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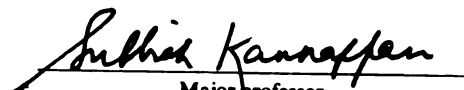
TAIWAN'S INTERNATIONAL INVESTMENTS AND FINANCIAL
INTERMEDIARIES: OPTIMAL STRATEGIES FOR A GRADUATING,
DEVELOPING ECONOMY

presented by

Chai-Liang Huang

has been accepted towards fulfillment
of the requirements for

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**TAIWAN'S INTERNATIONAL INVESTMENTS AND FINANCIAL
INTERMEDIARIES: OPTIMAL STRATEGIES FOR A
GRADUATING, DEVELOPING ECONOMY**

By

Chai-Liang Huang

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ABSTRACT

TAIWAN'S INTERNATIONAL INVESTMENTS AND FINANCIAL INTERMEDIARIES: OPTIMAL STRATEGIES FOR A GRADUATING, DEVELOPING ECONOMY

By

Chai-Liang Huang

Rapid economic growth and export expansion have led to a major trading role for Taiwan in the global economy. In most recent years, this growth has been characterized by large current account surpluses and high levels of domestic savings. However, the banking system is not yet sufficiently developed; both domestic and foreign investments have lagged behind. These indicate the dimensions of the need for structural reform and economic transformation, of which a key aspect is the growth of Taiwan's international banking and financial capability. This is the focus of this dissertation.

A well developed banking mechanism with an international capacity is the objective of the government of Taiwan, since it will be needed whether or not current account surpluses continue. An optimal strategy for developing international investment and banking is derived through examining the theories of competitive advantage, locational choice, organizational form choice and international portfolio

investment. Because the experience of Japan in the 1970s bears so many similarities to the current situation of Taiwan, it is explored in detail.

The strategy for Taiwan must begin with the establishment of a basic international network of banking. This must include at least two branches. Additional branches should be established in those locations possessing the most competitive advantages. Initially, the branch is the best organizational form. Thereafter, subsidiaries become desirable since they allow a greater degree of flexibility. Representative offices enable a bank to gain experience in a new area. Given the potential for both internal and external political crisis, international portfolio investment will grow in importance as Taiwanese investors aim at minimizing risks by investing overseas.

Historically, the financial system in Taiwan has been overly regulated and domestic-oriented, but this has begun to change. Although the government has lifted many restrictions, it must still vigorously pursue policies aimed at developing international investment and banking capacity. This will be in line with long-term development objectives for Taiwan.

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CHAPTER 1

INTRODUCTION

Taiwan's economy has enjoyed a high growth rate since the 1950s. A high level of domestic investment and savings is a major reason for the rapid growth. Financial intermediations play a successful role in channeling savings into investment. Another reason for the growth is the rapid expansion of foreign trade. From 1952 to 1987, foreign trade and exports increased 700 times and 1,160 times respectively. By 1987, Taiwan became the thirteenth largest trading country in the world.

This rapid growth in real international transactions, however, outpaced the development of international financial intermediaries. This has mainly been due to government restrictions, which prohibited banks from operating beyond the country, and an oligopolistic banking system characterized by low operating efficiency. The negligible volume of international investments, reflecting restrictive measures, also impeded the growth of international banking.

Since 1980 domestic investments have slowed down dramatically, causing the current account surplus to surge to an awkwardly high level, especially when compared to other surplus countries in terms of the ratio of surplus to gross national product (GNP).

The small size of international investments and the underdeveloped nature of the international banking system

impeded capital outflow in the 1980s. International reserves thus continued to accumulate. At the end of 1987, the foreign exchange reserves of the Central Bank of China This ranked third in the whole world. The ratio of international reserves to imports was probably the highest in the world.

To efficiently utilize the surplus funds, Taiwan can invest internationally, both in foreign direct and portfolio investments. Taiwan can also give official and commercial loans, export and import credits, etc.

So far, Taiwan has undergone successful structural adjustment. The share of agriculture in gross domestic product was 32.5 percent in 1951, and declined to a mere 5.6 percent in 1986. The share of industry, which was 23.9 percent in 1951, rose to 51.4 percent in 1986. The service sector showed no change or held its own during the same period. The export of agricultural products and processed agricultural goods dominated export trade prior to 1962. After that, industrial goods emerged as the major export items. The ratio of industrial goods exports to the total exceeded 60 percent in 1967 and has stayed at 90 percent since 1979.

The past success of manufacturing development in Taiwan was characterized by product cycles of processed foods, textiles, shoes, and electrical machinery which took forth as leading industries. The successful adjustment of the production and export structures contributed to the rapid

economic growth. However, in the 1980s, increases in labor and land costs, and environmental protectionism had an adverse impact on Taiwan's economic growth. Export success also had an adverse impact because of appreciation of Taiwan's currency. The labor-intensive and lower value-added manufacturing industries are no longer as profitable.

Although Taiwan is a major trading country, her foreign trade is not well diversified. One reason is the degrees of undevelopment of her industrial structure. She must improve on this by expanding the output shares of technology-intensive and high-value-added manufacturing industries by introducing advanced technology from foreign countries and by shifting comparative disadvantage industries abroad. Foreign direct investment in the advanced industrial countries can also help in the transformation of Taiwan's economy. Investing in low labor-cost, resource abundant developing countries will also insure the supply of raw materials and extend the life of comparative disadvantage industries.

Taiwan is also weak in her international marketing network and skills. To expand foreign market share and diversify foreign trade, opening sales and service branches in the major trading countries and potential markets will be necessary. Supplying export credits to foreign firms is important for export expansion and trade diversification. Setting up foreign bank branches will also provide the necessary financial support and information assistance.

Rapid appreciation of the local currency since 1986 and rising international protectionism in the late 1980s will slow down Taiwan's export expansion. This may also dampen the rate of economic growth. One needed step will be to increase domestic demand. Given the slow growth in the manufacturing sector due to sluggish export expansion, development of the domestic service sector may provide a good alternative. The Taiwanese government already treats the banking industry as one of the key industries to reach that goal. Taipei is also targeted to rival or replace Hong Kong as an international financial center after 1997.

Liberalization and internationalization of the banking system has occurred in the past two years. Taiwan revised her banking law in 1989 and changed her attitude toward the banking sector even earlier. By lifting existing restrictions, the new law allows the establishment of new private banks ending the monopoly enjoyed by government-controlled banks in the last 40 years. The new banking law also permits foreign banks to engage in a wider range of investment banking activities, such as the lucrative business of underwriting public stock offerings. On the other hand, the government also encourages Taiwan's banks to open overseas branches. The goal is to have six new foreign branches of domestic banks set up in 1991 and ten branches in 1992.

In addition to profit maximization and economic growth, national security is a major objective of the government in

its desire to develop international financial capability. Internal political instability and isolation internationally has spurred Taiwan in this direction. For example, the Taiwanese government prefers to maintain control over her reserves by depositing them in foreign branches of her own banks. This measure will guarantee a source of funds to purchase arms were Taiwan invaded by Mainland China in the future. The development of an extensive international financial network will also contribute to Taiwan's integration into the world economy which will in turn increase political support from other countries within the international community.

Given the fact that Taiwan does not have much experience in international banking but is interested in developing her own international banking system, the question of whether Taiwan can successfully develop her own international banking system must be examined. What will be the optimal strategy for attaining this goal? Specifically, where are the best locations to set up foreign branches? Which organizational form will be the best?

The Taiwanese government lifted most capital control measures on July 15, 1987. However, the large current surplus cannot be resolved by suddenly relaxing exchange controls. The level of international investments is still insignificant.

Whether international portfolio investment can help the payment imbalance is an important question to be answered.

What government policies can be undertaken to promote the future development of international portfolio investment? Any discussion of the adjustment of payment imbalance which neglects the preceding questions would be incomplete.

In recent years, a few papers have studied Taiwan's international payments imbalances in the 1980s from the financial liberalization and internationalization perspective.¹ They focus on the liberalization of the domestic banking system and the introduction of foreign banks into Taiwan. However, they do not directly examine the international development of domestic financial intermediaries and international investment. While foreign banks can help channel surplus funds outward, they do not possess the same advantages in credit-worthiness and good will as the local banks. Further, language, customs, tradition, and social networks constitute barriers that can be difficult for foreign banks to overcome. In contrast, domestic banks can provide better service with lower production costs. Chen and Su (1989) and two papers from the Chung-Hua Institute for Economic Research (1988a and 1988b) are the only studies on Taiwan's international investments. However, these three papers focus only on foreign direct investment by domestic firms. Seth and McCauley (1987) is the only study which

¹ Liang (1988), Ho (1988), and Lee and Peng (1985) examine the international payment imbalance problems from the financial liberalization perspective. In contrast, Tai (1986) and Shea (1988) take a financial internationalization approach to the same problems.

discusses Taiwan's international portfolio investments and related issues. Their study compares portfolio investment behaviors of Taiwan, Korea, and Japan, but does not discuss all the important issues related to international portfolio investment, or any aspects of the international banking system. My study will fill an important gap in the literature.

The purpose of this study can be considered as fourfold:

- (1) to find out the basic reasons for and consequences of the current surplus and accumulation of international reserves;
- (2) to examine the issues involved in encouraging overseas portfolio investment and international financial intermediations by the developing countries with a surplus;
- (3) to set up a theoretical framework for assessing optimal strategies in this above respect; and
- (4) to discuss implications for government policy.

This thesis begins with a brief summary of the economic development of Taiwan and its financial system, which will focus on the basic reasons for the current account surplus and the accumulation of international reserves. It follows with a review of theoretical and empirical studies which might have a bearing on optimal strategies for international investment and the development of an international financial system. A framework of international banking will be developed, based on

the theories of international trade, industrial organization, and foreign direct investments. The model will help in shaping the strategies for choosing the location and organizational form of overseas expansion. The theories of portfolio investment by individuals will also be discussed. To reinforce a prior exercise, we will also examine Japanese experience in international investment and the development of international financial intermediaries. The Japanese experience in the 1970s and 1980s represent the most recent relevant examples. This will be contrasted with the current development of Taiwanese international investment and financial intermediaries. The experiences of Japan, as in combination with general theories, should provide valuable lessons for Taiwan.

The research for this study reflects the above purposes, as well as the availability and reliability of data. Both the quantitative and qualitative aspects will be covered. For the most part, the data go back to 1952, and terminate with 1987, the last year for which the bulk of the data was available, although data from 1951 and 1989 will be included when available.

Chapter two discusses Taiwan's economy and her financial system, and the current problems relating to the surplus. In chapter three, the competitive factors of international banking are carefully examined. The potential gains from the development of multinational banking and consider the

questions of choice of location and organization will also be discussed.

Chapter four discusses international portfolio investments. Chapter five examines Japanese experiences in international investments and the development of international financial intermediaries. Chapter six focuses on the implications of the Japanese experiences for Taiwan, incorporating the theoretical framework developed in chapter three and four. A strategy for international investment and the development of international banking will also be suggested. Chapter seven presents the summary and conclusions.

CHAPTER 2 TAIWAN'S HISTORICAL BACKGROUND AND FINANCIAL SYSTEM

I. BACKGROUND OF TAIWAN ECONOMY

Taiwan has achieved remarkable economic progress in the past four decades. From 1952 to 1987, in a period of 35 years, the gross domestic product in real terms grew by a factor of 19.1 (see table 1). Real income per capita increased by a factor of 8.3 during the same period. The growth of international trade is even more remarkable. In 1987 the level of exports was 1,160 times the level of 1952; comparable figures for imports and total trade were 434 and 700 respectively.

Table 1. Indicators of the Taiwanese Economy (Base:1952=100)

Year	GNP	Per Capita GNP	Export	Import	Trade
1952	100.0	100.0	100.0	100.0	100.0
1955	129.5	116.7	130.6	124.2	126.5
1960	179.1	137.2	406.4	426.3	419.0
1965	281.5	185.9	1,225.3	880.2	1,006.8
1970	448.7	263.1	4,036.6	2,412.6	3,008.4
1975	682.8	364.5	13,724.0	8,940.4	10,695.5
1980	1,128.7	546.4	48,514.6	28,086.6	35,581.8
1985	1,544.2	689.3	83,304.1	31,656.0	50,606.1
1987	1,914.3	836.3	116,019.6	43,406.8	70,049.1

Source: Taiwan Statistical Data Book, 1988,
Council for Economic Planning and Development.

A. Two Stages of Economic Development

The economic development of Taiwan thus far may be divided into two important stages. The first stage of economic development was characterized by import substitution. The second stage of development displays export expansion.

1. Import substitution

Prior to 1950, Taiwan was predominantly an agricultural economy. To industrialize the economy, Taiwan started out with import substitution in nondurable consumer goods and their inputs in the early 1950s. A system of incentives, such as tariffs and import restrictions, was adopted to support inward-oriented policies.² Import substitution in textiles, clothing, and shoes and other leather products contributed to the rapid growth of industrial production in Taiwan during this period. As a consequence of the cessation of import substitution in these industries toward the end of the 1950s, Taiwan experienced sluggish growth and balance-of payments difficulties.

Because the small size of domestic markets in Taiwan raised product costs and restricted the scope of import substitution in intermediate products, machinery, and consumer durable goods, Taiwan switched to export-oriented policies around 1960. The system of incentives was changed from one

² The system of incentives for import substitution was a bias against exporting manufactured goods and thus against balance of payments.

supporting inward-oriented policies to one supporting outward-oriented policies based on the profitability of exports.

2. Export expansion

These latter policies allowed Taiwan to specialize in labor intensive goods by taking advantage of a well-motivated labor force with a high level of education and relatively low wages. The expansion of labor-intensive exporting sectors also absorbed unemployment. In the fifties and early 1960s, the unemployment rate was persistently above 6 percent. The unemployment rate began to decline in 1964, reaching 4.2 percent in 1966, and 3.4 percent in 1969. Thereafter, that the unemployment rate stayed within a range of 2.0 - 3.0 percent throughout the 1970s.³ The growth of exports also allowed firms to apply large scale production methods in consumer goods industries and achieve high capacity utilization, leading to improvements in technology and product quality.

Both import substitution and export expansion have contributed to the successful development of Taiwan's economy. Export expansion freed the economy of balance of payments constraints and permitted rapid economic growth. The GDP growth rate was 7.6 percent in 1952-60, 9.6 percent in 1961-70 and 9.7 percent in the period 1971-80, in real terms. It slowed down slightly to 7.5 percent in 1981-87.

³ See Kuo (1983), Table A1.4 Unemployment Rate.

B. Imports and Exports

1. Rising international trade

While imports were already over \$200 million in 1954, exports did not exceed \$200 million annually until 1961, giving rise to an unfavorable trade balance in the 1950s.⁴ The net effect of the measures taken to restrict imports during the era of import substitution was to raise the prices of imported raw materials and capital goods, hindering the expansion of the export sector.

Since the adoption of outward-oriented policies in 1960, there has been a rapid expansion of trade. Exports reached \$1 billion in 1969, broke the \$10 billion mark in 1978, and surpassed \$50 billion in 1987. Imports also rose from \$1 billion in 1969 to \$10 billion in 1978 and over \$30 billion in 1987 (see table 2).

Whereas the value of annual trade had never exceeded \$0.5 billion prior to 1961, it grew at an increasing rate reaching \$1 billion in 1965 and over \$10 billion in 1974. It surpassed \$50 billion in 1984, and reached nearly \$90 billion in 1987. Taiwan is now the thirteenth largest trading country in the world.

⁴ The "\$" sign will be used throughout to represent the U.S. \$ unless otherwise specified.

Table 2. International Trade

<u>Year</u>	<u>Export</u>	<u>Import</u>	<u>Total Trade</u>	<u>Trade Surplus</u>
1952	0.1	0.2	0.3	-0.1
1955	0.1	0.2	0.3	-0.1
1960	0.2	0.3	0.5	-0.1
1965	0.4	0.5	1.0	-0.1
1970	1.5	1.5	3.0	0.0
1975	5.3	6.0	11.3	-0.6
1980	19.8	19.7	39.5	0.0
1985	30.7	20.1	50.8	10.6
1987	53.6	34.5	88.0	19.0

Unit: \$ billion

Source: Taiwan Statistical Data Book, 1988,
The Council for Economic Planning and Development.

