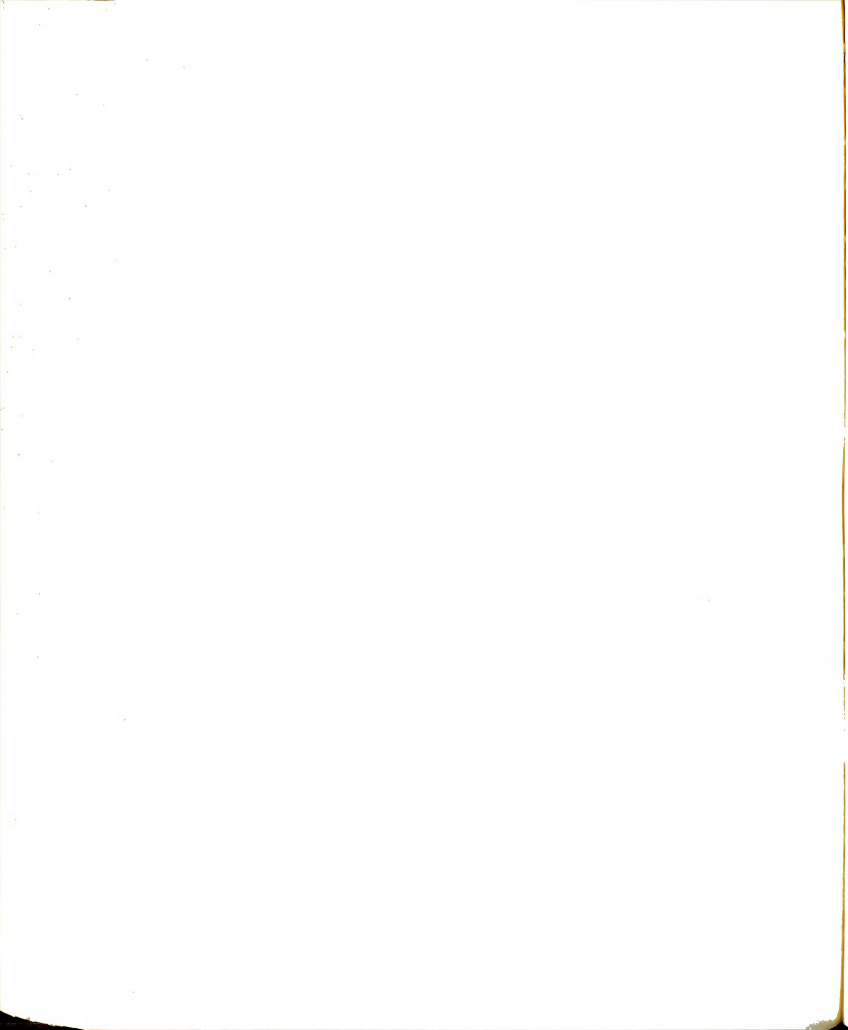
of something, rather than measuring some variables on a per capita basis.

3. Most importantly, the observations or time-points should be changed. To avoid the problems of missing data during the war years for Norway, the post-War period could be ignored. This is also justified theoretically because the Scandinavian systems were well on the way to becoming "developed" systems after the Depression, as indicated by the changed nature of the relationships after the War. Data for every year from 1875 to 1940 should be gathered for both countries. The analysis could then emphasize dividing the total period into portions perhaps even as small as decades in search of the points in time at which changes occur in the regression parameters for the relationships between the variables. Simple linear transformations could again be tried for the larger time portions, and detrending could be tried as a last resort.

All of this exhaustive analysis still might not yield any further substantive information on the process of development or on the differences and similarities between Norway and Sweden, and scientists might then, but only then, conclude that such analysis is not worthwhile. But until then hope remains that it will be.