2. Increase in trade surplus

Despite the rapid expansion of exports, the trade balance remained unfavorable, with a trade deficit existing until 1970. In the 1950s and 1960s, the annual trade deficit was about \$90 million. Taiwan has had a trade surplus every year since 1971 except for 1974 and 1975 in response to the oil shock. The trade surplus reached \$10 billion in 1985, and increased to \$19 billion in 1987 (see table 2).

C. Savings and Investment

Rapid economic growth in Taiwan was also associated with increases in the savings and investment rates. The ratios of savings to GNP were around 15 percent in the early 1950s. It increased to 20 percent in 1964, and 30 percent in 1972. Except for a brief decline in 1975, the ratio has remained above 30 percent since then. In 1987, it reached 40 percent. The ratio of investments to GNP was also close to 15 percent

in 1951. However, it soon outpaced the rate of saving, reaching 20 percent in 1960, and 30 percent in 1974. It peaked in 1980 at 34 percent and declined steadily to 16 percent in 1986. The ratio of investment to GNP climbed slightly in 1987, but remained well under 20 percent.

Table 3. Savings and Investment

<u>Year</u>	<u>Saving/GNP</u>	<u>Investment/GNP</u>	<u>Net saving/GNP</u>
1951	15.76	14.53	1.23
1955	14.63	13.40	1.23
1960	17.86	20.30	-2.44
1965	20.82	22.83	-2.01
1970	25.71	25.69	0.02
1975	26.96	30.81	-3.85
1980	32.74	34.32	-1.58
1985	33.10	17.56	15.54
1987	40.31	18.77	21.54

Unit: Percentage

Source: National Income, DBAS.

1. Sources of domestic savings

Gross domestic savings can be divided into three categories, namely, corporate, government, and household savings. The ratio of corporate savings to gross savings never dropping below 40 percent until 1971. After that, the ratio declined to the 30-40 percent range. In 1987, corporate savings accounted for 32 percent of total savings. Except for the early 1950s, the ratio of government savings to total savings never exceeded 30 percent during 1951-1987. In 1987, government savings accounted for only 15 percent of total savings. In contrast, the ratios of household savings to

total savings were lower in the 1950s at under 30 percent of total savings. After 1961, the household sector had around 40 percent of total savings most of the years. From 1980 to 1987, the ratio of household savings increased from 36 to 52 percent. This shows the household sector has dominated role in gross saving of Taiwan economy.

2. Usage of funds

Gross domestic investments can also be classified into three categories: corporate, government, and household investments. The ratio of corporate to gross investment was the highest, above 70 percent from 1951 until 1981 excluding 69 percent in 1977. After 1981, the ratio fell below 70 percent. Government investment ranged between 10 to 20 percent from 1951 to 1987. Household investment ranged between 5 and 15 percent during the same period.

3. Net savings analysis

The ratio of net savings to GNP for different sectors is shown in table 4. The household sector has been the principal supplier of funds and the corporate sector the principal demander until 1984 when it, too, became a net saver. The government sector has been a net saver except for four years in the 1960s.⁵

Before 1969, the total net saving ratio was negative for most years. This implies that domestic savings were not

⁵ The four years in the 1960s during which the government was a net demander of funds were 1962, 1963, 1964, and 1967.

sufficient to cover domestic investment; foreign savings were needed to help domestic capital formation. After 1969, net savings became positive for most years with the exception of 1974, 1975 and 1980. Since 1980, net savings have expanded at a relatively fast pace.

Table 4. The Ratio of Net Savings to GNP

<u>Year</u>	<u>Household</u>	<u>Government</u>	<u>Corporate</u>	<u>Total</u>
1952	1.01	3.46	-4.50	-0.02
1955	1.55	3.23	-3.56	1.23
1960	2.57	1.70	-6.71	-2.44
1965	6.87	0.25	-9.13	-2.01
1970	9.18	0.53	-9.70	0.02
1975	7.82	2.65	-14.31	-3.85
1980	7.09	3.40	-12.07	-1.58
1981	8.74	2.32	-9.73	1.34
1982	9.46	0.52	-5.04	4.95
1983	11.33	1.71	-4.00	9.03
1984	11.60	2.11	-1.57	12.15
1985	11.84	1.92	1.78	15.54
1986	16.83	1.16	4.45	22.44
1987	18.67	2.50	0.37	21.54

Source: National Income, Directorate-General of the Budget, Accounting and Statistics, Executive Yuan, ROC.

D. Existing Problems Since 1980

The major problems since 1980 have been imbalances in savings and investment, foreign trade, and balance of payments. They will be examined carefully in the following sections. The implications of these factors for the development of international banking will be reserved for chapter six.

1. Imbalance in savings and investment

Since 1980, the ratio of savings to GNP increased steadily from around 30 to 40 percent in 1987, while the ratio of domestic investment to GNP declined dramatically from 35 percent in 1980 to 16 percent in 1986. As a consequence, the net savings ratio increased rapidly from -2 percent in 1980 to around 22 percent in 1986 and 1987 (see table 4).

a. Savings and investment in different sectors

To obtain a better understanding of savings and investment problems, the behavior of different sectors must be carefully examined. The household sector rapidly increased savings from NT\$170 billion in 1980 to NT\$655 billion in 1987.⁶ The annual growth rate of savings in household sector was 22 percent during 1981-1987. During the same period, the annual growth rate of the corporate sector and government sector was 11.5 and 8.7 percent respectively. In 1987, the share of gross savings by the household sector was 52.5 percent, while the corporate sector and government sector held only 32.3 and 15.2 percent respectively.

While savings in the household sector increased rapidly, investment in the household sector remained constant during the period 1980-1987. The annual growth rate of investment in the household sector was only 2.3 percent during this period. Therefore, the net savings in the household sector increased rapidly from NT\$104 billion in 1980 to NT\$578 billion in 1987.

⁶ "NT\$" represents the New Taiwan dollars.

The ratio of net savings to GNP in the household sector increased steadily from 7 percent in 1980 to 19 percent in 1987 (see table 4), further evidence that the household sector plays the prominent role in supplying funds. How to channel and use these surplus funds more efficiently have become important policy issues for Taiwan's government since 1980.

The government sector maintained a small budget surplus since 1951.⁷ During 1980-1986, the budget surplus was under NT\$50 billion but reached NT\$77 billion in 1987. Net savings in the government sector were below 2.5 percent of GNP during this period.

While corporate savings increased rapidly from NT\$193 billion to NT\$394 billion in 1986 and NT\$403 billion in 1987, corporate investment dropped from NT\$370 billion in 1980 to NT\$270 billion in 1986. This translated into a growth rate of 13 percent in corporate savings, and a decline in corporate investment of -4.5 percent during 1980-1986. Consequently, the corporate sector, the "regular" borrower, turned into a net lender from 1985 on. While the corporate sector still borrowed NT\$177 billion from other sectors in 1980, it had NT\$123 billion net savings in 1986. The investment decline in the corporate sector was the major reason for the net savings in the economy.

⁷ The corporate sector maintained a negative net savings during 1951-1984. It borrowed funds from other sectors.

b. Possible reasons for the decline in investment

Three possible reasons may be listed for the decline in investment: the political crisis of the late 1970s, rising environmental protectionism, and the increase in labor costs since the mid-1980s.

(1). Political crisis in the late 1970s and 1980s

In 1979, the Carter administration broke official ties with Taiwan.⁸ Prior to this, the Nixon administration had opened the doors to Beijing in 1972. Since the United States was Taiwan's most important trading partner and ally, the termination of diplomatic relations in 1979 resulted in a political and economic crisis.

In addition, the withdrawal of Taiwan from the IMF in 1980 and isolation from the international community during the 1970s and early 1980s made investors face threatened, shaking their confidence in Taiwan. By 1980, South Africa, Saudi Arabia, and South Korea were the only major nations to maintain official relationships with Taiwan. Altogether, only 23 nations continue to recognize Taipei's claim of being the legal ruler of China.⁹ Doubt about the island's viability and stability in the face of the People's Republic of China's efforts at reunification dampened the willingness of local

⁸ See Sutter (1988), p.14-15.

⁹ See Euromoney (1987), Feb. p.32.

businessmen to invest in expensive plants and equipment with uncertain returns.¹⁰

In an economic sense, given the high risk they perceived, local investors sought a higher premium from investments. Investments with rates of return below the required premium were rejected by individual investors and firms. This can explain the decline in domestic investment and, in particular, the decline in corporate investment. Gross domestic investment fell from NT\$504 billion in 1980 to NT\$438 billion in 1986. A more detailed summary of the political situation can be found in appendix A.

(2). Environmental protectionism

A rise in environmental protectionism may also have contributed to the decline in investment. Rapid economic growth has not been without costs. Taiwan's cities are choked with smog and its rivers with waste due to a general lack of concern with pollution control. According to statistics provided by the Council for Economic Planning and Development, ROC, expenditures on pollution-reducing equipment were below NT\$60 billion or below 0.3 percent of GNP until 1985 (see table 5). Total spending on environmental protection is far below the range of 2 to 4 percent typical of developed countries. As a result, industrial waste, auto fumes, agricultural refuse, and sewage have turned Taiwan into a

¹⁰ See Gold (1986), p.108.

polluted island. The capital city of Taipei has become one of Asia's most polluted cities.¹¹

Table 5. Pollution Control Equipment Expenditures

<u>Year</u>	<u>Investment in Equipment (NT\$ Billion)</u>	<u>Percentage</u>
1983	10	0.05
1984	36	0.16
1985	58	0.23

Source: Council for Economic Planning and Development, ROC.

Concern over environmental degradation has led to popular protests. Demonstrations by various groups have become a daily occurrence in Taipei since martial law was lifted on 15 June 1987.¹²

Some investments have been successfully blocked by environmentalist groups. In a number of instances, demonstrators have forced the suspension of operations at factories alleged to be polluting as well as the postponement of new plant construction.¹³ In 1988, for example, fishermen in Southern Taiwan shut down a petrochemical complex, protesting that pollutants had poisoned their catch.

¹¹ See Business Week (1989), November 6.

¹² See "Social Unease-the Price of Development." Far Eastern Economic Review, 15 September 1988.

¹³ See Asian Wall Street Journal, 24 April 1989.

(3). Increase in unit labor costs

Increase in unit labor costs is the third factor contributing to the decline in domestic investment. The wage rate in manufacturing has increased rapidly in recent years. From 1982-1988, the average annual growth rate of wage in Taiwan was 12.6 percent, which was higher than Korea, Japan, the U.S., and Singapore, as shown in table 6. However, the gain in productivity fell behind the increase in the wage rate. As a result, the unit labor cost increased by 5.1 percent, just behind Japan but far ahead of other trade competitors, like Korea and Singapore, and the most important trade partner, the United States.

In 1988, the growth rate of nominal wages in manufacturing grew 24.9 percent in Taiwan which was far above the rate for Japan, the U.S., and Singapore. In contrast, Taiwan's improvement in productivity was 6.6 percent, which was below that of Korea and Japan. Taiwan's growth rate in unit labor cost was highest, at 20.5 percent, in 1988.

Rising environmental protectionism and increases in unit labor costs became two important catalysts for foreign direct investment by domestic firms, which in turn influences the development of international banking. The existence of potential for political crisis strengthens investor's motivation to diversify internationally, speeding up the process of international investment, especially portfolio investment.

Table 6. Growth Rate in Unit Labor Cost

<u>Growth Rate</u>	<u>Year</u>	<u>Country</u>				
		<u>Taiwan</u>	<u>Korea</u>	<u>Japan</u>	<u>U.S.</u>	<u>Singapore</u>
Nominal wage rate	1982-88	12.6	10.3	10.9	3.5	6.4
Productivity	1982-88	6.7	12.0	5.2	3.8	4.6
Unit labor cost	1982-88	5.1	-1.7	5.7	-0.3	1.1
Nominal wage rate	1988	24.9	29.0	13.5	2.6	4.5
Productivity	1988	6.6	14.9	11.3	3.1	---
Unit labor cost	1988	20.5	14.1	2.2	-0.6	---

Source: Table 16-1-7 International Unit Labor Cost Comparison, Annual Report 1988, Council for Economic Planning and Development, ROC.

2. Trade imbalance

A second problem during the 1980s was a significant trade imbalance. While imports grew at a moderate pace between 1981 and 1987, exports grew at a rapid rate due to strong world demand. During the period 1980-1987, the annual growth rate of exports was 16.1 percent. In contrast, the annual growth rate of imports was only 8.8 percent (see table 7). While exports increased from \$20 billion in 1980 to \$53 billion in 1987, imports increased from \$20 billion in 1980 to just \$32 billion over the same period.

The imbalance between exports and imports caused the rapid growth of a trade surplus. The annual growth rate of this surplus from 1981 to 1987 remained over 50 percent, even when the extreme value of 1981 is excluded. The trade surplus in 1980 was only \$77 million. It surged up to \$1.8 billion in

1981 and \$3.6 billion in 1982. By 1987, the trade surplus had surpassed \$20 billion (see table 7).

The growing trade imbalance aggravated tensions between Taiwan and her trading partners. The next sections will discuss these bilateral relations.

a. Trade imbalance with important trade partners

The United States and Japan are the most important trading partners for Taiwan. For historical and geographical reasons, Japan initially occupied this role. During the 1950s, Japan's share of trade (exports plus imports) ranged between 35 and 40 percent, while the United States' share ranged between 25 and 30 percent with the exception of 34 percent in 1954. No other trading partner has ever accumulated more than a 5 percent share.

Table 7. Export and Import in 1980s

Year	<u>Exports</u>		<u>Imports</u>		<u>Trade Surplus</u>	
	<u>Amount</u>	<u>Growth rate</u>	<u>Amount</u>	<u>Growth rate</u>	<u>Amount</u>	<u>Growth rate</u>
1980	19.6	---	19.5	---	0.1	---
1981	22.4	14.5	20.6	5.6	1.8	2270.1
1982	21.8	-2.8	18.1	-11.9	3.6	99.8
1983	25.0	14.9	18.8	3.5	6.3	71.9
1984	30.2	20.6	21.0	11.7	9.2	47.3
1985	30.5	0.9	19.3	-7.9	11.2	21.0
1986	39.5	29.6	22.6	17.3	16.9	50.9
1987	53.2	34.8	32.4	43.3	20.8	23.3
Avg.	31.8	16.1	21.8	8.8	10.0	396.2

Unit: \$ billion

Source: Statistical Yearbook 1987; Taiwan Statistical Data Book.

As the economy grew, however, this pattern changed. The United States replaced Japan as the leading trade partner from 1967 on. The U.S. share of trade increased to 30 percent and stayed around that level through the 1970s, while Japan's share fell to below 30 percent and reached 19 percent in 1980. The U.S. share continued to increase after 1980 reaching a peak of 38.4 percent in 1985 and falling back to 35.5 percent in 1987. Japan's share was, on the other hand, remained below 21 percent during 1981-1987.

Taiwan's dependence on the United States is reflected clearly in export value. The U.S. share of exports was less than 10 percent in the 1950s and below 30 percent until 1967. After that, it steadily increased to a peak 42 percent in 1972. In response, the Taiwanese government tried to diversify her trade markets. Diversification policy was partially successful during 1970s, bringing the U.S. share down to 34 percent in the period between 1975 and 1980. After 1980, however, the share of exports to the United States increased rapidly to a peak of 49 percent in 1984, staying above 44 percent in 1987.

b. New conflict and protectionism

Prior to 1967, Taiwan was a net importer from the United States. Taiwan's bilateral trade deficit ranged between \$50 and \$100 million. After 1967, Taiwan turned her trade deficit into a trade surplus. In 1968, this was \$38 million, but it reached \$1 billion in 1976 and continued to increase

thereafter as follows: 1985, \$10 billion; 1986, \$14 billion; and 1987, \$16 billion.

Taiwan's trade surplus has contributed about 10 percent to the U.S. trade deficit since 1980. This has roused protectionist sentiments in the U.S. Congress. The rise of international protectionism has become one of the main reasons for domestic firms to invest overseas, which in turn has had the positive effect of encouraging the development of international banking.

3. International payment imbalance

Another problem in 1980s has been excess current account surplus coupled with inadequate capital account movement. As predicted by the absorption approach, an expansion of net domestic savings in Taiwan has resulted in an increase in the trade surplus and, as a result, the current-account surplus. A simple accounting identity for this is illustrated in appendix 2. The current account surplus increased from negative \$0.9 billion in 1980 to \$16.2 billion in 1986 and \$17.9 billion in 1987.

The significance of Taiwan's current account surplus can be clearly illustrated through a comparison with Japan and Germany. Even though Taiwan's current account surplus in term of absolute value was far behind Japan and Germany, as a percentage of GNP it was much higher (see table 8). In 1986, Taiwan had a current account surplus of \$16.21 billion, while Japan had \$85.83 billion and Germany had \$39.85 billion.

However, Taiwan's surplus was 22.5 percent of its GNP, much higher than the 4.4 percent ratios of both Japan and Germany. The ratios of current account surplus to GNP in these three countries dropped in 1987, but Taiwan's current account surplus ratio of 16.2 percent was still far above Japan's and Germany's, at 3.8 percent and 4.0 percent. respectively.

Table 8. The ratio of current account surplus to GNP

<u>Year</u>	<u>Country</u>		
	<u>Taiwan</u>	<u>Japan</u>	<u>Germany</u>
1980	-2.8	-0.9	-1.7
1981	1.3	0.6	-0.5
1982	4.9	0.8	0.76
1983	9.0	1.9	0.8
1984	12.1	2.9	1.6
1985	15.5	3.8	2.6
1986	22.5	4.4	4.4
1987	16.2	3.8	4.0

Unit: Percentage

Sources: International Financial Statistics Yearbook 1989, IMF; Financial Statistics-Taiwan district, the Republic of China, May 1989.

a. Foreign exchange control

In contrast to the huge current account surplus, capital outflow is limited mainly due to foreign exchange control and restrictive foreign investment policies. In 1949, due to a severe shortage of foreign exchange, Taiwan adopted foreign exchange control measures. Beginning in January, 1950, official approval was required to import any foods from abroad. After May 1970, citizens were allowed to make only minimal remittances abroad with an annual ceiling of \$200.

This was increased to \$2,000 in 1984.¹⁴ Citizens were not allowed to travel abroad as tourists until 1979.

Under this framework, the capital account was stable during 1980-87, but the current account surplus increased rapidly. During 1980-1987, the balance of capital movement stayed within a range of negative and positive \$1 billion except for 1980 and 1981. The exchange control and restrictions on foreign investment had an extremely dampening effect on overseas portfolio acquisitions and foreign direct investment.

b. Accumulation of international reserves

The rapid increase in the current surplus being incorporated into the small, but and stable capital account resulted in a quick accumulation of international reserves. The foreign exchange reserves of the Central Bank increased rapidly from \$2.2 billion in 1980 to \$76.7 billion by the end of 1987. The reserves to imports ratio increased steadily from 11.3 percent in 1980 to 232.5 percent in 1987. In 1987, Taiwan's international reserved ranked third in the world, behind only Japan and Germany. In 1988, Taiwan surpassed West Germany and trailed only Japan. Taiwan's per capita reserves were the world's highest by 1987 at \$ 3,900. In terms of the reserve to import ratio, Taiwan's ratio of 230 percent in 1987 also ranked first in the world. This implies an import coverage of around two and a-half years. The

¹⁴ See Lee and Peng (1985), p.30.

reserves in 1987 represent over 80 percent of the island's GNP.

How to utilize this large reserve effectively is the paramount problem for Taiwan. If not resolved, continued accumulation of reserves may need to be stopped.

II. FINANCIAL SYSTEM BACKGROUND

Over the past -- Years, Taiwan has been successful in financial deepening (see table 9). By this we mean the growth of financial assets at a pace faster than the accumulation of nonfinancial wealth.¹⁵ A conventional index of financial deepening is the degree of monetization, which can be reflected by the ratio of M_{1B} to GNP or the ratio of M_2 to GNP.¹⁶ The ratio of M_{1B} to GNP increased from 12.4 percent in the 1961-1965 period to 28.9 percent in the 1981-1985 period and surged up to 45.9 percent in 1986-1987. The M_2 to GNP ratio also increased from 28.6 percent in 1961-1965 to 86.2 percent in 1981-1985 and then surged up to 127.0 percent in 1986-1987. These two ratios show that monetization in Taiwan has progressed rapidly.

M_2 deflated by the wholesale price index, which represents the real lending capacity of the monetary financial

¹⁵ For details see Shaw (1973), P.vii.

¹⁶ M_{1A} includes currency outside monetary institutions, checking accounts, passbook deposits; M_{1B} includes M_{1A} and passbook savings deposits; and M_2 include M_{1B} and quasi-money.

institutes,¹⁷ grew 150 times during 1961-1987. This increase in liquidity facilitated credit expansion of the commercial banks. The assets of domestic banks as a percentage of GNP increased from 33.5 percent in 1961-1965 to 77.2 percent in 1981-1985, surging up to 98.3 percent in 1986-1987. The ratio of total financial assets to GNP, the so-called financial ratio, increased from 58.7 percent in 1961-1965 to 246.0 percent in 1986-1987. These figures clearly indicate the progress of the financial system in Taiwan.

Table 9. Key indicators of financial development in 1961-87

<u>Indicators</u>	<u>Year</u>					
	<u>1961-65</u>	<u>1966-70</u>	<u>1971-75</u>	<u>1976-80</u>	<u>1981-85</u>	<u>1986-87</u>
Ratio of M_1 to GNP(%)	12.4	15.5	20.2	27.2	28.9	45.9
Ratio of M_2 to GNP (%)	28.6	37.9	49.9	66.1	86.2	127.0
M_2 /WPI (billion)	26	65	193	619	1817	3864
Net assets of domestic banks as percentage of GNP (%)	33.5	42.1	54.5	78.4	77.2	98.3
Financial ratio (%)	58.7	76.3	104.1	148.6	169.6	246.4

Sources: (1) Taiwan Statistical Data Book, Council for Economic Planning and Development.
 (2) National Income in the Taiwanese Area of the Republic of China, DGBAS.
 (3) Financial Statistics Monthly, Taiwan District, ROC, the Central Bank of China.

¹⁷ See Mckinnon (1973).

A. Taiwan's Financial System

Taiwan's financial system consists of financial institutions and markets, with the former being, more well-developed than the latter.

1. Financial institutions

There are twelve different types of financial Institutions in Taiwan. They can be grouped into two categories, monetary institutions which can create money and other financial institutions which cannot. In 1988, the monetary institutions consisted of the Central Bank, 16 full service domestic banks, 8 medium business banks, 35 branches of foreign banks, 74 credit cooperative associations, and 304 units of the farmer's and fishermen's credit association. The monetary institutions held about 85 percent of the assets of all financial institutions, with two-thirds of total assets belonging to the Central Bank (41 percent) and full service domestic banks (25 percent).

Other financial institutions include a postal savings system which had over 1,000 branches nation-wide, 8 investment and trust companies, 9 life insurance companies, 14 fire and marine insurance companies, 3 bills finance corporations, and 1 securities finance company.¹⁸ In contrast to the large share occupied by the monetary institutions, the others held only 15 percent of the assets, which included the strong

¹⁸ In addition, the financial system in Taiwan also included 37 leasing companies, one export-import bank, and a rapid increase in securities houses in 1988.

postal savings system. The postal savings system which is the fastest growing financial institution, accounting for 10 percent of the assets, had 1168 post offices and 415 postal agencies in September, 1988. The investment companies, insurance companies, bill finance corporations, and securities companies made up much smaller share of, as shown in table 10.

2. Financial markets

Financial markets consist of money and capital markets. While the money market deals with financial instruments maturing in less than one year, the capital market deals with instruments maturing in periods longer than one year.

a. Money market

In the money market, the short-term bills sub-market has grown substantially since its establishment in 1976. The inter-bank, called the loan sub-market, also experienced rapid growth from its beginning in April of 1980. Three bills finance companies have been established since 1976. The volume of money market instruments outstanding increased from NT\$8 billion in 1976 to NT\$480 billion in 1988. Most of the years, bankers' acceptances and commercial paper constituted the majority of the short-term bills of exchange. The trading volume on the inter-bank call loan market increased from NT\$390 billion in 1980 to NT\$2,925 billion in 1988.

Table 10
Assets and Units of Financial Institutions in Taiwan, R.O.C.

<u>Institutes</u>	<u>No. of units</u>	<u>No. of branches</u>	<u>Assets</u>	<u>As a percent of total assets of financial Institu- tion</u>
Monetary institutions	435	1,814	7,589	84.45
Central bank	1	0	2,249	22.99
Domestic commercial banks	16	650	3,723	41.38
Local branches of foreign banks	32	3	193	2.15
Medium business banks	8	238	429	4.76
Credit cooperative associations	74	301	551	6.12
Farmers' & fishermen's credit associations	304	622	453	5.04
Other financial institutions	36	1,345	1,399	15.55
Postal savings system	1	1,168	933	10.37
Investment & trust companies	8	34	181	2.01
Life insurance companies	9	59	217	2.41
Property & causality insurance companies	14	73	263	0.29
Bills finance companies	3	11	172	0.19
Securities finance company	1	0	243	0.27

Assets Unit: in billions of New Taiwan dollars; as of the
end of 1988.

Note: No. of branches is for the end of Sept. 1988.

Sources: Financial Statistics Monthly, Taiwan District, ROC.

b. Capital market

Taiwan's capital market consists of stock and bond markets. Historically, Taiwan's capital market is dominated by the stock market. Taiwan's stock exchange was established in February, 1962. The number of listed companies increased from 18 in 1962 to 163 in 1988. Total market value increased from NT\$7 billion in 1962 to NT\$3,383 billion over the same period.

In contrast, the corporate and government bond markets are very small; however, volume has been increasing significantly. In 1961, the corporate and government bonds outstanding accounted for NT\$0.1 billion and NT\$0.8 billion respectively; by the end of 1988, they had grown to NT\$52 billion and NT\$184 billion respectively.

B. Current Problems of Taiwan's Financial System

Although Taiwan's financial system has deepened and developed greatly, it is not adequate to allow her to become a fully successful open economy. The system is too domestic-oriented, and the cartel-type oligopolistic structure of banking has been slow in developing the technology required for international banking. The underdeveloped capital market also retards the development of international banking and international investment. These shortcomings have become even more pronounced with the mounting size of the surplus in the 1980s.

1. Cartel-type oligopolistic banking system

Among the financial institutions, commercial banks play the dominant, albeit diminishing, role. In 1961, commercial banks accounted for 63 percent of total financial assets held by all financial institutions. The share has dropped more than 20 percent from 1961 to 1988; it still remains above 40 percent, however. During the same period, the commercial bank share of deposits was over 45 percent, and its share of loans and investments was over 65 percent (see table 11).

Table 11
Shares of Commercial Banks Out of All Financial Institutes

<u>Year</u>	<u>Assets</u>	<u>Deposits</u>	<u>Loans</u>	<u>Operation units</u>
1961	62.9	75.6	82.2	19.2
1965	53.1	63.6	74.2	20.5
1970	54.4	66.5	76.7	21.6
1975	53.2	62.7	73.1	20.9
1980	51.4	55.5	67.7	18.9
1985	43.8	47.7	67.4	17.6
1988	41.4	48.8	67.9	18.5

Source: Financial Statistics Monthly, Taiwan District, the Republic of China.

The above figures show that commercial banks have played an important role in channeling funds from savers to investors. However, the picture is marred by their cartel-type oligopolistic structure characterized by barriers to entry and government ownership.

a. Entry restriction

Not only the establishment of domestic and foreign new financial institutions but also the establishment of new

branches has been highly restricted by Taiwanese authorities. There were ten domestic banks in Taiwan at the end of 1961. By the end of 1988, the number had grown to sixteen. Over a period of more than twenty-five years, only six new banks had been established.

Even though the number of operating units of domestic banks (including main offices and branches) increased from 260 in 1961 to 648 in 1987, the rate of increase was slow relative to the proliferation of other financial institutions during same the period. This can be shown by the ratio of operating units of commercial banks to all financial institutions. Beginning at 19.13 percent in 1961, this ratio reached its peak at 22.15 percent in 1973 and then declined steadily to 17.6 percent in 1986¹⁹ (see table 11).

In 1968, the average commercial bank operating unit served 595 companies. This average increased to 962 in 1987, which indicates that entry restrictions impede the development of domestic banks. Restrictions on establishing overseas financial institutions also impede the development of international banking by domestic banks. At present, there is little increase in the number of financial institutions abroad. Foreign banks can gain access to domestic markets without the same harsh restrictions; however, their branches, locations and operations are still strictly controlled. A

¹⁹ The ratio recovered back to 18.14 percent in 1987.

detailed discussion is provided in appendix 2. In short, banking in Taiwan continues to be highly regulated.²⁰

b. Government ownership

As a reaction to the rampant inflation and financial chaos that prevailed in Mainland China after World War II, the government has retained firm control of the banking industry since moving to Taiwan in 1949. Government ownership has typified the banking system and private entry has been restricted. Of sixteen banks, twelve are government owned. Of the four private banks, two are small, and one is a small joint-venture company. Only the International Commercial Bank, an off-shoot of the Bank of China in 1971, is a significant private participant in banking activities. The Taiwanese government achieved such dominance by taking over the ownership of banks from the Mainland and acquiring majority shares from Japanese partners in private local banks.²¹

Government banks accounted for 82.9 percent of the total assets of all banks in 1986. It is natural and easy for commercial banks to collude as a cartel under the same single owner - the Taiwanese government. As a result, an

²⁰ The restrictions on the operation of foreign banks have been relaxed gradually as steps toward financial internationalization are taken. Some authors, such as Shea (1988) and Tai (1986), have already called attention to this. However, no study gives detailed discussion on the process of setting up financial institutions abroad.

²¹ See Gold (1986), p.108.

oligopolistic cartel-type banking system has arisen. Leading economic theory suggests that this leads to a social welfare loss and allocative inefficiency. Further inefficiency arises due to bureaucratic organization, with the following three major problems highlighted in the literature.²²

- (1) Government banks are subordinate to monetary policy and pressures from those with influence in government.
- (2) The directors and senior management of the banks are government appointed, and, as a consequence, are not necessarily experienced bankers. They devote too much of their time to haggling with legislators instead of concerning themselves with bank business. Further, bank employees are civil servants, which limits their managerial scope to develop flexible policies of personnel management, including hiring and firing.
- (3) The bank budgets and operating decisions are subject to lengthy prior approval and audit procedures by the authorities; in the case of the budget, two years in advance. Loans are constrained by burdensome regulations and loan officials are discouraged from risk assumption, which is essential to banking. The net result is that these have become cumbersome bureaucracies rather than competitive institutions exercising discretionary judgement in the context of market changes.

²² See Lee and Tsai (1988), p.208-210.

c. Consequences

The cartel-type oligopolistic banking system results in low operating efficiency, outdated technology, and slow development of international banking.

(1). Low operating efficiency

To understand the operating efficiency of domestic banks, It is necessary to compare the profit rates of domestic banks with local branches of foreign banks. During the period between 1978 to 1985, local branches of foreign banks earned higher profit rates than did domestic banks, except for 1984. The difference in profits rates was especially large prior to 1980.

Table 12. Profits Rates of Domestic Banks and Foreign Banks

<u>Year</u>	<u>Domestic Banks</u>	<u>Local Branches of Foreign Banks</u>
1978	25.98	38.58
1979	27.92	42.45
1980	30.61	36.36
1981	27.51	34.35
1982	26.25	26.34
1983	19.54	19.82
1984	23.12	20.87
1985	22.90	23.86
Average	25.48	30.33

Source: Ho and Yan (1987), p.19, table 2.

The average profits for domestic banks are 25.48 percent and the average profits for foreign banks are 30.33 percent over that same period. This illustrates the lower operating efficiency of domestic banks (see table 12).

(2). Outdated technology

Outdated technology is clearly evident in the lag in computerization of the banking operation. Computerization of the banking system can be divided into three different stages. The first stage in creating an on-line system is to establish the files of individual accounts, making withdrawals and deposits at any branch of a particular bank possible.

The second stage of an on-line system is characterized by integrated processing of banking transactions. This allows banks to expand business by using ATMs (automatic teller machines), and other devices which are easy to link, thereby reducing operating costs by using fewer personnel. An inter-bank and world-wide branch network can also be developed in this stage.