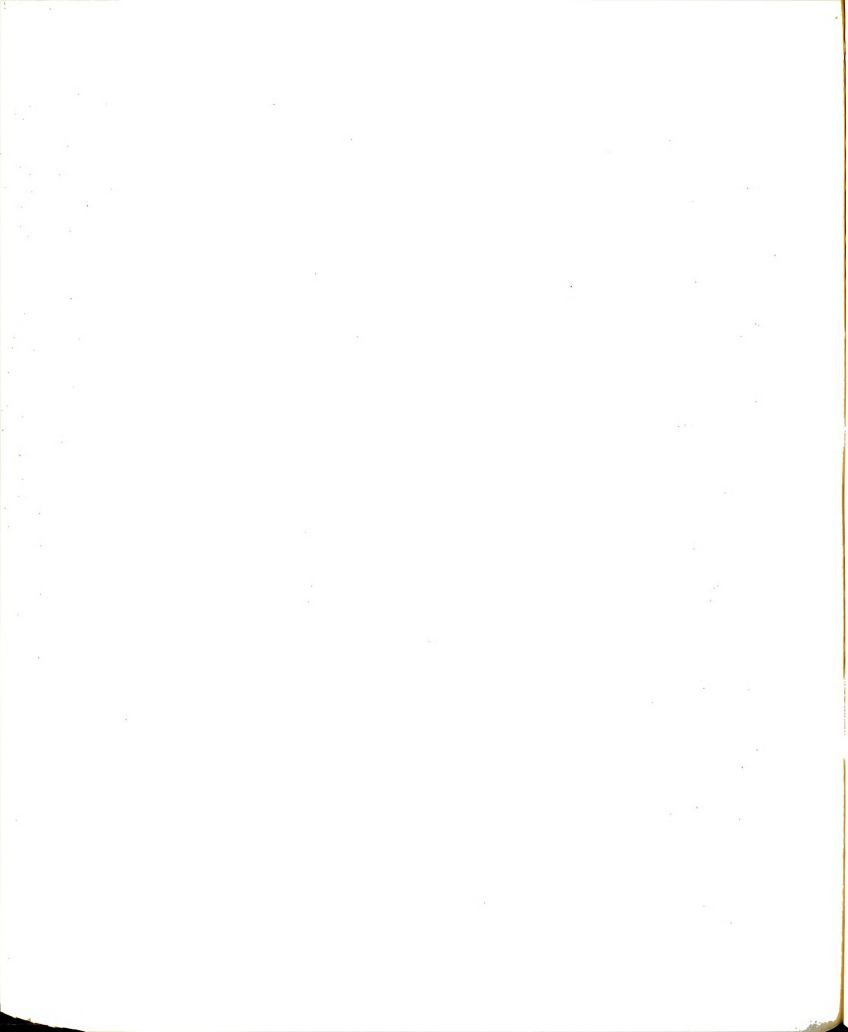


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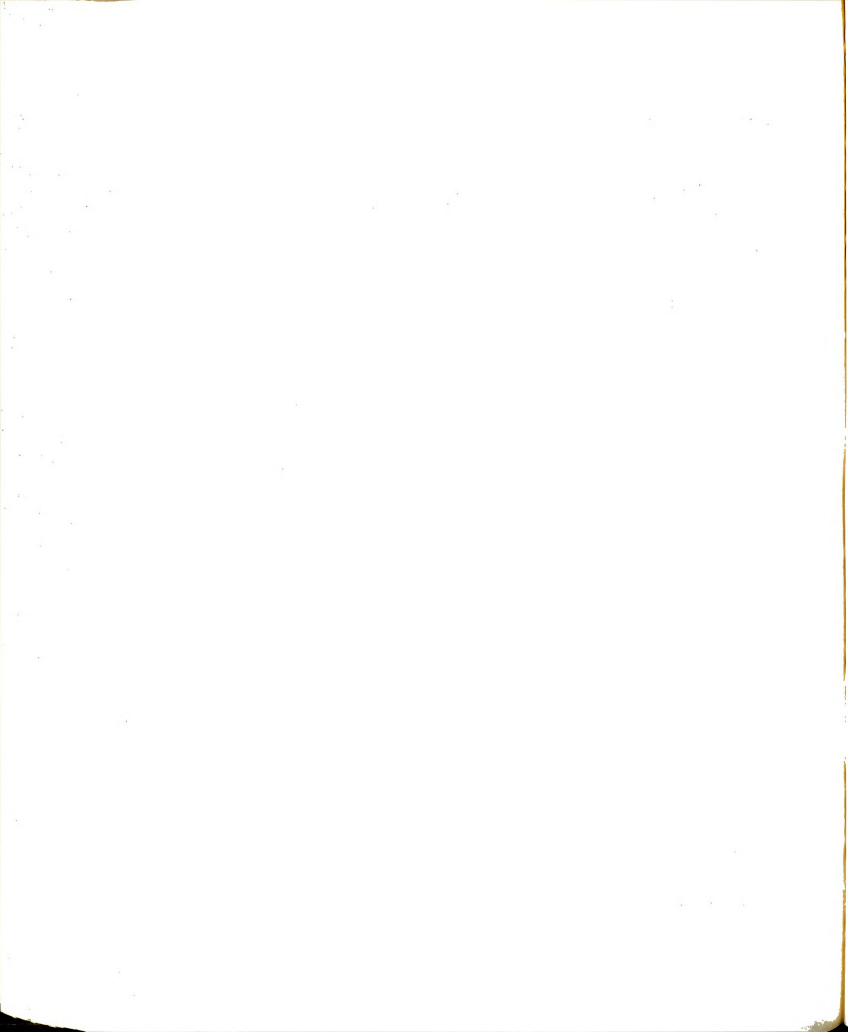
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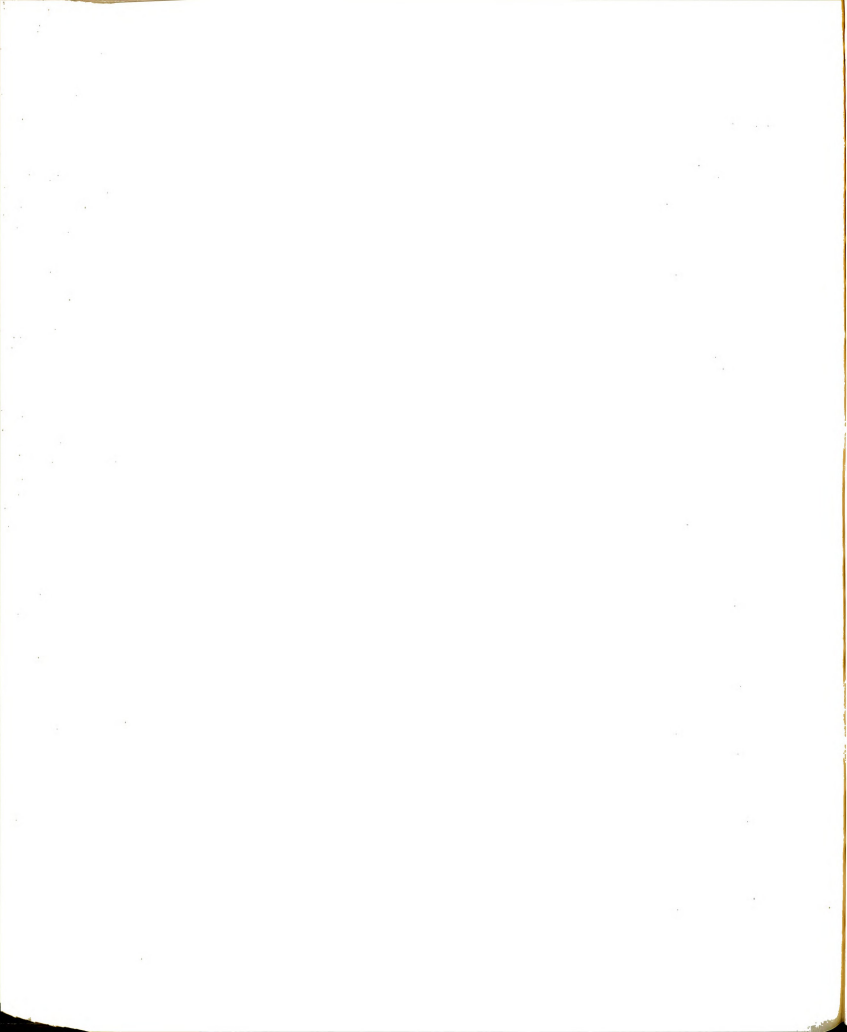
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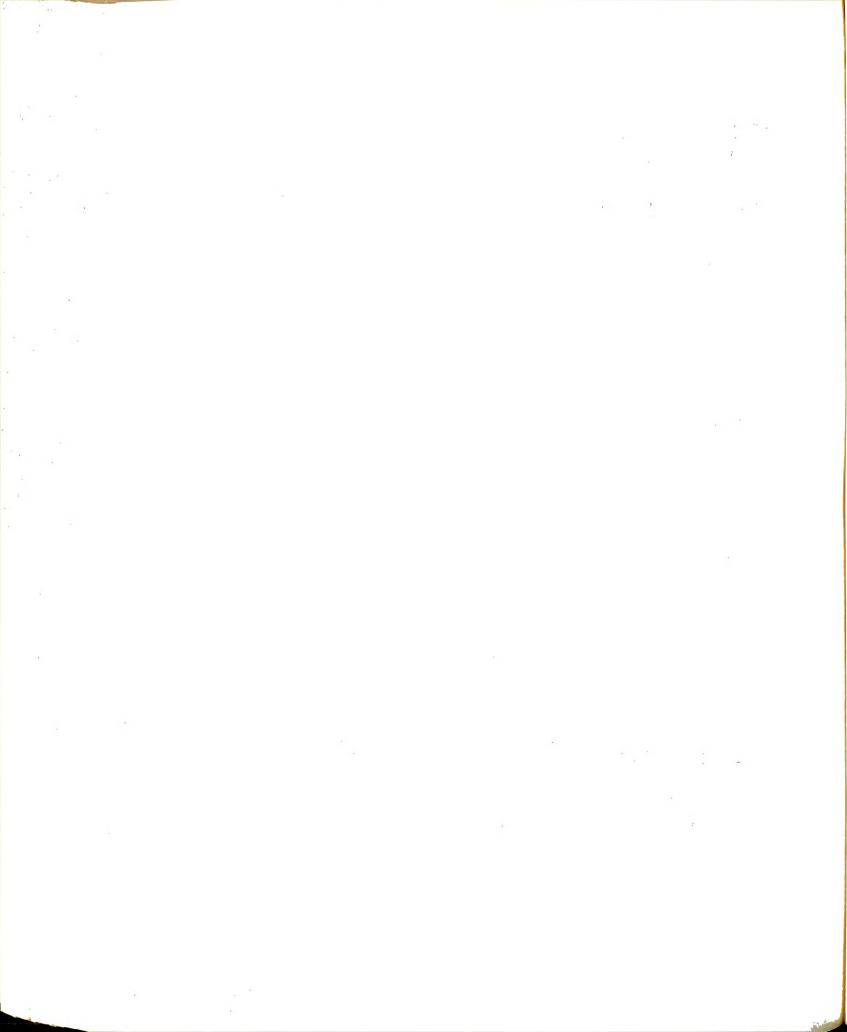




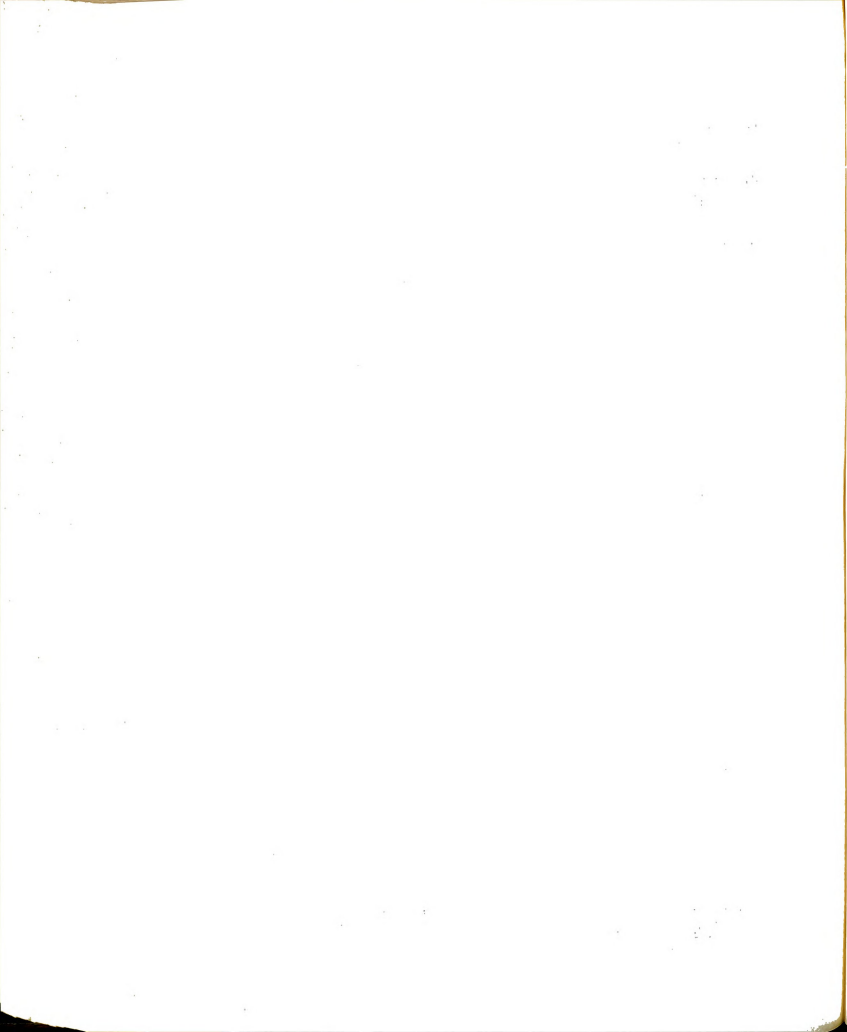
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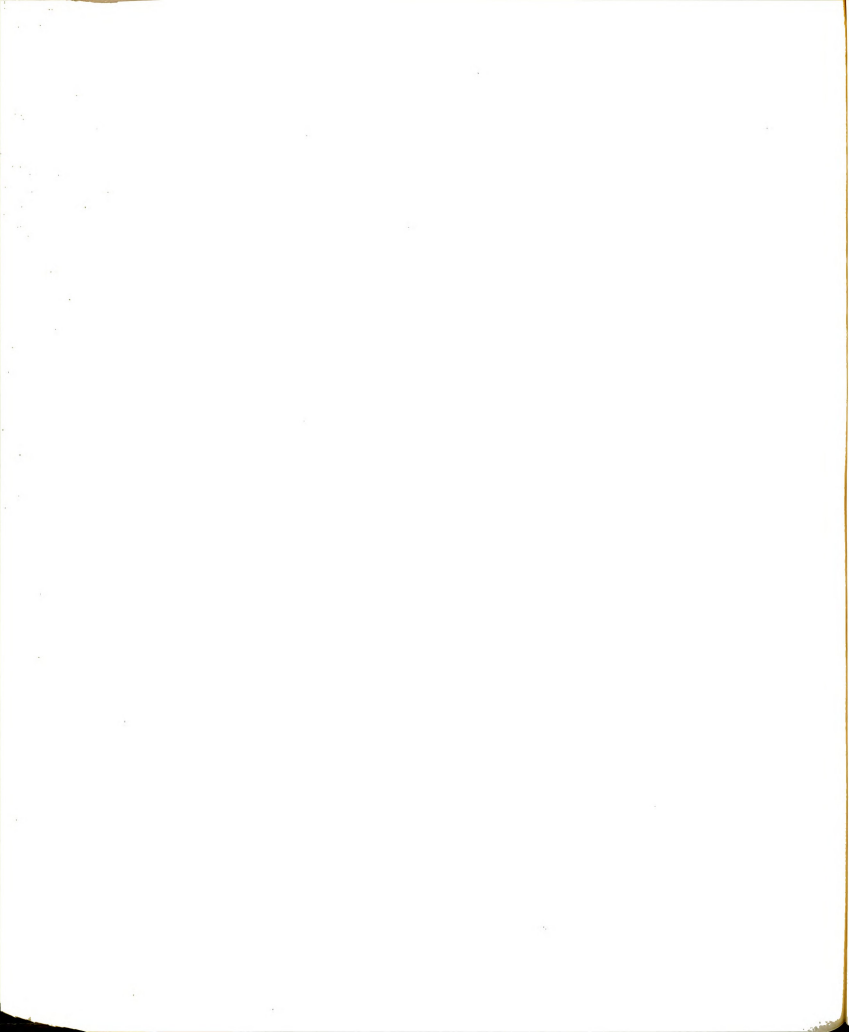
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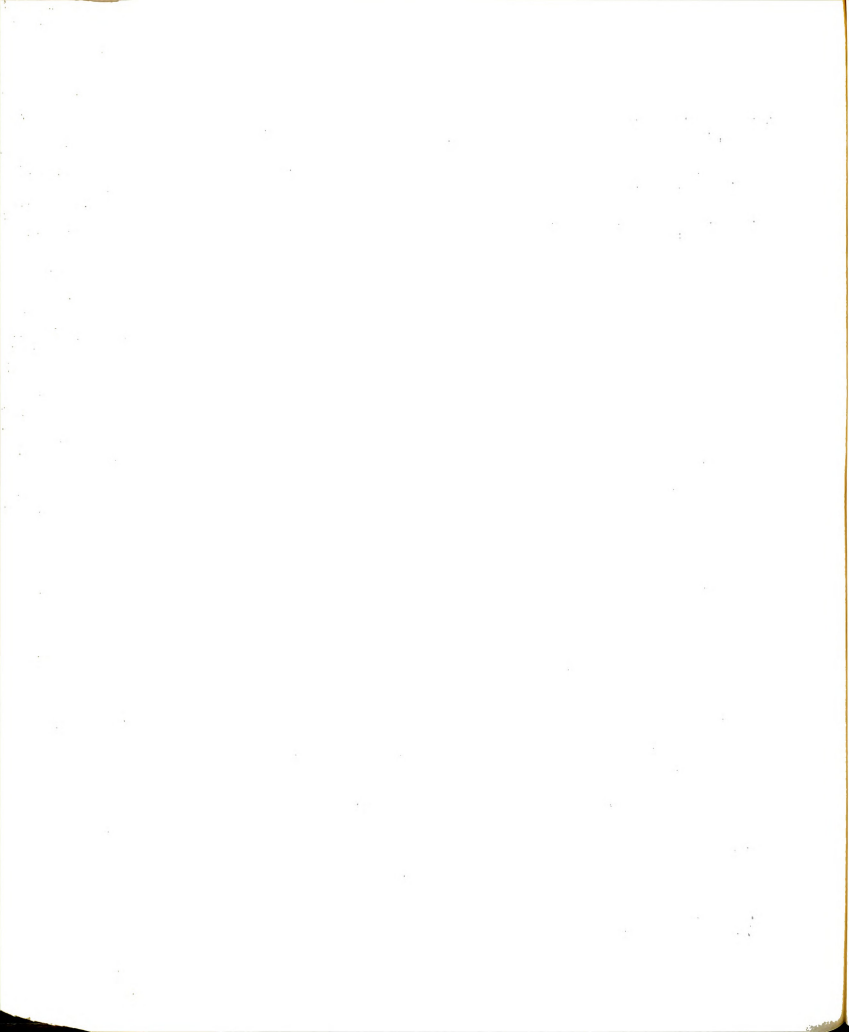