The final stage of an on-line system includes the replenishment of the information service system and establishment of connection with outside systems, such as POS (point of sale), home banking,²³ and INS (advanced information communication system).²⁴

Taiwanese banks have so far accomplished only 25 percent of the first stage and 10 percent of the second. This can be

²³ Home banking means that it is possible to engage in banking transactions from one's home through telephone service, pay-by-phone service, etc.

²⁴ The advanced information system aims at integrating the telephone, telex, and data telecommunication into one single net work in order to supply a more advanced information communication service.

contrasted with Singapore and Hong Kong banks which have reached 85 and 70 percent of the first and second stages of an on-line service system service. U.S. and Japanese banks are at 100 and 90 percent respectively in the first two stages of the on-line system.²⁵

(3). Sluggish development of the international banking

The internationalization of the banking industry has been a slow process. Foreign banks gained easier access to Taiwan financial market in 1980, and local branches increased in number to 33 by the end of 1987. Some of the operational restrictions on foreign banks have also been lifted in recent years. Despite these steps, the process of branching out abroad by domestic banks has been unsatisfactory. Before 1961, the International Commercial Bank of China had four branches overseas. By 1987, only a few additional foreign branches had been established by the First Commercial Bank and Bank of Communication. Of these three banks, only two have branches in more than one foreign country. International banking by Taiwanese banks will be discussed again in chapter six.

2. Underdeveloped capital market

The capital market in Taiwan is under developed compared to the financial institutions and the growth of the real economy.

²⁵ See Central Daily News, 6 March 1990.

a. Small scale capital market

Listed firms represent less than 10 percent of all registered companies in Taiwan having sufficient capital to meet listing requirements. Close examination of the ratio of capital of listed companies to the capital of all registered companies quickly reveals that the stock market is not a significant place to raise funds; this ratio remained under 18 percent from 1968 to 1987.

The ratio of the market value of stocks to GNP varied between 6 and 25 percent over the period 1964-1986. This compares with a ratio for the U.S. of 183.9 percent in 1983. The ratio of increase in capital of listed firms to national savings was between 3 percent and 9 percent from 1972 to 1987. In 1987, the ratio indicated that only 3.92 percent of the capital was raised through the stock market.

The small scale of the Taiwanese stock market is shown in table 13. The total number of listed companies on the Taiwan Stock Exchange is smaller than one-tenth of the three major stock markets, Tokyo, New York, and London. The total volume of stocks traded on the Taiwan Stock Exchange were 39 and 77 billion shares in 1986 and 1987, which was very small relative to the three other markets. Table 13 also shows that Taiwan's total market value of equity of listed domestic companies was much smaller in magnitude than for the other three stock markets.

b. Imbalance in the proportions of individual and institutional investors

In a well-developed capital market, institutional investors usually play the most important role. In Japan between 1981-1985, individual investors accounted for only 40 percent of the stock transactions, whereas individuals accounted for over 90 percent of the stock transactions in Taiwan between 1981-88 except 1984 (see table 14).

A glance at share ownership yields the same picture. Individual Taiwanese investors owned more than 40 percent of the capital of all listed companies during 1962 to 1988 (see table 15). During the same period, financial institutions in Taiwan owned less than 9 percent of outstanding stock. In Japan, by way of contrast, individuals owned less than 30 percent of the outstanding stock value of all Japanese companies, while Japanese financial institutions owned about 40 percent (see table 16).

c. Small scale securities firms

At the end of 1988, Taiwan had 102 securities brokers, 88 being private brokers, and fourteen bank brokers. Almost all commercial banks in Taiwan have brokerage licenses. Among the 88 private brokers, eight companies combine the functions of broker and dealer.

Table 13. Taiwan, Tokyo, New York and London Stock Exchanges

	<u>No. of Listed Companies</u>			<u>Volume of Trading</u> (in \$ billions)	<u>Total Market Value of Equity Shares of Domestic Companies Listed</u> (in \$ billions)
	<u>Total</u>	<u>Domestic</u>	<u>Foreign</u>		
Taiwan					
1987	141	141	0	77	49
1986	130	130	0	39	15
Tokyo					
1987	1,620	1,532	88	1,757	2,726
1986	1,511	1,499	52	955	1,794
New York					
1987	1,647	1,577	70	1,889	2,132
1986	1,575	1,512	63	1,389	2,128
London					
1987	2,658	2,061	597	316	679
1986	2,685	2,101	584	113	472

Source: Wiener and Knight (1989), table 3, p.9;
Taiwan Stock Exchange, Statistical Data, 1989.

Table 14. Stock Transactions by Types of Investors

<u>Year</u>	<u>Taiwan</u>			<u>Japan</u>		
	<u>Indivi- duals</u>	<u>Juridical Person</u>	<u>Forei- gners</u>	<u>Indivi- duals</u>	<u>Juridical Person</u>	<u>Forei- gners</u>
1981	95.6	4.0	0.6	42.2	46.9	10.9
1982	93.9	5.6	1.0	40.9	47.8	11.3
1983	92.2	7.4	0.5	43.0	42.2	14.8
1984	87.8	11.7	0.7	42.7	42.1	15.2
1985	91.5	8.1	0.8	38.9	47.7	13.4
1986	92.0	7.6	0.3	---	---	---
1987	94.4	5.4	0.2	---	---	---
1988	97.8	2.1	0.1	---	---	---

Unit: Percentage

Source: 1988 SEC Statistics, Securities & Exchange
Commission, Ministry of Finance, ROC;
Directory of World Stock Exchange (1988).

While trading by dealers is negligible, securities transactions are conducted, for the large part, by private brokers. The percentage were 82 percent in 1988. The remaining 18 percent were handled by the fourteen bank brokers.

The size of private security firms is small. The average capital of private firms was NT\$273 million in 1988. Only eight out of fourteen private brokers have one branch, as government regulations discourage establishing branches. Before the revision of the security exchange law in 1988, brokers were not allowed to trade for themselves on short sale financing. The only income was brokerage commissions which was officially set at a low level.

The average size of bank brokers is even smaller. Bank brokers average only NT\$123 million in capital. However, the network system of bank brokers is comparatively better. Fourteen bank brokers have twenty-one branches. One of them has six branches, two of them have four.

Generally speaking, the firm size and number of branches of Taiwanese securities firms are very small compared to U.S. or Japanese. Securities firms of such small size and weak branch networks find it difficult to underwrite and distribute securities in the international arena.

Table 15. Share Ownership in Taiwan, Selected Years

Year	Indivi- duals	Financial Institu- tions	Investment Trust	Cop- pora- tions	Govern- ments	Foreigner
1962	51.73	2.44	---	7.80	36.88	1.15
1965	44.32	2.87	---	8.67	42.96	1.18
1970	57.32	8.94	---	10.50	20.19	3.05
1975	55.20	8.54	---	9.82	22.61	3.83
1980	53.77	4.69	---	12.51	25.52	3.51
1985	41.09	8.54	0.10	15.18	25.99	9.10
1986	40.27	7.50	0.32	15.17	27.11	9.63
1987	43.52	5.78	0.48	14.81	25.94	9.47
1988	46.72	4.74	0.75	16.61	21.56	9.62

Unit: Percentage

Source: SEC Statistics 1989, Securities & Exchange Commission, Ministry of Finance, ROC.

Table 16. Share Ownership in Japan, Selected Years

Year	In- divi- duals	Financial Institu- tions	Invest- ment Trusts	Secu- rities Houses	Cor- pora- tions	Govern- ments	Foreigner
1950	61.3	12.6	---	11.9	11.0	3.1	---
1955	53.1	19.5	4.1	7.9	13.2	0.4	1.8
1960	46.3	23.1	7.5	3.7	17.5	0.2	1.4
1965	44.8	23.4	5.6	5.8	18.4	0.2	1.8
1970	39.9	30.9	1.4	1.2	23.1	0.3	3.2
1975	33.5	34.5	1.6	1.4	26.3	0.2	2.6
1980	29.2	37.3	1.5	1.7	26.0	0.2	4.0
1985	25.4	39.3	1.4	2.1	25.6	0.2	6.0
1986	23.9	43.5	1.8	2.5	24.5	0.9	4.7

Unit: Percentage

Source: Tokyo Stock Exchange.

Bank brokers, on the other hand, are in a better position to deal with international securities transactions than private brokers. Commercial banks already possess trained and qualified personnel and much of the necessary capital equipment for these activities. In addition, commercial banks can more easily expand their brokerage network via extensive bank offices at home.²⁶

d. Handicap in underwriting

There are thirty securities underwriters in Taiwan. Thirteen of them are bank underwriters. Almost every bank has securities broking and underwriting licenses.²⁷

In Europe and America, an underwriter generally purchases all new debt and equity securities issued by private or government borrowers, either competitively or through direct negotiation. They then resell or distribute these securities in smaller units to individual and institutional investors. In Taiwan, an underwriter usually serves only as broker and assists in the search for compatible savers. The main reasons for this are the small number of new issues annually, and the low, government controlled commissions for dealers.

²⁶ Discussion in this thesis of the development of international banking for commercial banks will include investment banking activities, especially securities brokerage.

²⁷ See footnote 22.

e. Consequences

The small amount of investment and the short-term maximizing behavior of dominant individual transactors result in a high turn-over ratio. Due to the small scale of securities firms and their limited ability to distribute and underwrite, the development of international investment and investment banking, are impeded.

(1). High turn-over ratio

The turn over ratio, which is the transaction value of listed stocks divided by their market value, can be used to examine the stability of the stock market. The turn over ratio in Taiwan was higher than 100 percent for most years after 1970, reaching unprecedented highs of 192 percent in 1987, 233 percent in 1988, and 412 percent in 1989. The turnover reached a peak of nearly \$8 billion one day in August 1989, outpacing even the New York Stock Exchange.²⁸ This high turn-over ratio indicates that investors are speculating on short-term gains rather than investing on a long-term basis. In the process, the vital function of the stock market as a vehicle for investment is impeded.

(2). Sluggish development of international investments

One possible reason for the absence of long-term behavior on the part of investors is the great uncertainty concerning Taiwan's political and economic future. Lack of knowledge is

²⁸ See "The Other China Is Starting to Soar", Business Week, 6 November 1989.

another factor. As it is, the general public is unfamiliar with the long-term prospects and investment process in the domestic market; they are even less familiar with foreign markets. Exchange control acts as a further impediment. International diversification and investment are not yet a part of Taiwanese investors' way of thinking. Even institutional investors are risk averse and domestic-oriented, which does not help the development of international investment.

(3). Sluggish development of international investment banking

Small scale domestic private brokerage firms cannot afford expensive research on foreign investment and stocks, which makes it impossible for them to establish foreign branches.²⁹ The handicaps in terms of the lack of underwriting experience and opportunities limit the development of expertise in international banking as well.

III. INTERACTION BETWEEN THE REAL ECONOMY AND THE FINANCIAL SYSTEM

Part-I has emphasized the issue of surplus funds in the domestic economy, while part II focused on the dearth of intermediaries equipped for international investment. The end result is an excess of funds, an increase in the potential for escalating inflation, abnormal stock market and real estate

²⁹ However, this problem can be overcome by large domestic banks.

prices, and dominance of speculative over long-term investment behavior.

A. Potential Inflation Rate

The money supply in 1986 and 1987 rose annually by 47.32 percent and 42.20 percent respectively, despite the issuance of huge amounts of treasury bills, CDs and savings bonds. The increase in 1986 was the highest recorded since 1952.

Although the price level was rather stable in the early and mid-1980s due to cheaper oil and low import prices arising from the appreciation of NT dollars, the potential for a spiraling inflation rate is now a serious problem.³⁰ The consumer price index increased from 1.28 percent in 1988 to 4.41 percent in 1989. The GNP deflator also increased from 1.07 percent in 1988 to 3.10 percent in 1989.

B. Abnormal Development of the Stock Market

Liquidity arising from the trade surplus and the scarcity of investment outlets is reflected in the stock market.³¹ The value of traded stocks was NT\$195 billion in 1985, but rose sharply to NT\$7,868 billion in 1988. The Weighted Stock Index which was 745 points in 1985 rose to 2,138 points in 1987 and 5,822 point in 1988. The growth rate of the stock

³⁰ Monetarists believe that high rates of money growth produce high inflation.

³¹ See Asian Wall Street Journal, 9 January 1989.

index was 126 percent in 1987 and 173 percent in 1988. On June 19, 1989, the stock index passed the 10,000 point mark.

C. Abnormal Development in Real Estate

In some metropolitan areas, the price of real estate increased approximately 50 percent in 1986, and nearly 100 percent in the first half of 1987 according to China Industry (1988). It continued to accelerate in 1988 and 1989. Speculation on land and stocks will surely contribute to inflation in the future.

D. Excess Funds in Financial Institutions

In addition to rapid growth in the money supply, the balance-of-payments surplus has also caused the financial institutions in Taiwan to be inundated with deposits. At the same time, the demand for loans has decreased owing to the drop in domestic investment. Consequently, the ratio of loans and investments over deposits has dropped steadily from 109.27 percent in 1981 to 58.15 percent at the end of November, 1987.

The build-up of idle savings not offset by loans in Taiwan's financial system at the end of 1988 amounted to NT\$1.7 trillion (\$60 billion), half of the gross national product for that year. The country is bulging with so many idle funds that some banks are discouraging deposits.³² In

³² See "After the Kio, the Tio", Euromoney, July, 1988.

short, limited international investments and an underdeveloped international banking system are the main reasons for the rapid accumulation of surplus funds and the adverse economic consequences.

Not only is the international banking system unable to channel surplus funds overseas itself, but it also impedes foreign direct and international portfolio investments. So far, Taiwan's own financial intermediaries do not have the capacity to help Taiwanese investors invest internationally. Chapter three will, therefore, discuss the importance of steps that can be taken to build this capacity. While individual firms are aware of foreign direct investment, international diversification and portfolio investment are still vague concepts in the individual investor's mind. Chapter four will deal with these issues.

CHAPTER 3 INTERNATIONAL BANKING

I. INTRODUCTION

Historically, the links between Taiwan and the world's financial system were quite limited. Also as mentioned before, the development of international financial intermediaries, especially international banking has been very slow.¹ This has impeded the effective utilization of Taiwan's capital surplus in external money and capital markets, as well as reduced efficiency in capital allocation. Financial investors, in particular, are denied gains through international portfolio diversification. As Taiwan's trade surplus and international reserves have increased, the opportunity costs of this financial impediment have risen sharply. The development of international banking capability is thus more necessary now than ever before. The question is how should Taiwan go about it?

If Taiwan decides to develop her own international financial intermediaries, a couple of important questions must be answered. Is it possible for Taiwan to develop her own international banking system successfully? What are the policies which must be adopted by the Taiwanese government in order to accomplish this task? What locational considerations should apply in branching abroad? Which organizational form,

¹ Hereafter, the international banking system will be used instead of international financial intermediaries.

such as agency, branch, or subsidiary, of foreign direct investment by banks is the best? A comprehensive theoretical framework of international banking focusing on these questions will be derived in this chapter.

International banking activities can be conducted directly from banks' domestic offices or through foreign branches and subsidiaries. The former is the traditional way of international banking. The establishment of foreign branches and subsidiaries is, however, a more ambitious venture into multinational banking. In the following sections, the focus will be on the latter.²

II. LITERATURE REVIEW³

A. International Trade -- A Macroeconomic Approach

One set of hypotheses about the multinationalization of banks is based on theories of international trade. Aliber (1976) argues that the banks with lower production costs have comparative advantage over other banks in producing banking products and are likely to serve foreign markets. Lower production costs can be attributed to abundant factor

² Multinational banking include offshore banking and host-country international banking. Only host-country international banking will be discussed in the following sections. For a detailed definition, see Giddy (1983), P.202.

³ On international banking, most focus on the empirical aspects and very few on the theoretical aspects, although a larger number of studies here been done.

endowments. He also mentions that government regulations may change banks' comparative advantage and production costs.

This explains the reason for international banking, but it does not explain the location of banks. It clearly points out that banks with a comparative advantage can conduct international operations at home offices via correspondent relations, or through the establishment of overseas branches and subsidiaries,⁴ but it does not explain overseas branches should be established or where these branches should be set up.

B. Industrial Organization Approach -- Microeconomic Approach

Another set of hypotheses about the multinationalization of banks is based on industrial organization theories. These claim that the behavior of firms in a market is determined by structural factors of market, such as the concentration ratio, freedom of entry, product differentiation, and other factors influencing market performance.⁵

Aliber (1976) points out that banks from countries with higher concentration ratios tend to have higher profits and appear to be better able to raise the funds needed for expansion overseas. Grubel (1977), Hymer (1976), Caves

⁴ Hereafter, "branches" will be used to represent the following foreign units, namely, representative offices, agencies, branches, and subsidiaries.

⁵ See Giddy (1983), p.208.

(1971), and Kindleberger (1969), argue that banks may establish foreign branches to exploit monopolistic advantages.

Giddy (1983) suggests that it would be relatively more profitable for banks to enter markets which are oligopolistic, although it would be difficult to do so. In contrast, it is easier to enter countries with low barriers, competition will be greater and profits lower. This approach offers a partial answer to the question of location choice. However, it ignores other important factors such as availability of funds, volume of international trade, and scope for foreign direct investment.

C. Foreign Direct Investment Approach -- An Eclectic Theory

The experience of multinational enterprises with foreign direct investment led to an eclectic theory of international production in the late 1970s that further supports overseas expansion (Dunnig, 1977, 1979, 1980). This suggests that incentives for foreign direct investment arise from three inter-related advantages: ownership, internalization, and location advantages.

The ownership advantages include proprietary technology, patented trade marks, raw materials, information, human capital, etc. These generate greater benefits to the investor through internalization of foreign direct investment than

through sales in external market.⁶ The host country can also offer locational advantages, such as lower transportation and communication costs, and a better climate for investment. All three factors are required for foreign direct investment; otherwise exports will be preferred.

Gray and Gray (1981) is the first study which attempted to apply the eclectic theory of international production to multinational banking. They identify three internalization-specific and three location-specific advantages for multinational banking. However, they fail to investigate ownership-specific advantages and thus cannot identify the total potential gains from international banking.⁷

Yannopoulos (1983) and Cho (1986) refine this approach and explore the three different advantages further. However, both studies fall short of an adequate analysis of competitive behavior in multinational banking, since focus on firm-specific ownership advantages and ignore those that are country-specific. They also ignore locational choice and organizational form choice as regards foreign branches.

The purpose of this chapter is to assess the gain from ownership, internalization, and location advantages. Location theory will then be developed after the discussion of the these gains. This will be followed by a discussion of

⁶ External sales include licensing, technical service agreements, or sale of turnkey projects, etc.

⁷ Some of their locational advantages are actually ownership advantages. See Gray and Gray (1981).

business evolution and organizational forms of international banking.⁸

III. COMPETITIVE FACTORS FOR THE DEVELOPMENT OF MULTINATIONAL BANKING

Multinational banks are endowed with advantages specific to their ownership. These advantages are among the factors which enable them to compete in foreign markets with indigenous banks and multinational banks from other countries. Lacking ownership-specific advantages, a successful development of multinational banking is impossible.

The ownership-specific advantages of multinational banks may include both microeconomic factors (either bank-specific or industry-specific) and macroeconomic factors (country-specific). The micro-type competitive factors may be attributed to imperfections in the product and factor markets of the banking industry.

A. Microeconomic Competitive Factors

1. Imperfections in product markets

According to industrial organization theory, imperfections in product markets stem from barriers to entry and product differentiation. Barriers to entry for foreign banks vary from complete prohibition to free entry. Banks in countries with high barriers to entry will be characterized by

⁸ Organizational forms include representative offices, agencies, branches, subsidiaries, etc.

output restrictions and higher prices, and will earn higher profits compared to banks in countries with free entry.⁹ Higher profit rate may also be conducive to their overseas expansion.

Product differentiation reflects differences in technology and reputation. Any difference in processing, product innovation, management, and marketing may result in the differences in technology. Since banks provide a variety of financial services, the whole service package is relevant. Product differentiation in banking can thus be defined as the difference in the package of services provided by each bank, including both the range and quality of services. These result from past experience, know-how, and specializations. The differentiated package thus goes beyond service and product quality, to include the quality of management, and its consequences for service speed, convenience, and courtesy. For example, Japanese bank managements "produce" trouble-free loans by paying attention to detail and working hard to ensure the accuracy of every part of a transaction.¹⁰ A bank's reputation is an integral part of product differentiation. Customers prefer to deal with banks that are well-known to them. The bank's name is positively associated with its size, profitability, credit-worthiness, and network.

⁹ This assumes that they have identical production costs.

¹⁰ See Wright and Pauli (1987).

2. Imperfections in factor markets

In addition to the above, a bank's endowments include three capital inputs: money, information, and human resources. These inputs are important to every branch, and can be shared or transferred within the same bank quickly and cheaply. In other words, foreign branches possess correspondent owner-specific advantages or can take steps to generate their internalization. This is more difficult to do when banking operations fall under different managements.

a. Money capital

Imperfections exist in both local and international financial markets. Due to domestic imperfections, some banks are able to raise deposits at lower interest rate and enjoy lower operating costs. Due to segmentation of financial markets among countries, this constitutes a competitive advantage over banks in other countries. However, this advantage is country-specific rather than bank-specific. It can be integrated with a country's surplus fund to generate a competitive advantage for banks. Details will be discussed in section B.

b. Information capital

Another type of imperfection in factor markets is the segmentation of capital-market information. Banks vary in the quality of their business intelligence, including credit risks and the nature of their customers. Through continuous transactions and other commercial contacts with their

customers, banks have a monopoly on specific information. Such information, shared freely within the bank, is a source of competitive advantage in investment and portfolio management in terms of both operating costs and yields.

The trust and relationship between overseas units and customers takes time to develop. The existing bank-client relationship in the home country provides an initial and continuing source of advantage. This proprietary goodwill enables banks to service their multinational enterprises and allows them access to other businesses connected with these enterprises at low costs. Lastly, knowledge about the home country's market, customs, and operations is another type of information which is internal to the bank. Much of this may be unavailable to other banks abroad or available only at a prohibitive cost.

c. Human capital

Human capital, including skilled personnel and other managerial resources, important for any industry, is especially important in banking. Developing financial expertise in risk assessment would be costly in terms of both time and effort. Expertise in international finance is even more demanding.

Internal reallocation or development of human capital within the same bank is often more practical or cheaper than hiring in the open market. Further, human capital is relatively mobile among banks with the same nationality, but

is rather immobile between banks with different nationalities. Therefore, if required talent is not available domestically it would be impractical to acquire the required financial expertise from the open market.

B. Macroeconomic Country-Specific Factors

1. Surplus funds advantage

Macroeconomic factors, such as higher saving and lower investment rates, strong export expansion and its consequent surplus can result in lower costs of securing funds for banks. Due to the high leverage characteristics of bank business, even small differences in these costs can have a significant impact bank's profit rates.

For current account surplus countries, the accumulation of international reserves led central banks to place surplus funds with private banks at attractive rates. This put these banks in a better position to extend credit both at home and abroad. The increase in reserves also enhanced the credit-worthiness of these countries whose central banks could now act as lenders of last resort.¹¹

2. Foreign direct investment

Foreign direct investment reinforces the gains from multinational banking. Foreign direct investment may be classified into two categories, the monopolistic and defensive

¹¹ This points is mentioned by Terrell (1979).

types.¹² The monopolistic type refers to overseas investment by domestic firms to exploit monopolistic advantages deriving mainly from their advanced technology. Defensive type investments aim at extending business life overseas, when domestic conditions deteriorate due to events such as increases in labor and land costs or appreciation in the exchange rate. Even though both types of foreign direct investment help multinational banks, the defensive type is more relevant for countries experiencing current account surplus with export-led policies.

For these countries, the growth of exports stimulates the economy leading to increases in input prices and thus defensive type foreign investment. Rapid increases in surplus strengthen protectionism abroad. To avoid world protectionism, firms will increase their "defensive" direct foreign investment. Appreciation of the exchange rate also re-enforces this tendency both by raising prices of exports and by lowering the cost of acquiring assets abroad. Increased direct investment in turn will increase demand for international banking services.

3. International trade

An importance macro-type factor favoring international banking is the growth of foreign trade. An increase in trade increase the need for related credit extensions and

¹² See Kojima (1978), chapter 4.

transactions of foreign exchange, payment transfers, clearing, and other banking services.

4. Nationality

National affiliations of banks result in product differentiation. Countries with higher economic growth and political and economic stability provide asset security and appreciation of national currency which induce confidence among depositors or investors. Banks from a home country with a key currency, enjoy four major advantages: reduced transaction costs, fewer exchange risks, access to cheaper funding sources, and protection provided by a central authority acting as lender of last resort.

Banks conducting transactions in key currencies can reduce costs and exchange risks by maintaining adequate deposits in these currencies. Such banks also have superior access to domestic retail deposits, and enjoy a competitive advantage compared to other banks.

Japan stands as a good example (Terrell, 1977). Japanese banks had to pay a premium for CDs in the U.S. market before 1976. But with the growing reserves of the Bank of Japan, Japanese banks have been able to market their CDs on terms comparable to U.S. banks.

In short, ownership-specific advantages are a necessary condition for engaging in international banking with any prospect of success. The associated gains are generated

through internalizing such advantages and appropriate locational decisions. We now examine these gains.

IV. THE POTENTIAL GAINS FROM MULTINATIONAL BANKING

The potential gains from international as opposed to domestic banking fall into two categories: an increase in returns and an decrease in risks, both current and expected.

A. Increases in Current and Expected Profits

The main benefit of overseas expansion is an increase in current and expected profits. One source is the interest rate and regulatory arbitrage. The other is the more effective use and augmentation of funds, information, human capital, technology, and plant capacity provided by internationalizing operations.

1. Interest rate arbitrage

In the real world, interest rates vary widely among markets and countries. Overseas operations enable banks to channel funds from markets with lower interest rates to markets with higher interest rates.¹³

Since loans are the principal asset of commercial banks, such arbitrage is a major profitable activity. For example, Japanese overseas branches absorbed external funds to finance domestic industrial expansion in the 1950s and 1960s. When domestic growth slowed down in mid-1970s, Japanese foreign

¹³ Credit markets are influenced not only by industry and firm specific conditions but also by national conditions.

branches channeled surplus funds outside Japan. The banking industry emerged as one of the most profitable industries in the 1980s.

A second major source of profits is a widened portfolio of other financial assets, especially foreign exchange and securities.¹⁴ The importance of foreign exchange holdings is indicated by table 17 which lists the top 10 American banks with positive foreign exchange profits during 1977 and 1978.¹⁵

2. Regulatory arbitrage

The regulatory environment affects overall profitability as well as that of different banking operations. Restrictions at home can be avoided abroad, and thus constitute an incentive for overseas expansion.

One of the earlier examples is given by Brimmer and Dahl (1975). When the U.S. Department of Commerce executed a Voluntary Foreign Credit Restraint Program and imposed restraints on capital outflows in 1965, U.S. banks expanded overseas. Terrell (1979) remarks further that foreign investment may be the only way for banks to avoid legal restrictions. For example, the Mcfadden Act and state

¹⁴ For banks emphasizing investment banking activities, foreign securities and exchange arbitrage are more important.

¹⁵ In fact, Giddy (1983) reports that almost all of the top 30 American banks that reported their foreign trading results had positive profits during 1977 and 1978.

Table 17. Foreign Exchange Profits and Losses

<u>Bank</u>	<u>1977</u>	<u>1978</u>
1. Bank of America	54.1	51.7
2. Citibank	123.0	240.1
3. Chase Manhattan	48.5	74.7
4. Manufacturers Hanover	6.1	10.2
5. Morgan Guaranty	40.3	56.4
6. Chemical Bank	5.6	16.2
7. Continental Illinois	15.6	24.7
8. Trust Bankers	9.5	NA
9. First National-Chicago	8.8	14.1
10. Security Pacific	4.0	5.1

Unit: Million of U.S. dollars.

Note: "NA" means not available.

Source: Giddy (1983), Table 9, p.217.

legislation prohibit multistate branching of U.S. banks. Many banks go abroad in order to expand their deposit and loan activities. On the other hand, some countries attempt to protect their financial markets by restrictions on entry and operational ability. Multinational banks are better able to circumvent such regulations.

3. International fund transfers and services

International payments and related services are important activities undertaken by multinational banks. A world-wide network would reduce the costs of international payments operations among branches of the same bank. Therefore, the net returns from discounting bills of exchange, foreign exchange transactions, issuing letters of credit, money transfers, etc., will increase. The multinational bank will also generate more such activity due to both cost and convenience factors. It offers its investors a much greater

opportunity to diversify their currency and security portfolios into a greater range of maturities and currency denominations than a national bank.¹⁶ Multinational banks thus widen their service range and customer base.

4. Information transfer and relationship preservation

The other benefits of branching out are the reduction in costs of acquiring and utilizing relevant information. Information capital, which is diverse and localized, is easily mobilized on a global basis. For instance, the data bank and the analysis of customer credit worthiness can be widely shared at little additional cost. This information capital creates a differential source of comparative advantage for some national banks over others. Its potential value also provides an incentive for banks to go multinational, particularly if it is difficult or costly to obtain relevant information through other sources, including existing multinational banks.

5. Human capital transfer and training

Human capital as well as the flow of services from such capital, can be more easily and cheaply transferred within the same bank than between different banks. Overseas expansion can provide practical training for bank staff in foreign markets.

¹⁶ For banks specializing in investment banking activities, international funds transfers and services are extremely important.

6. Technology transfer

Financial technology, is a combination of process technology, product innovation, management know-how and marketing skills.¹⁷ If a bank enjoys any proprietary advantages in this respect, it is relatively easy to internalize it in its overseas operations. Such transfers between locations could be done at low marginal cost. For example, multinational banks can apply marketing skills to penetrate protected and oligopoly-type markets and then apply a lending technique developed at home to earn high profits. Conversely, the banks may have access to new financial technology available or potentially available as a result of its overseas operations. International operations are thus conducive to both efficient use of technology and its augmentation.

7. Economies of scale

Production costs can also be reduced by economies of scale. With respect to both withdrawals of deposits and defaults on loans, banks are subject to the law of large numbers. Risks of sudden withdrawals and defaults can be reduced as size and number of deposits and loans increase. Therefore, the ratio of reserve money to deposits and ratio of equity capital to loans can be lower for multinational banks. Consequently, operational efficiency will be higher for multinational banks.

¹⁷ See Lewis (1987).

An increase in bank size and operational efficiency would add to the bank's name and attract more customers. Economies of scale would also lead to more efficient use of funds, information, human capital, and technology guided by the global intelligence network of the bank. This has important implication for small countries.¹⁸

B. Reduction in Risks

The second major gain from multinational banking is the associated reduction in existing and expected risk. This includes reductions in earning variability, instability of funds sources, regulatory risk, competitive threats, and default rates. These flow from locational advantages with the exception of the reduction in the competitors' threat, which is secured by both locational and internalization advantages.

1. Reduced earnings variability

International diversification of bank assets reduces the risks of variable earnings. Interest from loans and securities and service charges for bill exchange and financial payments operations are important sources of earnings. A global network frees these earnings from being too closely tied to local business cycles. International diversification also enables banks to profit from price differences on non

¹⁸ Niehan (1983) points out that multinational banking may be a means for banks from small countries to achieve a more efficient size and reduce production costs.

tradable factor inputs due to incomplete arbitrage.¹⁹ In addition, earnings variability can be reduced by asset and liability management on a global basis shifting funds from locations with weak demand and/or strong supply to those with strong demand and/or weak supply.

2. Increased stability of funds sources

The establishment of foreign branches helps banks to directly access diverse sources of funds including interbank and retail depository market sources, and, most importantly, the lender-of-last-resort. This increases the stability of sources and reduces exchange risks.

3. Reduction in regulatory risk

Banks can reduce regulatory risk by international diversification which will enable them to adjust their operations rapidly as conditions change. Overseas branches also serve as antennas which enable banks to anticipate modifications of the regulatory framework due to changing international economic conditions.²⁰

4. Reducing threats by competitors

Global networks reduce the threats posed by foreign competitors. They can service domestic firms with investments overseas, which would otherwise turn to foreign banks. Without branches overseas, banks risk losing clients'

¹⁹ See Rugman (1979) and Grubel (1977).