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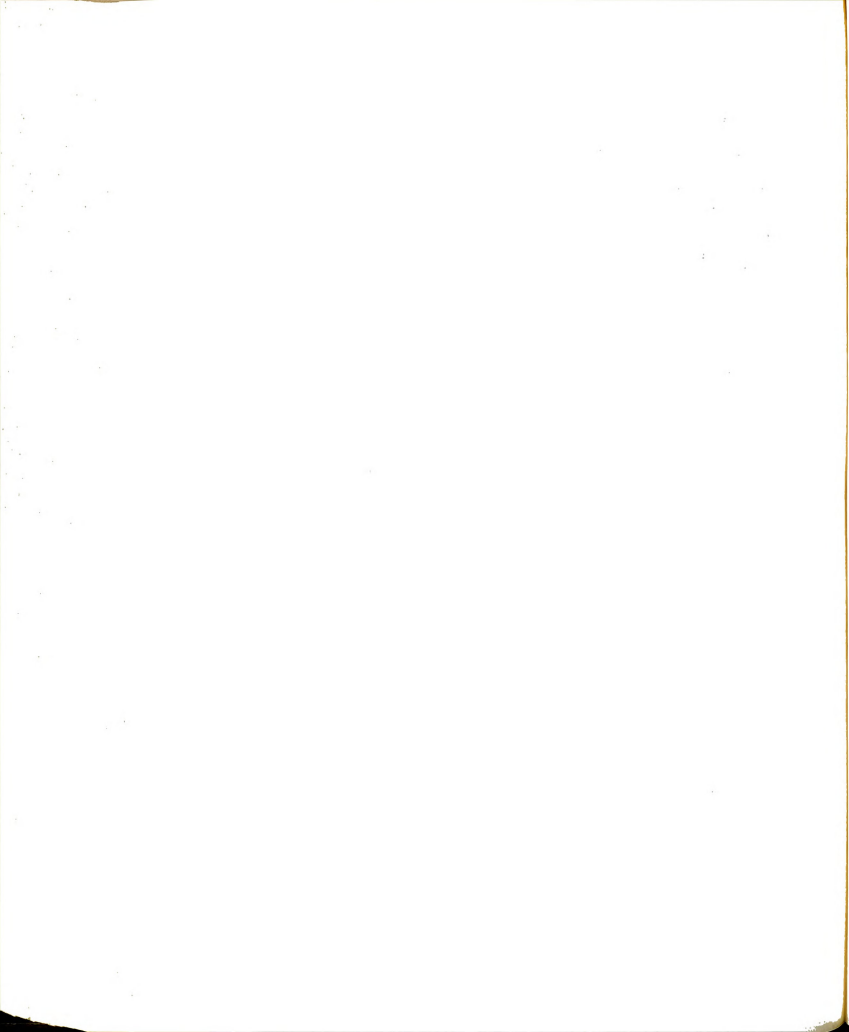




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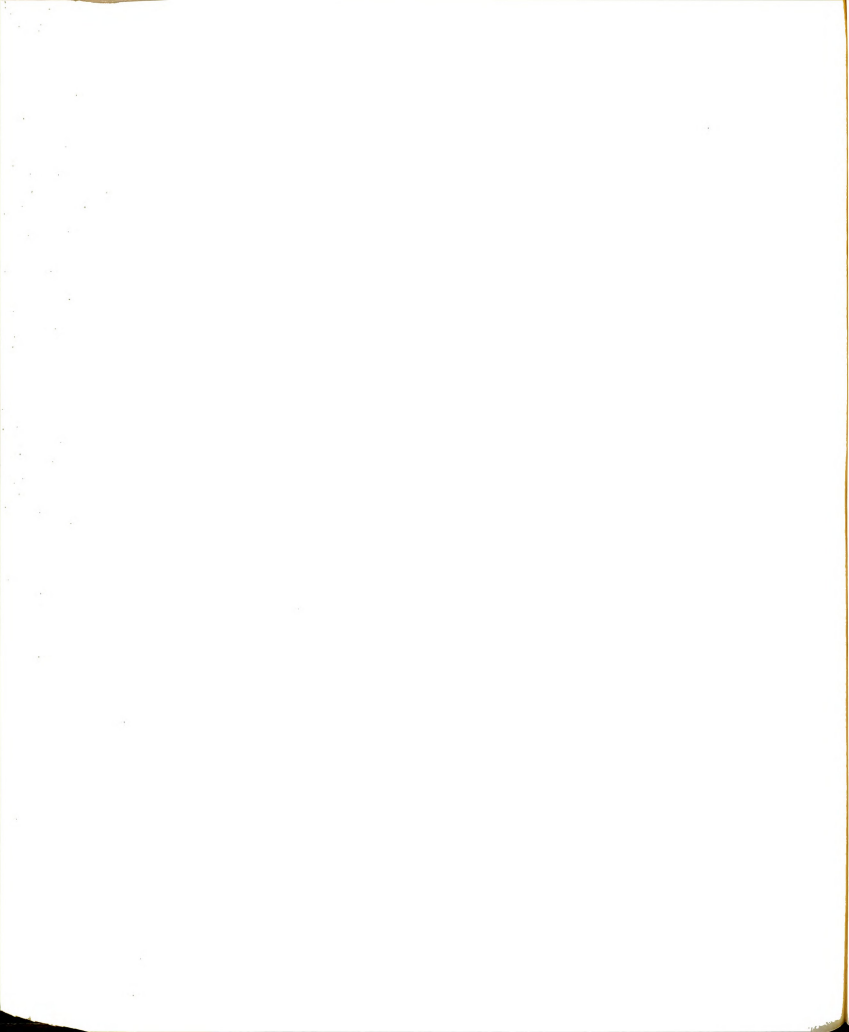
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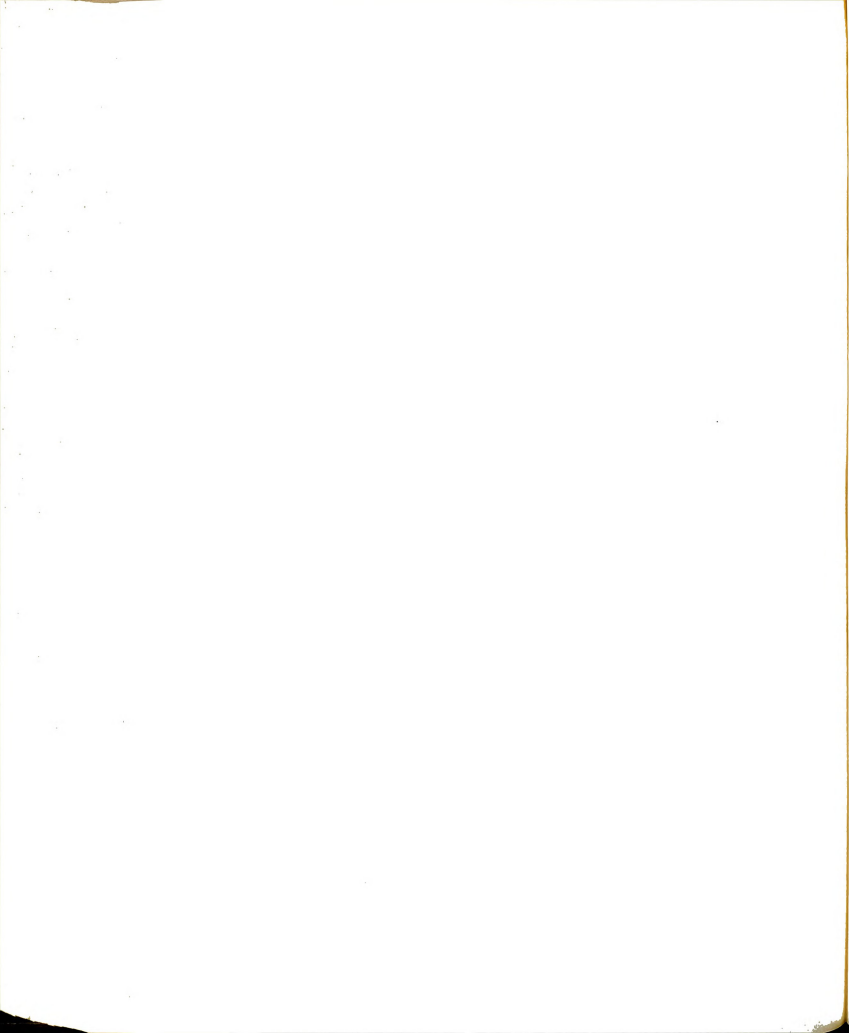
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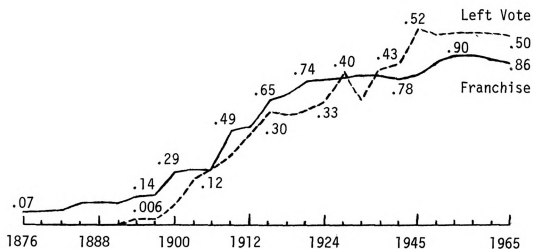


APPENDIX





## NORWAY



## SWEDEN

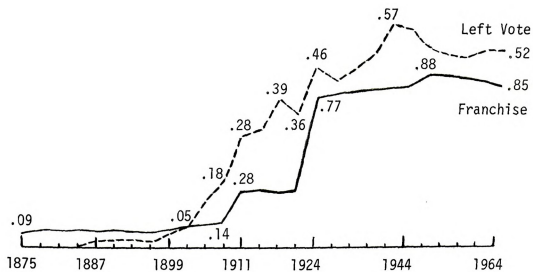
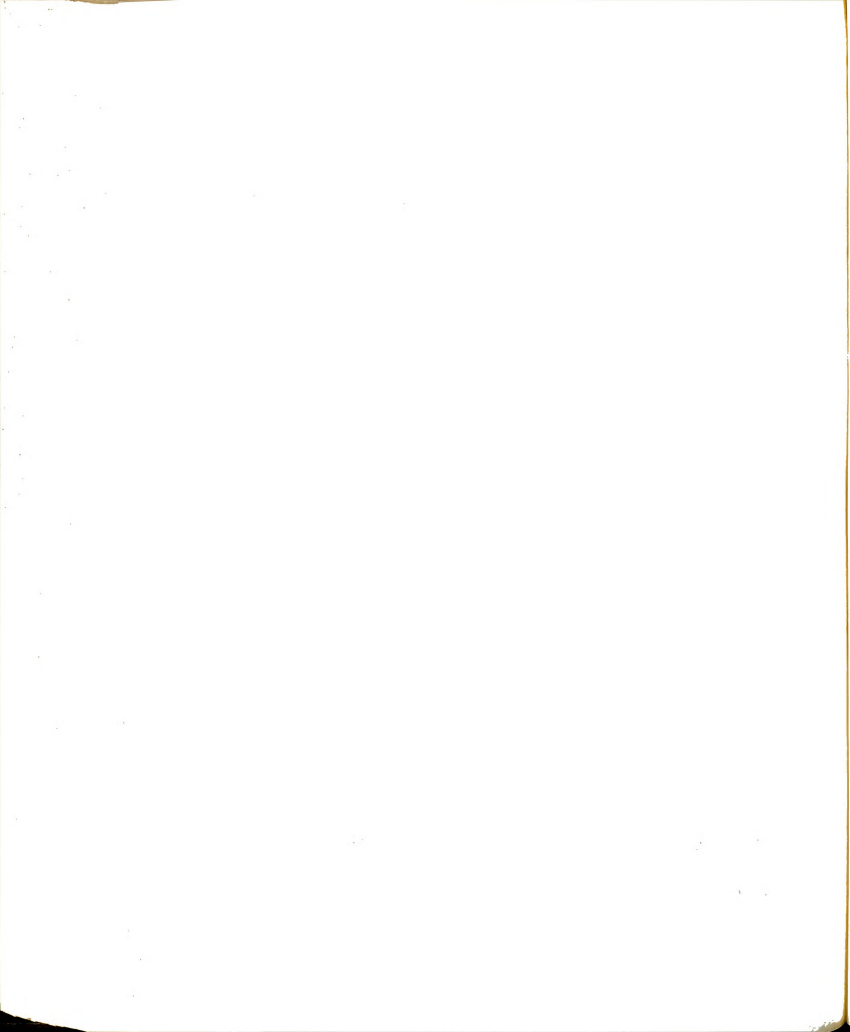


Figure A-1. Univariate Distributions of Enfranchisement and Left Vote.



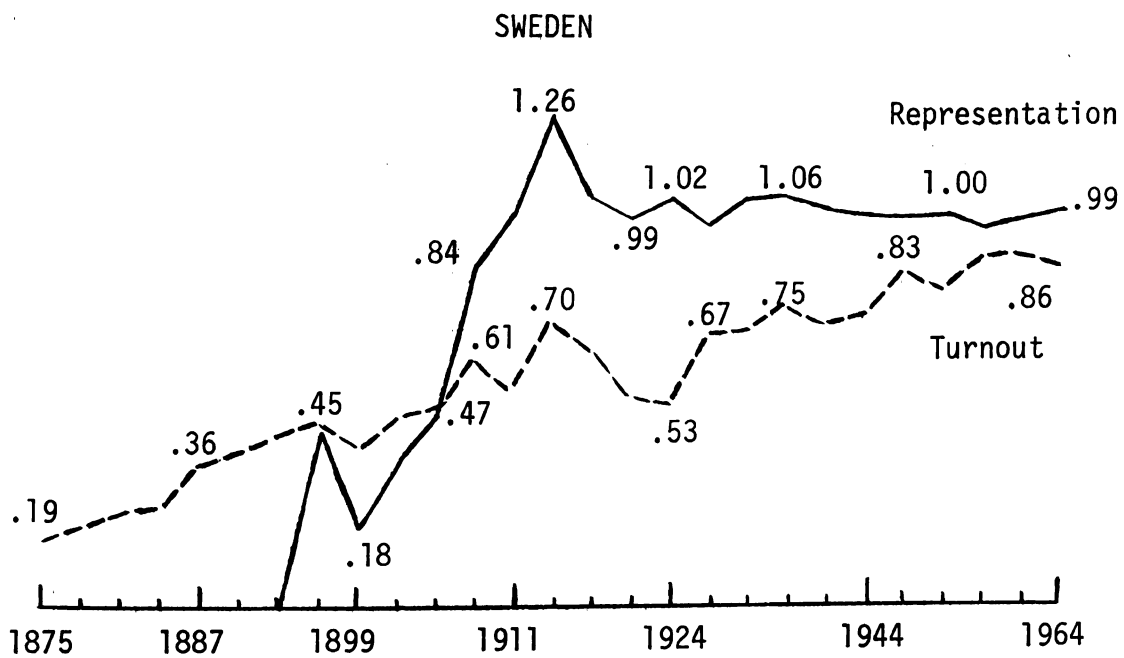
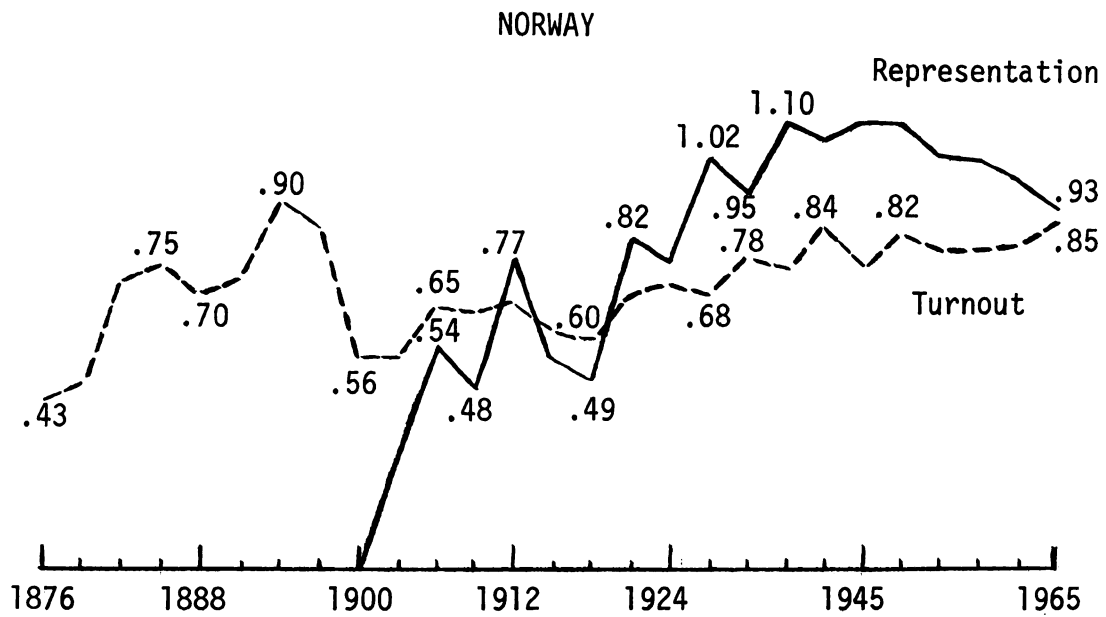
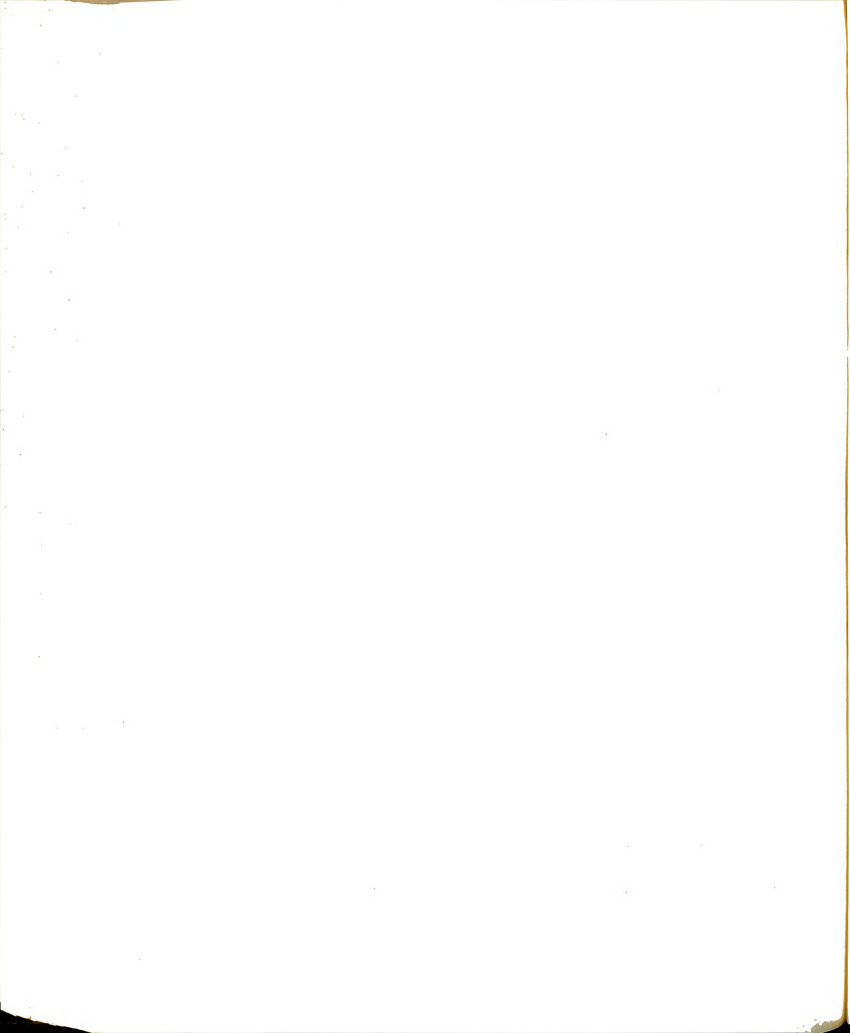