²⁰ Niehans (1983) supports this argument. He claims that locational decisions by banks will take into account the regulatory framework as well as expected future changes.

subsidiary business in foreign countries as well as parent business at home.²¹

5. Reduction in default rate of loans and capital loss

The geographic diversification of loans, securities and currency holdings can reduce risks arising from default. Loan defaults may be attributed to individual firms or general market conditions. According to the law of large numbers, the default rate due to specific firm factors can be reduced as the number of loans increases. The default rate due to market factors can also be reduced by international diversification because credit market cycles are not perfectly correlated among nations.

Capital losses of security holdings can also be reduced by international diversification. In the foreign exchange market, fluctuations in exchange rates may result in a substantial loss. This loss can also be reduced by holding a variety of currencies. In short, diversification of bank assets can reduced both lending risks and capital losses.²²

²¹ See Grubel (1977).

²² In some sense, the default of loans is one type of capital losses.

V. LOCATION CHOICE

Banks must choose foreign locations with a view to their potential for internalizing the different ownership advantages and maximizing gains.²³

A. Interest Rate Arbitrage

The most important gains arise from the potential for interest rate arbitrage because differentials persist due to micro-type imperfections and macro-type national factors.

1. Commercial loan rate arbitrage

The following situations are favorable in this respect:

- (1) large foreign direct investment;
- (2) a huge volume of international trade; and
- (3) expectations that the foreign countries or markets will experience rapid economic growth.

a. Foreign direct investment advantage

The increase in foreign direct investments by domestic firms spurs banks to branch overseas. The loss of business to foreign competitors or domestic banks with foreign branches encourages branching out and following the client. It is a "defensive" measure to secure business with domestic parent corporations (Grubel, 1977; Gray, 1981).

Foreign subsidiaries also generate new demand for funds which widen the banks' loan base. Industrial foreign subsidiaries may even offer higher loan rates. Branching out

²³ These are inter-related will be discussed together.

may thus also be an "offensive" operation for banks who are ready to move abroad to seize such opportunities for profits.

Follow-the-client implies that banks follow their clients or move about the same time. In fact, banks branch out if they see a trend of industrial foreign direct investments. They will locate foreign branches in places where investment by domestic firms already is or is expected to be large.

b. International trade advantage

International trade is another aspect of country-level ownership advantage. When its volume is large, the demand for related loans and payment services is strong. Higher loan rates are also likely if credit markets are segmented. It follows that the best locations for foreign branches would be commercial centers or ports.

International trade is highly correlated with foreign direct investments, because multinational enterprises are trade oriented. It has been estimated that US multinational enterprises accounted for about 60 percent of US international trade in 1983. They make up nearly 77 percent of US exports and 46 percent of US imports.²⁶

c. The growing foreign market

The strong demand associated with growing markets would invite an inflow of funds and create good opportunities for foreign banks. As we will see later, foreign branches may

²⁶ See Federal Reserve bank of Chicago (1986).
International Letter, No.561, August.

have a comparative advantage in loans even if they do not in raising deposits, due to the fact that these foreign branches will be located in centers facing rapid economic growth.

2. Security and foreign exchange rate arbitrage

Investment and arbitrage in foreign securities and international markets are important and profitable. Multinational banks normally favor well-developed financial centers, growing economies and financial markets in their portfolio and locational decisions. The requirements of currency arbitrage and diversification may also favor a global network which includes, international financial centers as well as financial centers in the home country of currency holdings.

B. Increase in the Security of Fund Sources

There are two ways to raise fund in the target countries. One is to borrow funds in the interbank money markets. The other is to scrounge for funds through the banks own branches.

Where well-developed money markets exist, multinational banks may setup their own foreign units there.²⁵ Usually these are in international financial centers but occasionally in national financial centers, also. Both the country and the city must be considered in locating foreign branches. For example, many non-U.S. multinational banks establish

²⁵ Sometimes, money markets may exist but may not be accessible due to government restrictions.

themselves in the United States, especially in New York, Chicago, and Los Angeles.

On the other hand, if well-developed interbank markets are not available, then a branch network must be established. To minimize operating costs, the banks will initially concentrate on one or two countries.

C. Avoiding Regulatory Costs and Constraints

Banks' profits can be increased and the scope of operations can be extended by locating their branches in countries without the same legal restrictions. For example, Japanese banks have avoided domestic restrictions through establishing a foreign subsidiary to engage in investment banking business.²⁶ The growth of offshore banking also illustrates this point.

D. International Fund Transfers and Services

International operations enable banks to maximize earnings from the demand for fund transfer services associated with the growth of international trade and investments. Customers include trading companies, industrial enterprises, individual investors, tourists and others who deal in a variety of financial instruments, foreign currencies, bills of exchange, bank transfers, and so forth. Accordingly, bank operations and locations emphasize these sources of earnings.

²⁶ See Viner (1988), for details.

In addition to financial centers, commercial centers and the centers of multinational firms, key tourist centers are favored because travelling businessmen and tourists are major customers.

E. Information Transfer and Relationship Preservation

Multinational enterprises can be classified into four categories, namely, both foreign subsidiaries whose parents are or are not clients at home, and foreign companies with and without businesses in the home country of multinational banks.

Overseas branches can increase the linkages between home-based multinational firms and banks in either a foreign country or home. Further, the foreign branches can establish good relationship with foreign subsidiaries whose parents are not clients at home. By providing information about a home country's markets, custom, operations and consulting investments and business opportunities, foreign branches establish close contacts with foreign companies and associates in their home country. Despite the difficulty in penetrating, foreign multinationals without business in the home country, good relationships can be established if banks provide services not duplicated by others.

Preserving relationships and information leadership is the main focus of the first group, and the move abroad can be classified as "defensive". For the other groups, however, the creation of relationships and information is the main concern,

and the move abroad is "offensive". Multinational banks assume a "lead-the-client" rather than "follow-the-client" role. They assist domestic firms in investing abroad and foreign firms in investing at home. Therefore, the location of foreign bank branches must be considered for all four groups of multinationals.

F. Information Collection

Customer relationships can be increased at the least cost by locating branches in the centers of multinational enterprises, since business information can be acquired at low cost in financial centers. An efficient system of information collection and dissemination would lead to economies of scale and reduce production costs.

G. Technology Application and Transfer

Banks' earnings can be increased by applying advanced technology developed at home to appropriate financial markets. These include both the protected and free entry markets in developed and developing countries. In protected financial markets, usually located in developing countries, existing marketing techniques may be very profitable, whereas innovation would be important in more open financial centers. Learning new technology is generally easier in developed international financial centers, where both financial expertise and new technology are available.

H. Economies of Scale and the Reduction in Default Loss

In general, geographic diversification is conducive to economies of scale and reduction of all kinds of capital loss and withdrawal instabilities. The ratios of reserve money to deposits and equity capital to loans can be brought down. These factors all favor establishing branches in different cities and countries as well as developing an extensive global network.

I. Summary for Location Choices

From the above analysis, several conclusions can be drawn with implications for location choices among countries and local markets, and size of branch network. To secure sources of funds and expand the scope of operations, the ideal locations for foreign branches are the home countries of key currencies, and countries whose legal restrictions do not duplicate those of the banks' home country.

Ranging from the country level to the local market level, there are four location alternatives for foreign branches: the agglomeration of multinational enterprises, financial centers, commercial centers, and tourist centers. Since multinational enterprises are important clients for multinational banks, the center of multinational enterprises would be an ideal location for foreign banks. If clients' foreign direct investments in a particular place are large or expected to increase, this location would be appropriate. Locations where a non-clients'

foreign direct investment is large and their correspondent banks do not have the ability or intent to set up a branch and subsidiaries would also be an appropriate choice.

For banks specializing in international trade related business, commercial centers would be good locations, particularly if they reflect growth in bilateral trade and markets. Financial centers are good for absorbing and investing excess funds. They also provide a favorable environment for high rates of return, growth of technology, convenience of fund transfer, and freedom from regulatory constraints. Tourist centers, although initially not as important, gain in importance as tourism grows. These constitute good locations for banks specializing in this area, such as the American Express Company.

An emphasis on mobilizing funds might focus on particular countries and markets. However, a global network would be more important for diversifying investment opportunities, collecting information, executing fund transfer services, foreign exchange, and regulatory arbitrage.

To minimize the operating costs, new multinational banks can start with a basic global network which includes two or three foreign branches. These branches should be located in financial centers in order to take advantage of favorable conditions and get used to the environment of international banking. Beyond this basic network, banks can add more branches according to their ownership-specific advantages.

The preceding location choice theory tells us about the development of a global network its locations, but it does not provide a clear picture of the evolution of the international banking business and the related organizational form choice. These issues are discussed in section VI and VII.

VI. EVOLUTION OF THE INTERNATIONAL BANKING BUSINESS

A. Funds Usage

The sources and usages of funds change over time, throughout the stages of development. During the early stages, the main borrowers would be multinational enterprises from same countries as the banks. Yet, foreign subsidiaries of firms usually prefer to maintain relationships with a particular bank with which they are familiar rather than with banks they have not previously dealt with. Since local banks do not know the new local subsidiaries, obtaining loans from local banks would be difficult for these new firms.

Multinational enterprises are, therefore, the main borrowers initially. The other minor borrower would be foreign firms which are engaging in bilateral trade with home countries of the banks and which here been customers of parent banks long before the establishment of foreign bank branches.

In the second stage, established foreign firms which engage in bilateral trade with the home countries of bank but were not the bank's client before, and new foreign firms having trade and investments in the bank's home countries may

become new customers. This is because the banks can provide information about their own home country markets, customs, operations, and business opportunities at lower costs.

In the third stage, overseas branches may finance host-country governments and individual firms, even those not engaged in trade with the bank's home country. Localization and retailing are accomplished during this stage. Loans to individuals in host countries also become important.

B. Sources of Funds for Overseas Operations

On the fund sources side, parent banks and other branches are the major sources of financing during the initial stage of development. Interbank borrowing may also play an important, but secondary, role. Usually, only a small portion of the funds comes from the subsidiaries of other multinational banks in host countries.

In the second stage, foreign firms with businesses in the home country of the overseas branch may also contribute to the deposits of the overseas branch. Ethnic minorities in the host country, especially wealthy immigrants, may prefer to deposit in these overseas branches, but this would be minor. Interbank borrowing still is important.

In the third and final stage, the foreign banks may attract deposits from local companies and residents, particularly if the banks have a good reputation and are of adequate size, and of the correct nationality. The

nationality effect is important because banks from strong economies offer a differentiated product which give depositors confidence.

For both sources and usages of funds, the process of localization proceeds in stages, starting with wholesale international businesses. Retail business follows as the bank is gradually integrated into the national banking environment. The speed and degree of localization depend upon the banks' comparative advantages and organizational form.²⁷

The localization of assets and liabilities lead foreign branches and subsidiaries to become increasingly independent of their parents. With access to local loan markets, the lending base of foreign branches is enlarged and risks reduced. The parent banks also gain over and beyond those associated with international diversification, by this reduction in local risks and gains in overall stability.

The localization of foreign operations has two implications. The first is the maturity of foreign branches and their autonomous ability to develop their local networks and customer base. This is a gradual process and may take more than ten years, on the average.²⁸

²⁷ A decision to establish a subsidiary is essentially a decision to enter the local commercial and retail market.

²⁸ I would guess that this takes 15 years, on the average, from Japanese banks' experiences which will be discussed detail in chapter 5.

The second implication is the similarity in composition of assets and liabilities which emerges between local banks and branches of foreign banks.²⁹

VII. ORGANIZATION FORMS OF OVERSEAS EXPANSION

There are several organizational forms that can be utilized by foreign banks. Our focus is on the most important, representative offices, agencies, branches, and subsidiaries.³⁰ While the organization of the first three is legally part of its parent, a subsidiary in the host country is a separate legal entity.

A. Representative Offices

Representative offices cannot accept deposits nor make loans but can deliver payments or loan application forms to home offices. Representative offices may perform only liaison, customer solicitation, and information-gathering activities.³¹ Therefore, the gains of representative offices come mainly from closer contacts with local clients and banks. It may also be possible to acquire some new technology through these offices. It is the easiest and cheapest way of

²⁹ This is supported by the experience of U.S. banks in Japan. See Table 3, Terrell (1979).

³⁰ U.S. banks also use domestic organizational form for carrying on international banking activities, such as the Edge Act and Agreement corporation and the International Banking Facilities. See Shapiro (1989) for details.

³¹ See Goldberg and Saunders (1981).

"landing" in the host country and may serve as a precursor to a larger presence in the future.

B. Agencies

Agencies may make commercial and industrial loans but are prohibited from making consumer loans. They are only permitted to accept foreign deposits through credit balances, which are usually the undrawn portion of a loan or a receipt from an international transaction.³² However, credit balances are a very limited way to raise funds from nonbank sources. Agencies must therefore finance themselves by funding from parent banks or interbank money markets. In short, agencies are wholesale-oriented and emphasize the first stage of the international banking business.

In general, agencies can gain more potential benefits from multinational banks than representative offices. Representative offices may be strengthened by agencies in collecting information, forging closer contact with local clients and banks, and in acquiring advanced technology. Economies of scale, regulatory arbitrage, and escape from regulatory risks may also be realized to some degree. It may also lead to higher foreign rates on loans, an expanding loans base, and diversified lending and earning risks.

³² Agencies are not permitted to accept deposits in the host country.

C. Branches

Unlike agencies, branches offer a full range of banking services, including making loans and accepting deposits. However, local regulations and lack of extensive networks may make it difficult to accept the full range of deposits. Initially, the main sources of funds will be parent banks and loans from interbank money markets, if available through national or international financial centers. The situation as regards local deposits has been, however, improving over time. On the funds usage side, a branch can evolve from the first stage to the third stage. However, a branch cannot develop its funds collection activities into the third stage due to the lack of an extensive network.

Foreign branches help the parent banks in all key respects: lending, securing sources of funds, reduced risks of default, strengthening networks, improved technology, training, diversification in various markets, and freedom from regulatory constraints. All these have positive effects on costs, earnings and net payments. They are clearly superior to agencies.

A foreign branch network allows the multinational banks to offer their customers direct and integrated service in different countries on a consistent policy basis.³³ A bank can also exert maximum control over its foreign operations through a branch.

³³ See Shapiro (1989).

D. Subsidiaries

The last important form is the subsidiary, whose banking power is identical to the domestic banks. It is also regulated in an identical way. Foreign banks can gain control of a subsidiary either through acquisition of an existing one or by establishing a new one in the host country.³⁴ Subsidiaries are retail oriented, as compared to branches and agencies which are wholesale-oriented. Buying an existing retail bank will afford immediate access to the local deposit market, and an established network of local contacts and clients. Therefore, subsidiaries emphasize the third stage of international banking activities characterized by retail orientation.

Subsidiaries represent the same full range of potential gains as branches. The most distinct one is that gains from diversification of funding sources can be assured, raising the proportion of loans available for local firms and individual. However, the acquisition or establishment of subsidiaries is expensive and highly risky.³⁵

E. Conclusions

As one moves from representative offices to subsidiaries, there is increasing integration with the local market. But

³⁴ See Goldberg and Saunders (1981), p.367.

³⁵ See Shapiro (1989).

this process also becomes increasingly more difficult in terms of entry and operation costs.

According to bank's micro-type and macro-type factors, and the stage of development of the international banking business, individual banks can choose their foreign locations and organizational forms to maximize profits and minimize risks. When the volume of trade and amount of foreign direct investment are still small and uncertainty for the future still exists, a representative office is the best choice. However, when the volume of trade and amount of foreign direct investments are or expected to be large, and costs of securing funds in the home country are low, the branch option may be the best. Subsidiaries are the best form for banks to take when localization and insuring secure sources of funds are the primary goals.

CHAPTER 4 INTERNATIONAL INVESTMENT

I. ONE PARAMETER MODEL¹

The traditional theory of international capital movement points out that capital will flow from areas of lower to areas of higher marginal productivity, if free movement is allowed.²

In the model shown in figure 1, there are two countries, A and B, and the total capital stock is $O_A O_B$. MPK_A and MPK_B are the marginal productivity of capital in A and B respectively. Total output in country A is $O_A A C K_0$ and $O_B B D K_0$ in B. When the financial markets of A and B are segmented by exchange controls and other restrictions, the domestic savings of each country is equal to domestic investment at $O_A K_0$ and $O_B K_0$ respectively. There are no current account imbalances in this world since there is neither lending nor borrowing. The real interest rate in each country (r_A , r_B) is equal to its own marginal product of capital but will differ and persist.