Figure A-2. Univariate Distributions of Representation and Voter Turnout.



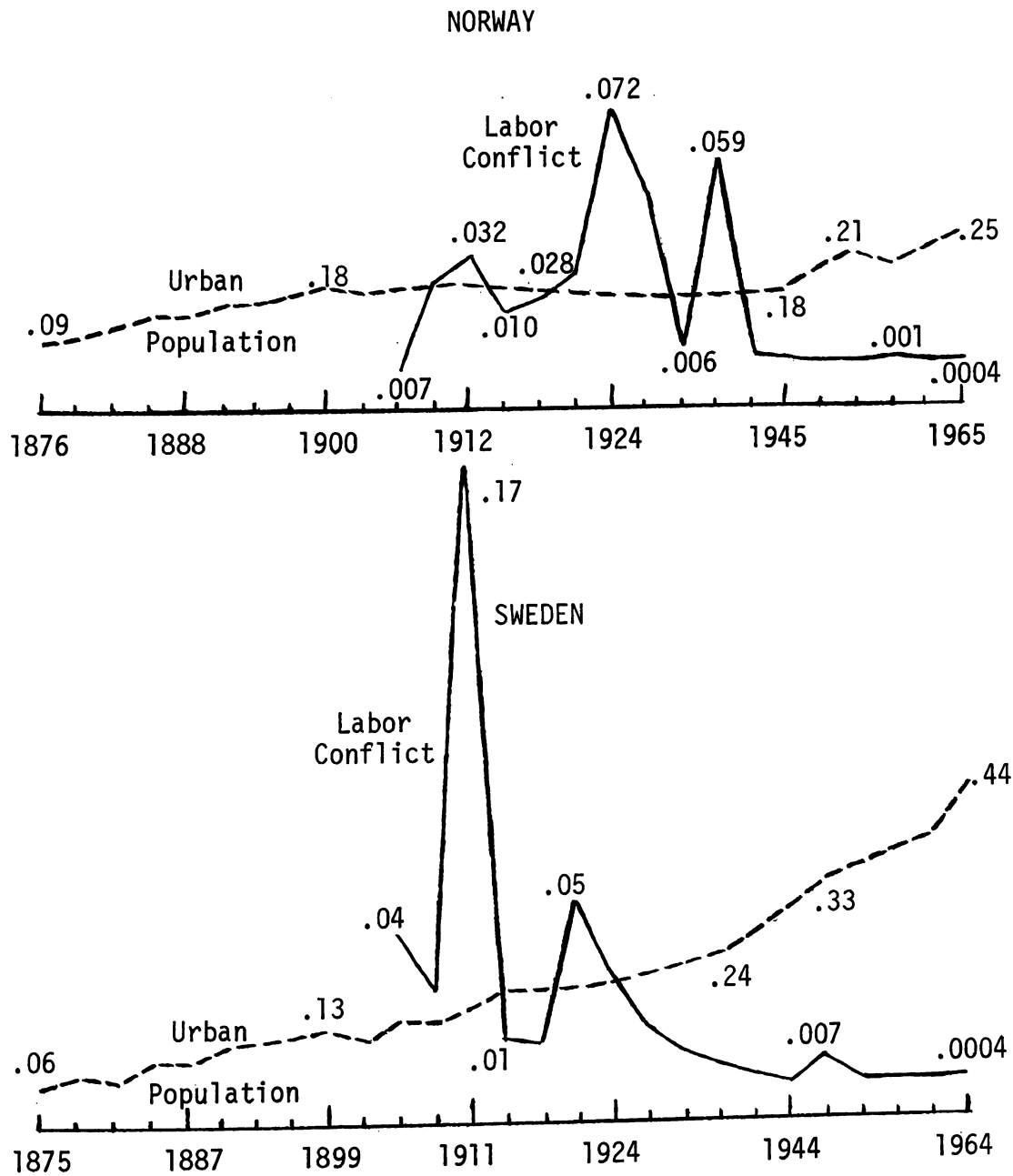
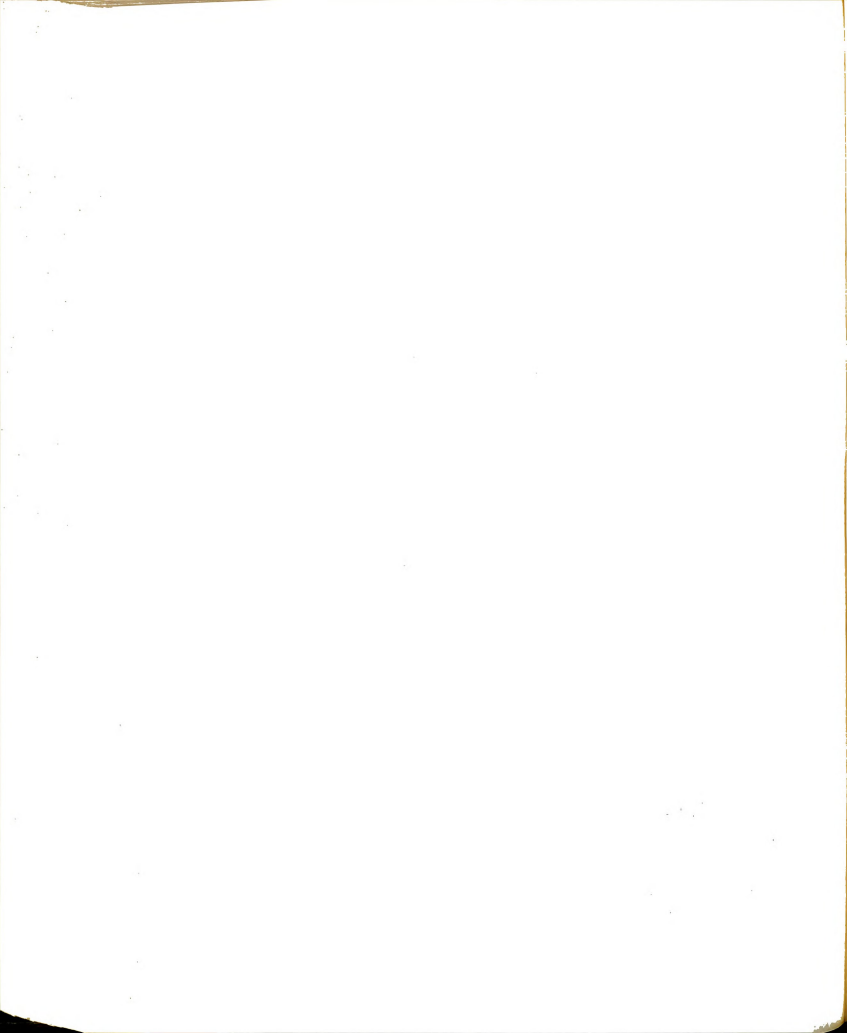


Figure A-3. Univariate Distributions of Labor Conflict and Urban Population.



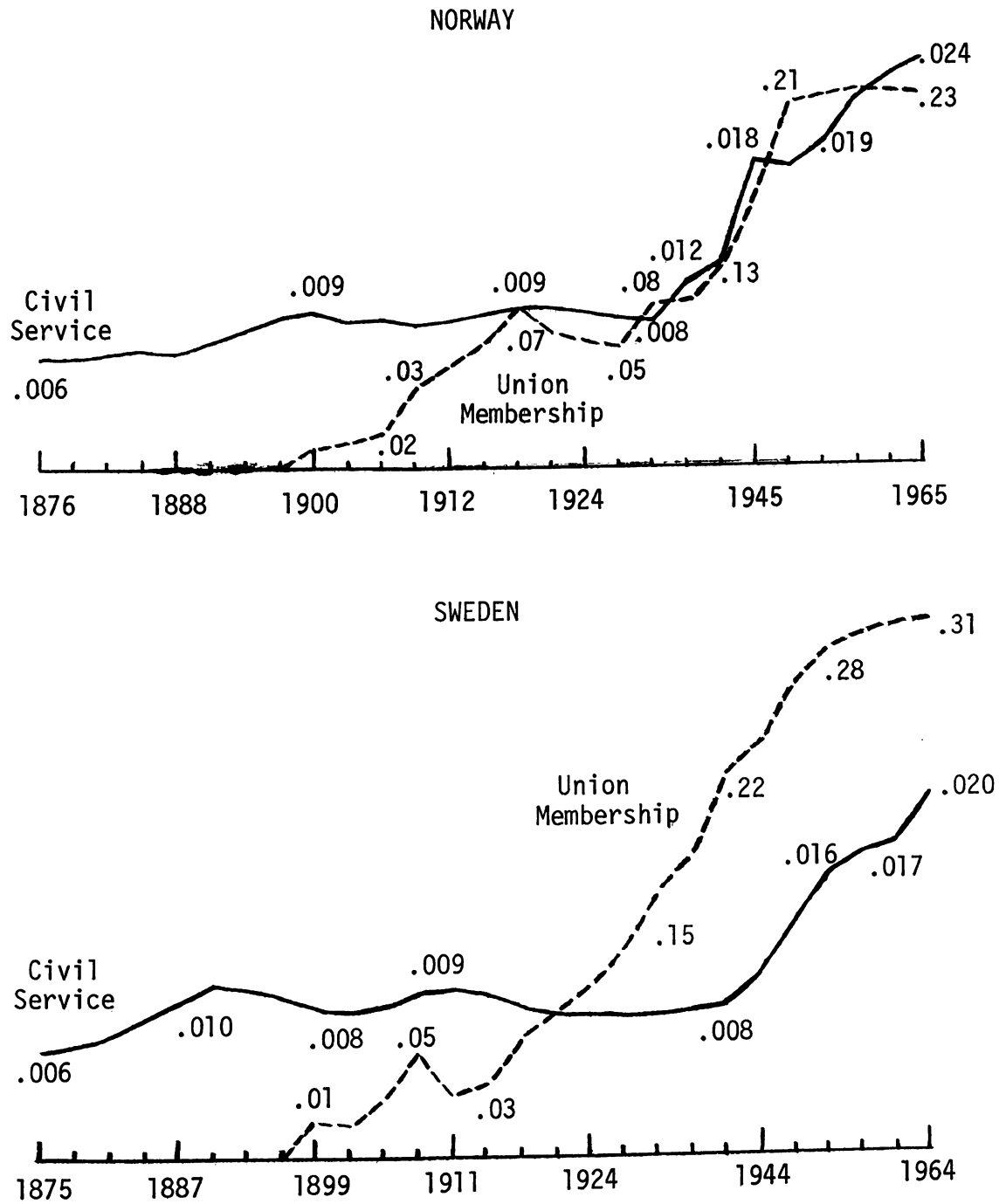
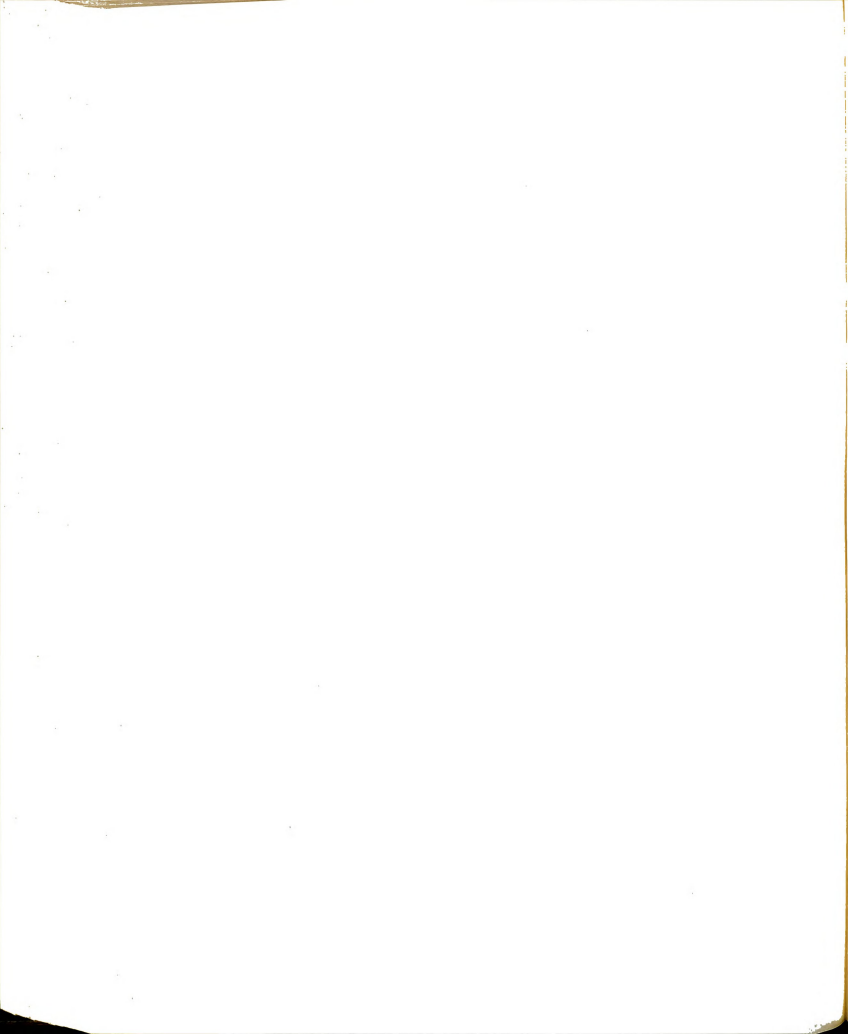


Figure A-4. Univariate Distributions of Civil Service and Union Membership.