If the two countries relax exchange control measures and other restrictions, equilibrating capital flows will result. The capital outflow country will show current account surpluses and the capital inflow country will show current account deficits.

¹ The one parameter model only concerns the rate of return. In contrast, the two parameter model concerns two factors, i.e., the rate of return and risk.

² This theory was initially put forth by McDougall (1960).

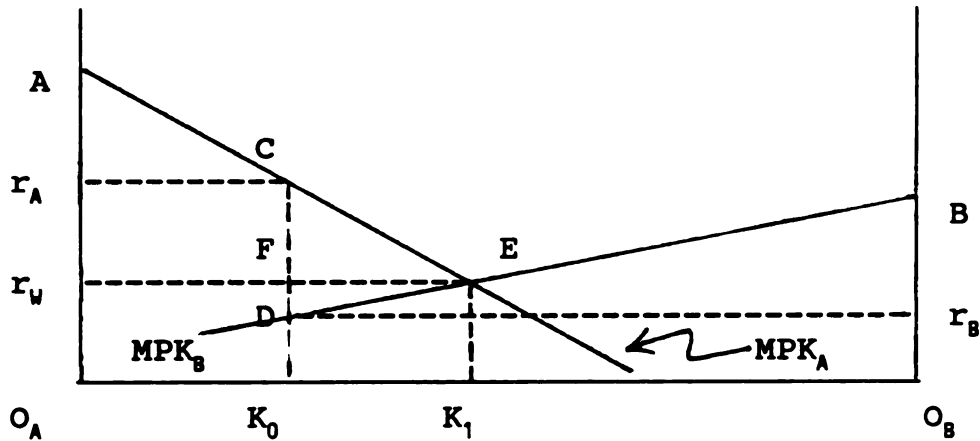


Figure 1. The Theory of International Capital Movements

Capital movements will continue until real interest rates are equalized, i.e., $MPK_A = MPK_B$ at r_W . The capital stock of country B will then decline from $O_B K_0$ to $O_B K_1$ by the amount of its net foreign asset, $K_0 K_1$. The capital stock of country A will increase by the same amount, from $O_A K_0$ to $O_A K_1$.

The domestic product of country B will decline from $O_B BDK_0$ to $O_B BEK_1$. The national product (national income) of this country under the new equilibrium will be larger than the domestic product by the amount of investment earnings from abroad, which is equal to the area of $K_0 FEK_1$. Therefore, the national product of country B will increase by the area of the triangle, DFE . On the other hand, the domestic product of country A will increase from $O_A ACK_0$ to $O_A AEK_1$, by the area $K_0 CEK_1$. The national income increase will be equal to the triangle, FCE , due to interest payments abroad, $K_0 FEK_1$. World

output will have increased by an amount of DCE, which may be regarded as a welfare gain for the two countries.

In the absence of controls, capital would flow from surplus countries with higher savings and/or lack of investment opportunities to shortage countries with lower savings or more profitable investment opportunities. However, due to the higher productivity of capital, the national income of both the source and host country will increase. One may generalize the results of this model to the whole world. Capital surplus countries gain from overseas investments and earnings and capital shortage countries gain from investment flows and increased productivity.

The international investment consists of foreign direct investment and international portfolio investment. Even though international portfolio investment will be the focus of this thesis, the major theories of foreign direct investment will briefly be summarized. Since McDougall first put forth his original of foreign direct investment, a variety of alternative theories have arisen. Foreign direct investment may be classified into two categories: the microeconomic and the macroeconomic.

A. Microeconomic Type Foreign Direct Investment

This type of investment is also called monopolistic foreign direct investment, and is emphasized by Hymer (1960), Kindleberger (1969, 1970), and Caves (1971, 1974). They claim

that foreign direct investment enables firms to exploit monopolistic profits by transferring their advanced technology abroad at a marginal cost. Buckley and Cason (1976), Magee (1977a, 1977b), and Swedenborg (1979) extend this work, further exploring the concept of internationalization. Firms invest overseas through internal transactions to avoid high transaction costs, which are caused by the existence of uncertainty and market failure due to novelty and technological change.

B. Macroeconomic Type Foreign Direct Investment

The product cycle approach originated with the work of Vernon (1966). When a new product technology eventually becomes standardized, it becomes less costly to transfer to foreign locations through FDI.³ Due to the appearance of newer models in domestic markets, the most profitable markets for the existing products can be found mainly in foreign countries.

In contrast, Kojima (1978, 1982) emphasized the defensive type of foreign direct investment. He calls attention to the fact that the international transfer of production from Japan has taken place in industries in which Japanese firms have experienced comparative trade disadvantages. Therefore, foreign direct investment occurs first for industries for

³ Actually, the transfer could be effected via foreign direct investment, licensing, or foreign imitation.

which natural resources are domestically unavailable, and then low-technology manufacturing industries, when the domestic wage rate and the prices of other factors of production have risen with the upgrading of the Japanese domestic industrial structure. The general statement of defensive type foreign direct investment was already made in chapter 3, section III.

Finally, the eclectic theory by Dunning combines the above theories and uses ownership, internalization, and locational advantages to explain foreign direct investment. This is also mentioned in chapter 3, section III. For international portfolio investment, however, we cannot apply the one parameter model to predict variable investor behavior and portfolio choices since it does not take into account risk and other characteristics of investment.

II. TWO PARAMETER MODEL

A. Domestic Portfolio Theory

Modern portfolio theory originated with Harry M. Markowitz (1952, 1959), who provided a framework for the selection of optimal portfolios with diversification of risks. Markowitz argued that a rational investor would be willing to assume increased risk only if the expected return is adequate compensation. The rational investor is thus risk averse, preferring minimum risk for a given expected return, or maximum return for a given risk.

Markowitz observed further that investors would diversify

their portfolio, holding either securities of different types or through different companies. He pointed out that effective diversification can be achieved if the returns on all securities are not perfectly positively correlated. Such a "minimum risk-maximum return combination would yield an "efficient portfolio frontier" for all possible choices.

Diagrammatically, this is depicted in figure 2 which shows the expected rate of return r along the vertical axis and the standard deviation along the horizontal axis.

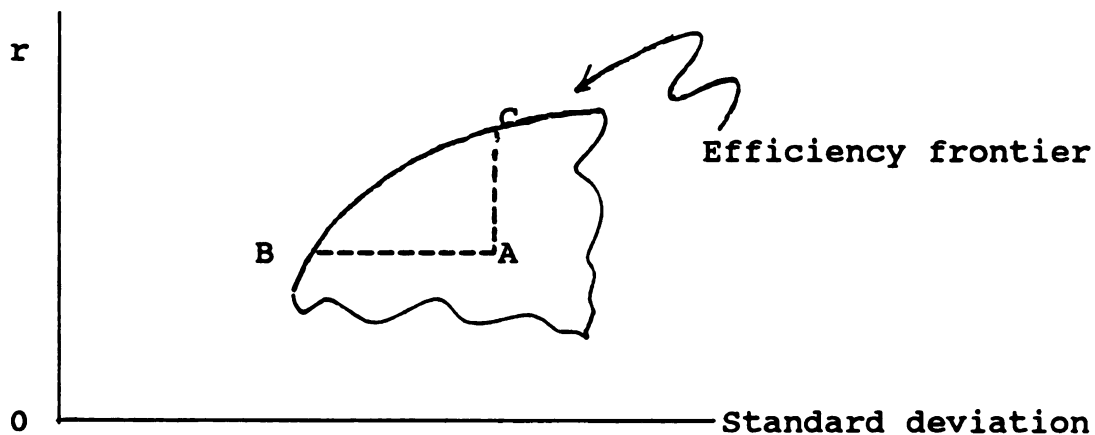


Figure 2. The Efficient Frontier

Clearly, any portfolio combination on the efficiency frontier is preferable to any other within. For any portfolio A within the efficiency frontier, portfolio B could produce the same expected return but at a lower risk level, while portfolio C would have the same degree of risk as A, but would

afford a higher expected return.⁴

The lower the degree of correlation of returns on all securities, the greater the extent to which risk can be reduced. In practice, returns on securities tend to have a rather high positive correlation, because they are all exposed to the same market or economy risks. Therefore, risks can only be reduced to a limited extent by diversification in a specific market. In fact, risks which affect all securities cannot be eliminated by such means, but while those which affect only specific companies or industries.

As the number of securities held increases, the specific risk can be eliminated rapidly. This is illustrated graphically in figure 3.

If more than 15 securities are included in the portfolio, over 90 percent of the specific risk can be eliminated. The remaining risk in the portfolio will almost be the same as the market risk. The curve is asymptotic to a line which represents the market risk, the risk which cannot eliminate through diversification. Individual market risks differ from each other. In the UK it is possible to diversify away about 65 percent of total risk, and the figure is over 70 percent for the United States (Kitchen, 1986).

⁴ See Cohen, Jerome B.; Zinbarg, Edward D.; & Zeikel, Arthur (1987), p.134.

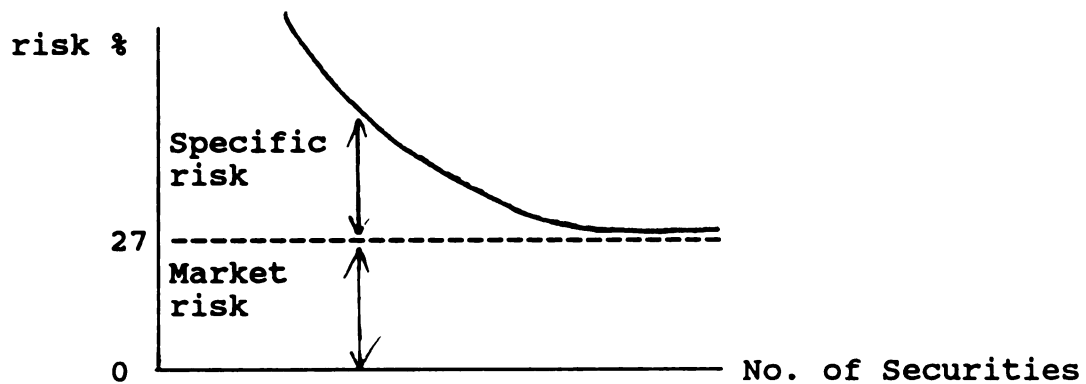


Figure 3. Effect of International Diversification on Risk

B. International Portfolio Theory

1. Diversification of market risk

The principle of risk diversification can be extended to international investment. This possibility has been extensively studied (e.g., Grubel, 1968; Levy and Sarnat, 1970; Bruno Solnik, 1974; Lessard, 1975; and Witt, 1978). Grubel initially explored what happens when capital control and other restrictions of two isolated economies are removed. He illustrated that international diversification would reduce risks.

Levey and Sarnat (1970) analyzed the effect of international diversification on the efficiency frontier. They pointed out that as the number of countries in which investments are made increases, the efficiency frontiers shift inward.

The efficiency frontier E in figure 4 shows the locus of

risk and return combinations from investing in developing countries only. The efficiency frontier D indicates the efficiency frontier when investments are limited to five common market countries. Efficiency frontier C can be reached, if the investment area is expanded to include eleven western European countries. When all sixteen high income countries are included, the efficiency frontier expands to curve B. Finally, when all twenty-eight countries, including the developing countries, are considered in the international portfolio, the efficiency frontier A is reached. Point F represents a typical fully diversified portfolio in U.S.

Efficiency frontier, D and E are dominated by all other investment alternatives. By way of contrast, the efficiency frontier A dominates all other investment opportunities. Even though point F represents a portfolio that is fully diversified within the U.S., this portfolio is not efficient in an international context. This analysis suggests that, as the number of countries for portfolio choice increases, the rate of return for any given level of risk increases, or conversely, the risk level for any given rate of return decreases.⁵

⁵ A good summary of Levey and Sarnet (1970) can be found in Francis (1986).

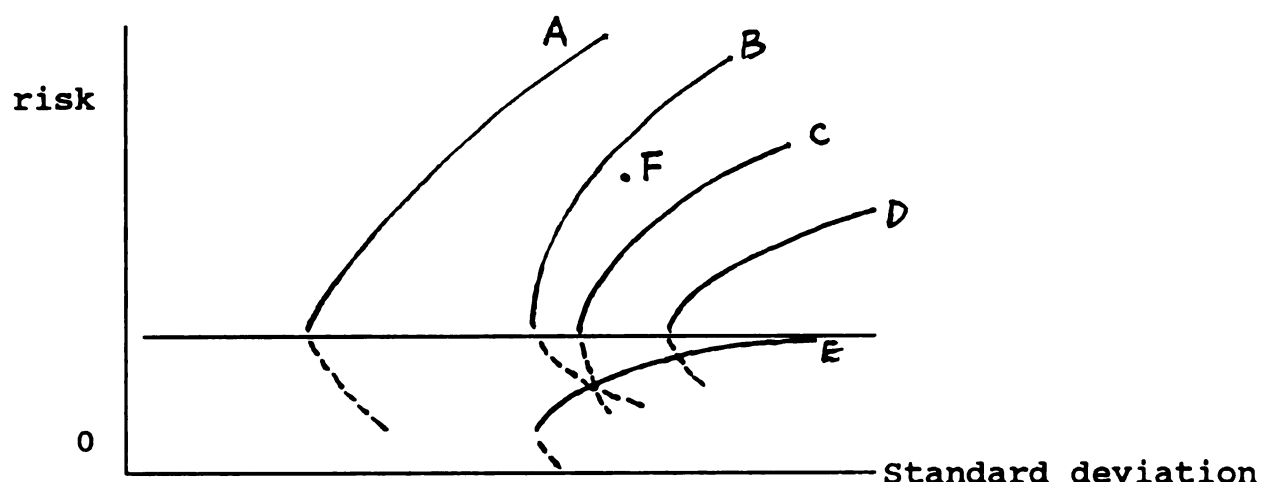


Figure 4. Various Efficient Frontiers
Source: Levy and Sarnat (1970), p.673, figure 2.

By using weekly returns for eight developed countries from 1966 to 1971, Bruno Solnik (1974) calculated the proportion of risks that could be eliminated by international portfolios. He found that the risk of a fully diversified domestic portfolio is 27 percent of the total risk in U.S. stocks. In contrast, the risk associated with an international, fully diversified portfolio is 11.7 percent of the risk on a typical stock. This result implies that international diversification may reduce a portfolio's domestic, systemic risk.

Lessard (1975) also pointed out that investors who restrict their purchases to domestic securities will bear additional risk relative to those who hold an internationally diversified portfolio. He examined the proportion of the variance of the return for stocks in each of several countries explained by a world index. He also examined the proportion

of the variance explained by each national index after the effects of the world index had been removed. He found that a large fraction of the variance of an individual security is related to its country index. The evidence strongly suggests that while a world index is important in accounting for risk, country factors are also of great importance. Thus, investors who concentrate on the securities of one country bear substantial additional risk.⁶

Elton and Gruber (1987) show that the average correlation coefficient between any two indices in the U.S. is quite high, but that the correlation coefficients between the equity markets of different countries are much smaller.⁷ Like other similar studies, this evidence indicates that international diversification can lead to lower risk portfolios.

2. Expansion in choice set

International investment increases the range of attractive investment opportunities which may not be available in the domestic market. This is especially the case when the domestic market is underdeveloped, with only a narrow range of financial assets.

In the international markets, different forms and

⁶ For a good summary of Lessard (1975) see Elton and Gruber (1987), pp.242-244.

⁷ An example they give is that the correlation between an index of the New York Stock Exchange and the American Stock Exchange is above 0.90. The correlation coefficient between countries are much smaller, with the average correlation being 0.133.

different types of financial assets are available to accommodate the varying needs of both surplus and deficit units. The assets vary in terms of maturities, yields, and risks, and may include bonds, stocks, and equity. Investors' welfare is improved because of these wider choice sets.

3. Implication of two parameter model

The two parameter - or rate of return and risk - model predicts that international capital movements will occur with the lifting of exchange control, because investors are risk minimizers. The more pronounced their risk aversion, the stronger will be the tendency to diversify internationally.