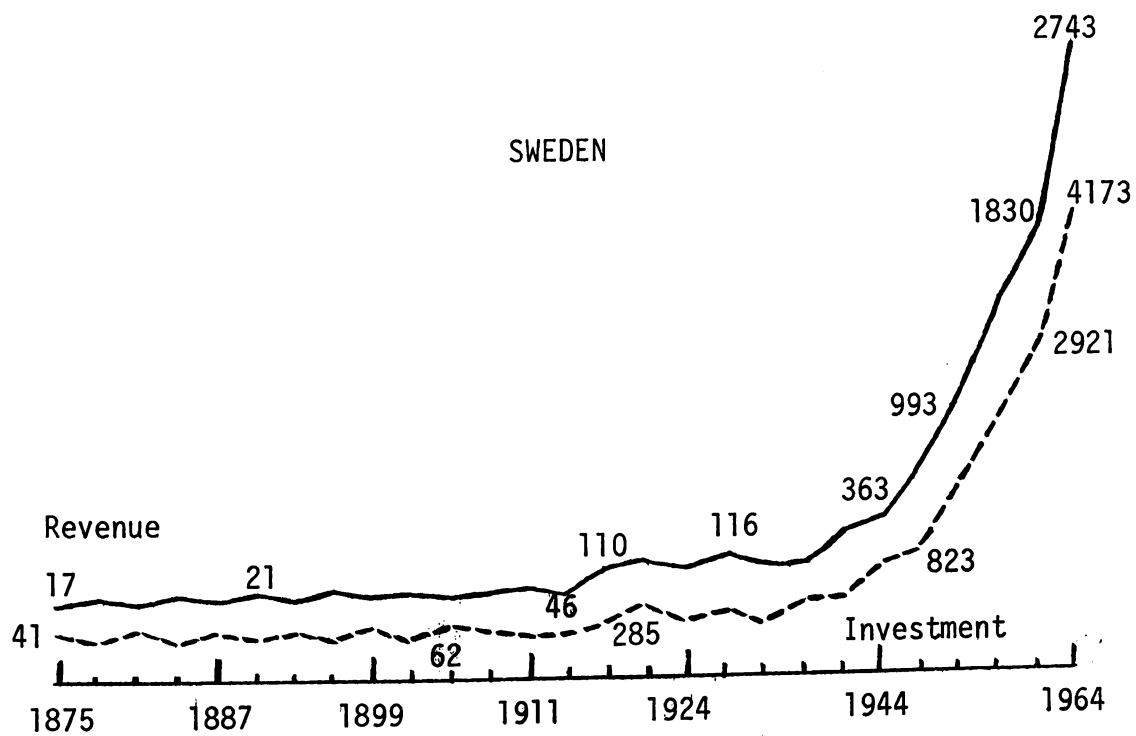
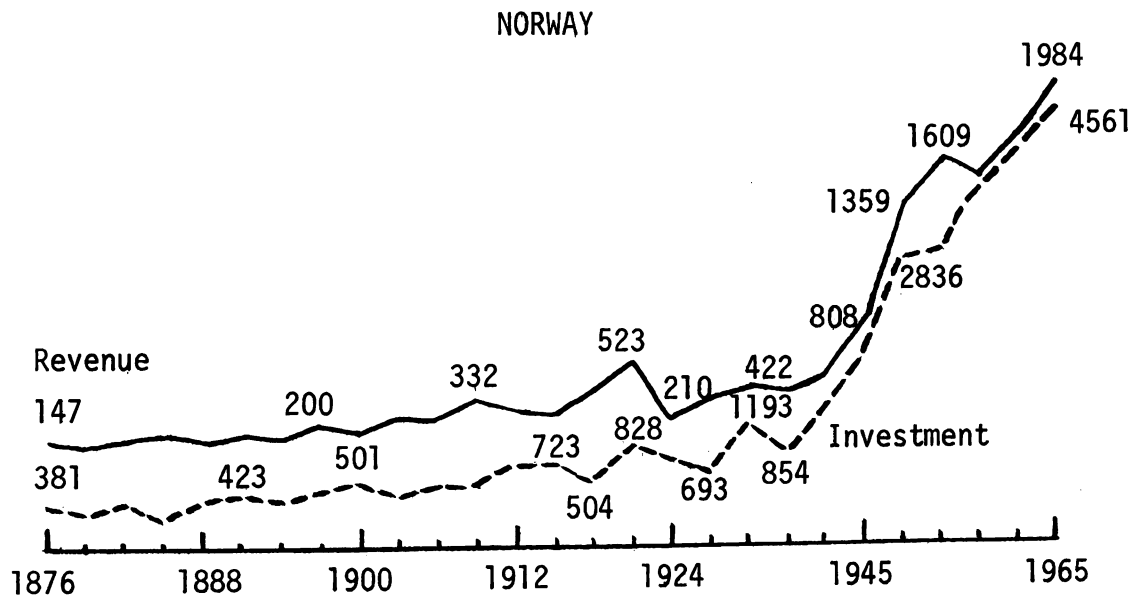
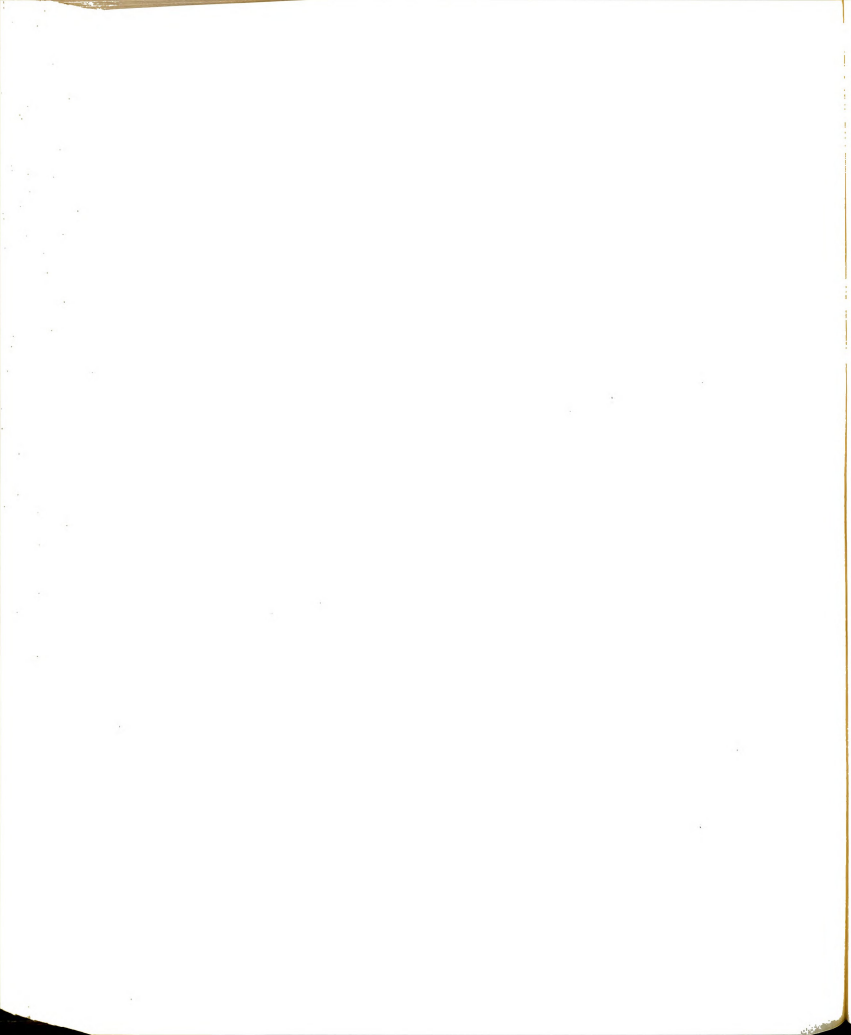


Figure A-5. Univariate Distributions of Revenue and Investment.



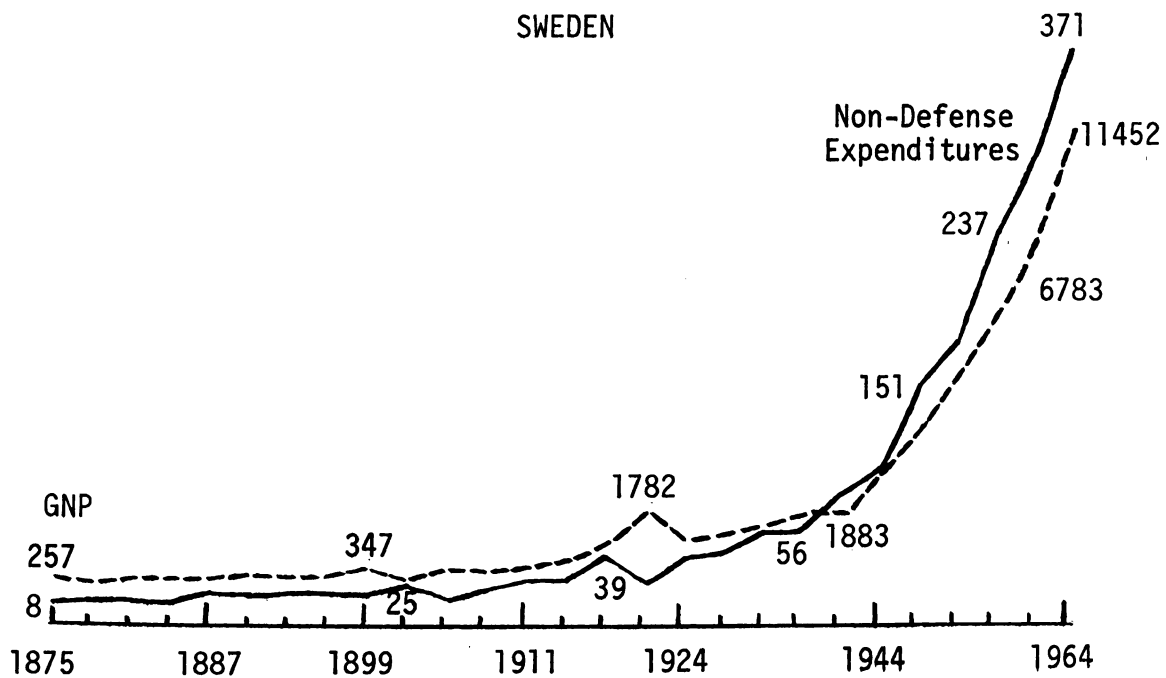
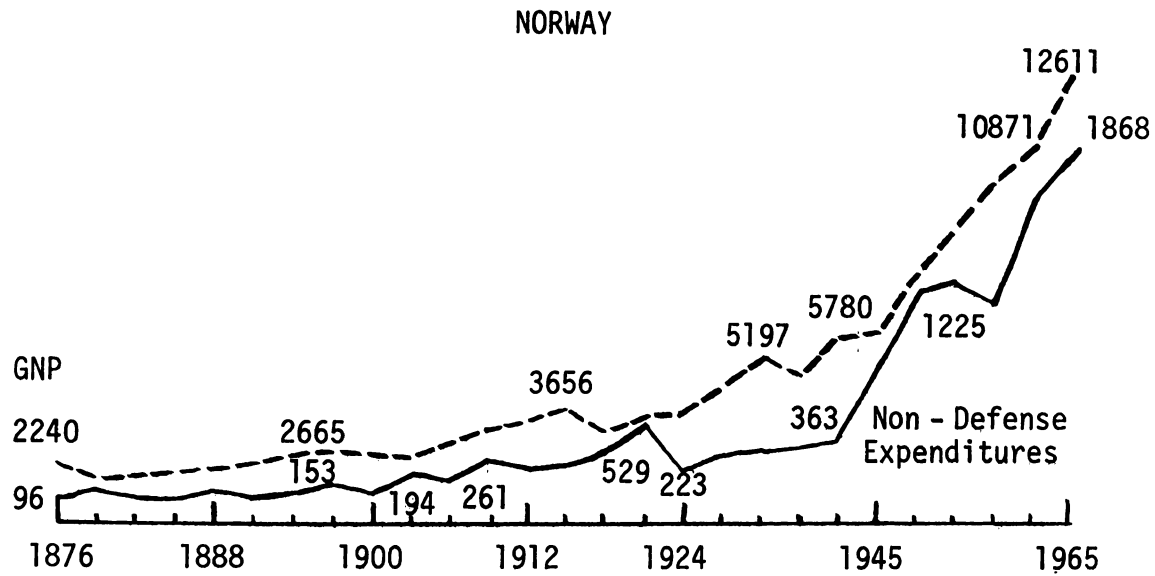
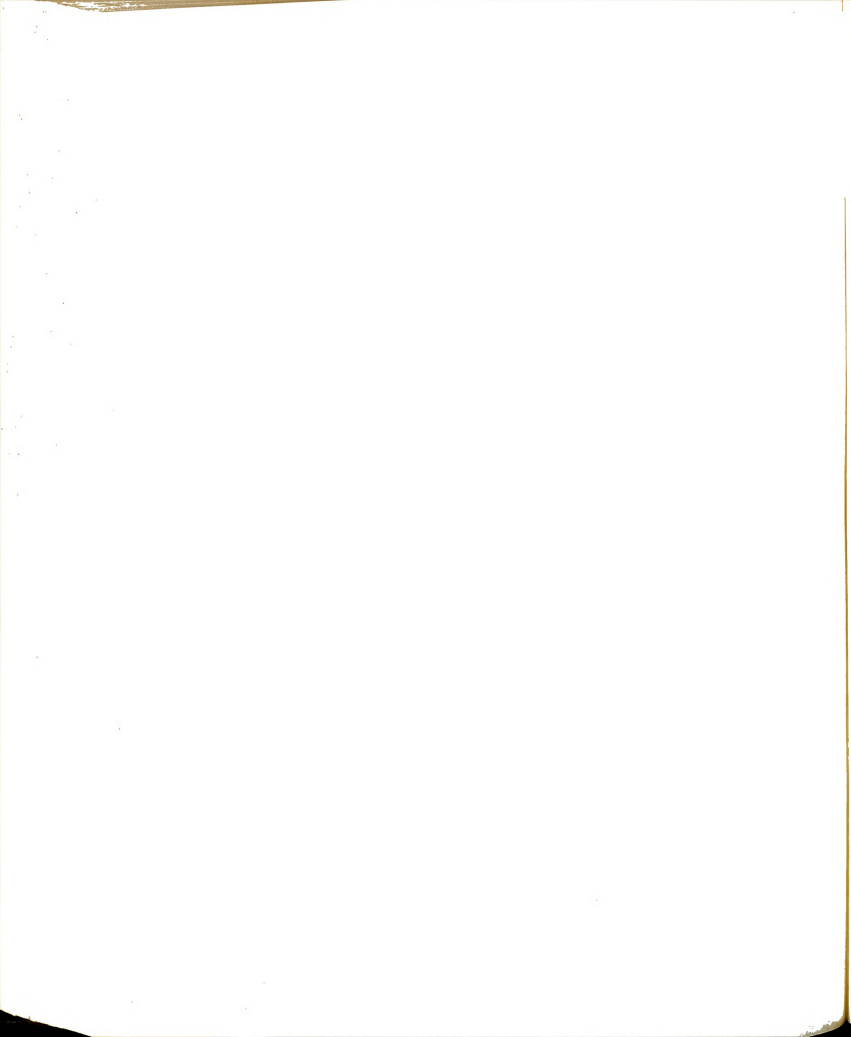
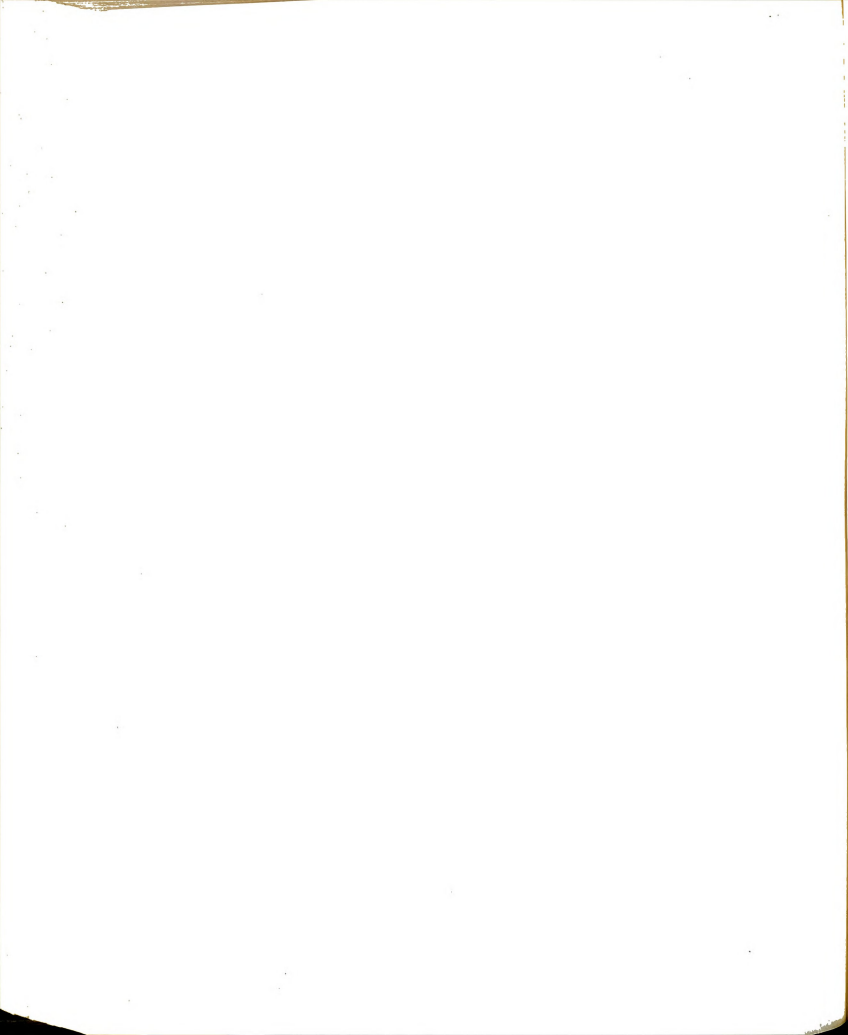
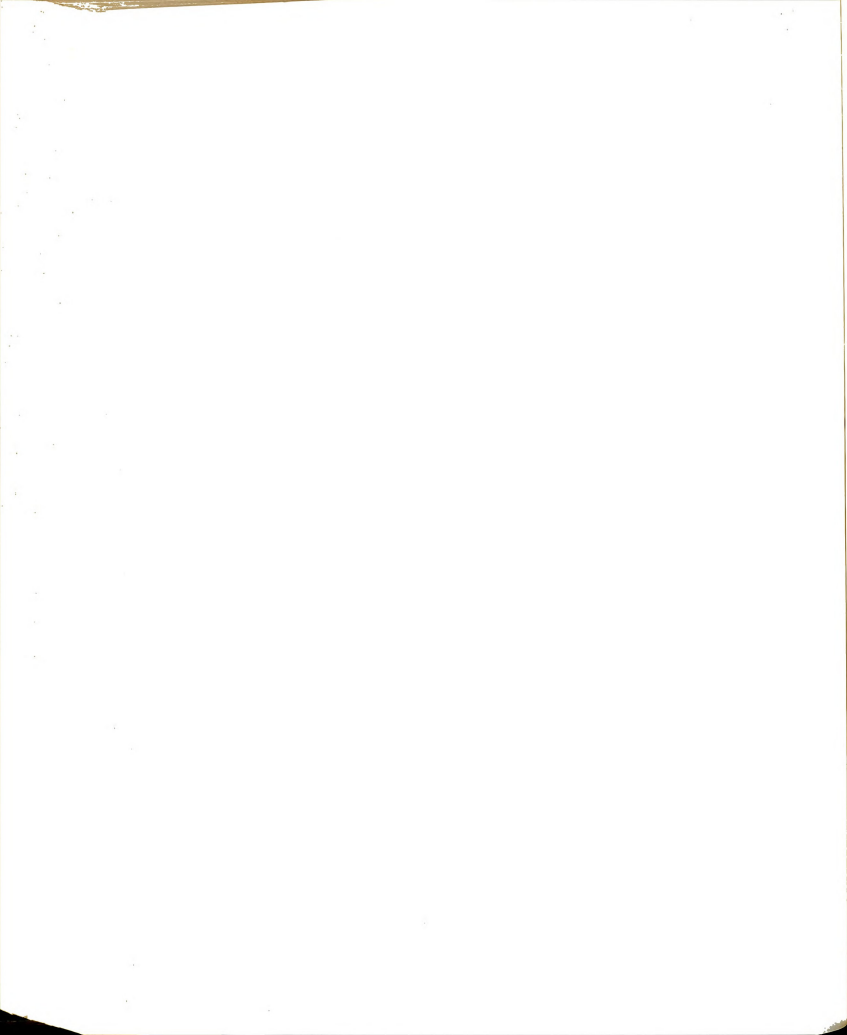


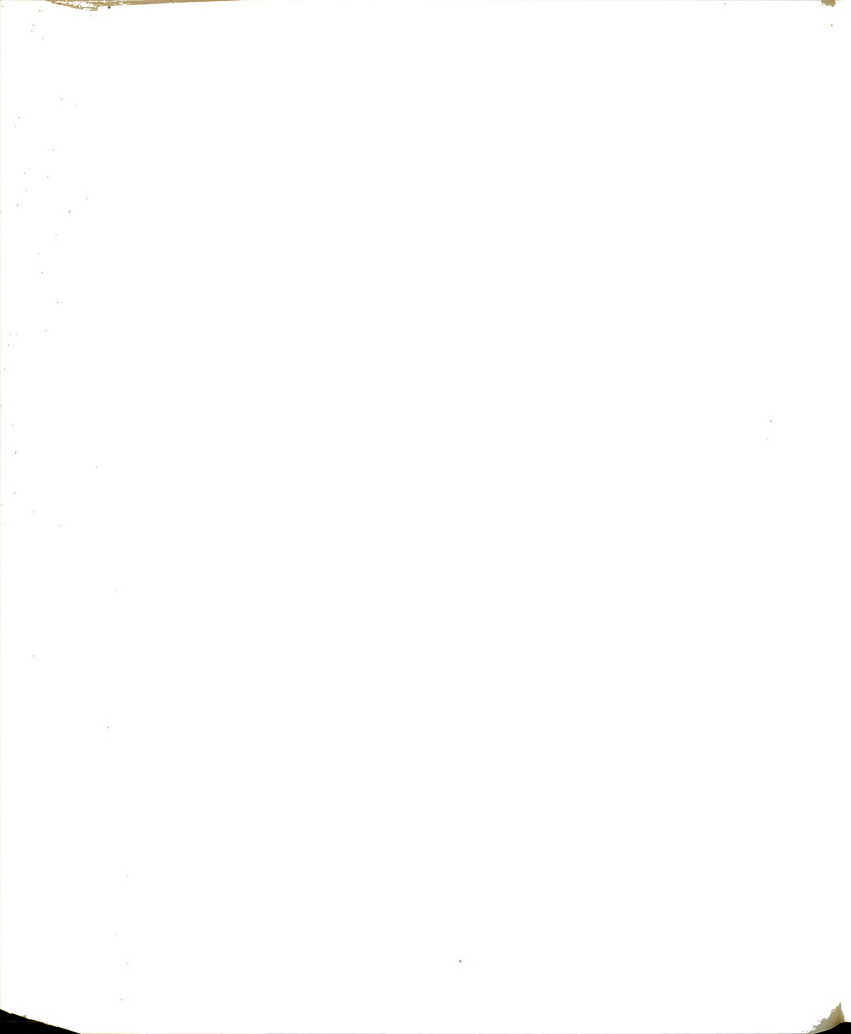
Figure A-6. Univariate Distributions of Gross National Product and Non-Defense Expenditures.













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