In an economy, the household sector is the principal source of net savings. For the majority of individuals, security rather than foreign direct investment is most convenient, this implies that international security investments will increase with the lifting of capital control.

However, we need to further consider the investor's portfolio compositions, especially since individual wealth accumulates over time. The effect of wealth on the proportion of individual portfolios allocated to risky assets is important for a country with chronic current surpluses. The expected utility model can deal with this question.

III. RELATIONSHIP BETWEEN RISKS AND INVESTMENT BEHAVIORS

A. Absolute Risk Aversion and Relative Risk Aversion

The expected utility model originated with Neumann-Morgenstern, and is based on a set of axioms about the behavior of individual investors and their preference function. It can be used to describe their attitudes toward risk in the context of their growing personal wealth. Pratt (1964) and Arrow (1971) independently developed the concepts of absolute risk aversion and relative risk aversion. According to the absolute hypothesis, investors can be classified into three groups: those who increase the amount invested in risky assets as wealth increases (decreasing absolute risk aversion); those whose investment in risky assets is unchanged as wealth changes (constant absolute risk aversion); and those who decrease the amount invested in risky assets as wealth increases (increasing absolute risk aversion).

The relative risk aversion hypothesis describe how the percentage of wealth invested in risky assets changes as wealth changes. Three responses are distinguished as investors' wealth increases: investors invest declining percentages in risky assets (increasing relative risk aversion); investors invest a constant percentage (constant relative aversion); and investors invest an increasing percentage (decreasing relative aversion).⁸ The evidences

⁸ See Elton & Gruber (1987), p.188-189.

generally supports the decreasing absolute risk aversion hypothesis, but there is much less agreement concerning the relative risk aversion hypothesis.

B. Empirical Evidences

There are three major empirical studies that attempt to determine investors' relative and absolute risk-aversion behavior. All of them used cross-sectional survey data of individual asset holdings and wealth to draw conclusions about investors' relative and absolute risk aversion.

Friend and Blume (1975) examined the U.S. survey data, Survey of Financial Characteristics of Consumers, and found that the percentage invested in risky assets remained virtually unchanged among investors with differing wealth. They concluded that investors exhibit constant relative risk aversion, which implies decreasing absolute risk aversion.⁹

However, this conclusion rests upon the definition of wealth and risk. When wealth is defined as net worth, exclusive of homes and automobiles, householders exhibit decreasing relative risk aversion. When wealth is defined to include homes and automobiles, increasing or constant relative risk aversion is served, depending on whether homes are treated as risky assets at market value or owner's equity

⁹ As wealth increases, a constant percentage of wealth invested in risky assets implies more amount of dollar in risky assets. Similarly, the absolute amount of dollars in risky assets rises, when the percentage invested in risky assets increases.

value. If housing is treated as a risk-free asset, the tendency towards decreasing proportional risk aversion emerges.

The second major study was done by Cohn, Lewellen, Lease, and Schlarbaum (1975). Their study examined survey data obtained from questionnaires administered to investors through a national U.S. brokerage firm. They investigated the proportion of individual portfolios allocated to risky assets. They concluded that decreasing relative risk aversion and decreasing absolute risk aversion are accurate description of investor behavior. It must be noted that they used total rather than net assets and that their sample was a select group of stock-owning investors.

The third and most recent study by Morin and Suarez (1983) used Canadian survey data and investigated the effect of wealth on the proportion of risky asset holdings in individual portfolios. They concluded that investors exhibit decreasing relative risk aversion when housing is excluded from the definition of wealth or treated as a riskless asset.

These studies show that individual utility functions have relative risk aversion properties somewhere between constant relative risk aversion and decreasing relative risk aversion. Decreasing absolute risk aversion can also be implied. As wealth increases, the investors will definitely hold more dollars in risky assets, with the percentage invested in risky assets likely to increase or at least remain constant.

C. Implication for International Portfolio Investments and International Banking

Extension of this model to the development of international banking is interesting. After lifting capital control, individual investors will diversify to include international assets for greater safety. Deposits and security holdings in foreign countries will increase. This favors the development of international investment and international banking. As the wealth of individuals grows, individuals will invest more in riskier assets in search of higher yields. The percentage of wealth invested in risky assets is likely to increase, if decreasing relative risk aversion is the case. Even with constant relative risk aversion, the absolute amount of dollars in risky assets increases as long as wealth continues to grow. This predicts that international banking, especially investment banking, will grow.

Banks should take this into consideration when they attempt to expand overseas. For banks with competitive advantages in security brokerage, trade and underwriting, international financial centers will be the best locations for their foreign branches.

In contrast to commercial banking which requires an extensive network of small branches in major trading countries, investment banking requires large operational units in only a few major financial centers. If a host country does not allow commercial banks in investment banking activities,

subsidiaries become the proper form to take.

IV. INVESTMENT BEHAVIOR OF THE CENTRAL BANKS

This section will study the investment behavior of the central banks, which are the most important international investors under conditions of capital control and fixed exchange rates.

The investment behavior of central banks is quite different from that of individual investors. First, the basic responsibility of the central banks is foreign-exchange reserve management to service international transactions and obligations. The precautionary and transaction rather than the investment motive are the dominant criterion for foreign-exchange holding. Secondly, this means that central banks must necessarily choose the appropriate currency composition and international portfolio, regardless of yields.¹⁰ In some cases, central banks do not have the choice of whether or not to invest overseas. The increase in foreign-exchange reserves may also be automatically invested overseas, and most likely in the form of commercial bank deposits.

The available literature does not distinguish between the different motives and assumes that reserve holding is only for precautionary purposes (Williamson, 1973; Hipple, 1974; Frenkel, 1983; Edwards, 1984; and Landell-Mills, 1989).

¹⁰ Central banks usually invest in foreign bank deposits, foreign security, bilateral loans, gold purchases.

Actually, the holding of foreign exchange reserve may include an investment motive also.

This is particularly true for balance-of-payment surplus countries. In some cases, the investment purpose may be the dominant one. This was true of the OPEC nations in the seventies after the first oil shock. Oil-producing countries became active in managing their increasing reserves and tried to maintain or enhance the real value of their reserve assets. Their reserve managements were thus investment-oriented.

Given the requirements of precautionary foreign-exchange reserve management, a maximum level of reserves must be set aside in order to minimize the opportunity cost of holding lower-yield foreign assets. Reserve beyond that level can be invested in the higher-yield foreign assets. The surplus reserve fund is investment-oriented.

The central bank thus has a three-fold task: maintaining a minimum of precautionary reserves, an optimal combination of major foreign currencies, and the real value of reserve assets.¹¹ This involves continuous portfolio management for both precautionary and investment objectives. We will discuss this last point in the following sections.

¹¹ This is true for the central banks under either the fixed or floating exchange-rate system.

A. Factors Determining the Magnitude of
Precautionary Foreign Exchange Reserves

Conceptually, a country's demand for precautionary reserves is equivalent to that of an individual. The magnitude of precautionary reserve-holding is positively related to the cost of covering an unanticipated deficit, the national wealth, but is negatively related to the rate of returns on other assets.¹²

In general, countries that are large and more open to international trade tend to hold higher levels of reserves than countries that are less so. Countries with larger variation in past external payment deficits also have stronger demand for reserve. Beyond this, countries with limited capacities for earning or borrowing foreign exchange, or with highly concentrated or variable sources of earning, should need higher reserves than those with the same foreign exchange needs but sounder earning capacities and better credit earnings.¹³

Edwards (1985) and Landell-Mills (1989) discuss the opportunity cost of foreign exchange reserves in terms of the alternative foregone. Since reserves tend to be held in short-term secure assets with low interest rates, the cost can be calculated as the difference between these lower earnings and alternative returns on the highest-yielding alternatives,

¹² See Williamson (1973), Hipple (1974), Frenkel (1983), and Edwards (1984) for reviews of the literature.

¹³ See Landell-Mills (1989), p.709.

especially, long-term, but less secure assets. Any increase in yield difference will cause the authorities to reduce reserves.

**B. Factors Determining the Currency
Composition of Foreign-Exchange Reserves**

A country's composition of foreign currency holdings is determined by two important factors, the exchange-rate regime and the pattern of international trade and payments (Heller and Knight, 1978). Countries hold a significantly greater proportion of their exchange reserves in the currency to which their own currency is pegged. Further, the desire to minimize exchange risk and the need to hold balances for intervention in exchange markets are important concerns. Countries also hold a higher percentage of currencies of their important trading partners (Heller and Knight). Studies also show that the composition of foreign-exchange reserves changes as trade shares or expected yields on reserve currencies change.

The range of market instruments is also important (Downes, 1989). Countries hold a higher percentage of reserves in the currency that offers a wide range of choices. Given the need for liquidity, internationally acceptable and marketable reserves will be emphasized. An optimal composition will include the major world currencies. The target proportions may be in ranges rather than fixed percentages to provide flexibility.

C. Principles of Portfolio Management

1. Precaution-oriented reserve

Liquidity, safety, and return are the main factors which influence portfolio choice. The holdings of precautionary reserves are influenced further by openness to trade, the record of variations in deficits, sources of exchange earnings, exchange regime, national wealth, and return on other assets.

Since liquidity is a prime concern, a proportion of the portfolio will be in short-term assets. The safety of reserve capital is also an important investment consideration because it is part of national wealth whose loss will lead to unwelcome economic and political repercussions. Central bank holding will thus emphasize foreign government securities, and debt issued by other government-guaranteed agencies, or multinational organizations with AAA rating.¹⁴

Since there is an implicit economic cost in holding reserves, an important objective must be to compensate for this cost by managing the reserves portfolio as profitably as possible. Therefore, some longer maturing instruments with higher yields can be considered in the reserve portfolio. In addition, the range of instruments can be widened to include corporate bonds and stocks.

¹⁴ See Downes (1989), p.21.

2. Investment-oriented reserve

The rate of return is the primary concern for investment-oriented reserve holdings. Liquidity and safety do not deserve the same attention. The choice of portfolio may depend on the preference of each individual country. Without economic and political constraints, however, the investment behavior of central banks would be similar to the investment behavior of individual investors. Decreasing absolute risk aversion theory may be equally applied to the central bank as to the investor. When the amount of investment-oriented reserve increases, the absolute value of risky assets will increase.¹⁵

Furthermore, the central bank investors may show constant or decreasing relative risk aversion characteristics. When the investment-oriented reserve increases, the percentage of risky assets will be constant or increasing. In short, the international investment behavior of central banks will become closer to the investment behavior of individual investors.

¹⁵ The wealth of nation refers to the investment-oriented reserve fund. When the investment-oriented reserve fund increase, the Central Bank will increase risk asset holding.

CHAPTER 5 JAPAN'S EXPERIENCES

I. INTRODUCTION

Japan can also serve as a model for Taiwan. Just like the current situation in Taiwan, Japan has had a huge surplus since 1981. Unlike Taiwan, Japan has a relatively reasonable ratio of international reserve to import. Japan has experience in international investments and has managed to develop a relatively complete international financial system since the 1960s. Japan has also been able to increase its international investments through its own financial system, keeping pace with the rate of growth of their current account surplus.

Among the OPEC nations, Kuwait has not only the longest history of international investments and the development of international financial intermediaries but also has a clear and interesting investment strategy. The size of Kuwait's current account surplus in the 1970s stemming from oil export revenue is similar to the magnitude of Taiwan's manufacturing export surplus in the 1980s. Although it lacked a solid financial system both domestically and internationally before the first oil shock, Kuwait responded successfully to the sudden surge in current account surplus. Since both Kuwait and Taiwan belong to the same group of developing countries, Kuwaiti experience in international investments and the

development of international banking systems also provide some lessons for Taiwan.

Due to the data availability and less implication for the development of international banking, however, the Kuwaiti experience will be discussed in Appendix D.

II. THE JAPANESE EXPERIENCE

Following the end of occupation in 1952, Japan began a period of sustained high economic growth, which continued into the early 1970s. By 1973, Japan was the world's second largest market economy, and its per capita gross national product ranked fourteenth among member countries of the Organization for Economic Cooperation and Development.¹ Growth of the Japanese economy has slowed down since the mid-1970s.

Japan began to enjoy productivity gains in the 1950s by adopting foreign technology. In the 1960s the growth rate went up to 12.1 percent. During the 1970s, Japanese technology finally caught up to foreign standards, causing productivity gains to taper off. Profitability also declined leading to reduced investment in new plants and equipment. The net result was a drop in Japan's growth rate to 7.5 percent in the period between 1970 and 1973, and an even further decline to 3.8 percent between 1974 and 1985.

¹ See Lincoln (1988), p.4.

During the high growth era, extremely high demand for corporate sector investment was matched by small government surpluses and high private sector savings. Japan's current account was almost balanced in the 1960s. In the mid-1970s, due to the decline in output growth and business investment, the corporate sector reduced its external borrowing by 50 percent. The potential for an economic recession emerged.

The central government counteracted with an expansionary fiscal policy, increasing the budget deficit by 100 percent.

As a result, the Japanese economy continued to grow at a steady pace with only small current-account surpluses.

During the 1980s, however, the balance between domestic savings and investment did not continue. The Japanese government steadily reduced the fiscal deficit, but the household and corporate sectors maintained the same saving behaviors they had adopted in the 1970s. The government budget deficit declined steadily from 5.5 percent of the GNP in 1978 to 0.6 in 1987. Net savings by the household sector stayed between 8 and 10 percent of the GNP during the period between 1980 and 1987, while net borrowing by the corporate sector remained between 4 and 6 percent over the same period.

The existence of excess domestic savings since 1981 resulted in a chronic current account surplus which increased rapidly from 0.4 percent in 1981 to 4.3 percent in 1986, leveling off at 3.6 percent in 1987. Channeling surplus funds

to foreign countries became an important task for Japanese financial intermediaries.

In the 1950s and 1960s Japan had a highly regulated financial system that served the economy well. Financial institutions were restricted to narrow lines of business. Article 65 of Japan's Securities and Exchange Act prohibits banks from participating in the domestic securities business and bans securities companies from domestic banking activities. In addition, the act separates the insurance and securities industries. Article 65 prevents banks from trading and underwriting corporate stocks and bonds. Banks may only own up to 5 percent of any one Japanese securities company.

Securities firms are restrained from taking deposits and dealing in real estate investment. The activities of real estate investment are a monopoly of the insurance industry.² However, within the Keiretsu framework, securities firms, commercial banks, and insurance company are not completely separate units.³ Cross-share holding among banks, insurance companies, and securities firms creates a high level of integration. Virtually all of the top securities firms and insurance companies are associated with a main bank in the Keiretsu group.⁴

² See Viner (1988), p.28.

³ Keiretsu means the industry group.

⁴ See Pozdena (1989).

The government also controlled the interest rate, exchange rate, the number of financial instruments, and capital movement during the 1950s and 1960s. The main purpose of the government regulations was to reduce risk and direct funds from financial institutions to corporations. This restricted financial system functioned well during the high growth era.

Flow-of-fund patterns and macroeconomic changes in the 1970s initiated the liberalization and internationalization of the domestic financial system. For example, corporations became less dependent on loans from commercial banks and began actively searching for alternative ways to manage their needs. The household sector became more willing to take risks due to continued growth of individual wealth. The government started to float government bonds at the market rate in order to finance rapidly expanding fiscal deficits. In addition, an aging population brought a rapid increase in the number and size of corporate pension funds. Better managements of , and investment opportunity for those pension funds became more important.

As a result, Japan's financial markets have changed significantly since the early 1970s.⁵ The Japanese government lifted interest rate controls. Financial institutions have been allowed more freedom in their activities. Increasing foreign direct investment abroad and the emergence of current-

⁵ See Linclon (1988), p.237.

account surpluses increased pressure to deregulate international transactions which encouraged development of the domestic financial system.⁶ Since then, capital movement and the internationalization of financial institutions have been accelerating.

Exports of long-term capital were about \$10 billion in 1980, over \$50 billion in 1984, and \$132 billion in 1986 and 1987, respectively. Foreign assets, which stood at \$160 billion in 1980 reached \$727 billion in 1986. Net foreign claims were over \$180 billion by the end of 1986, making Japan the largest creditor nation in the world.

A. Internationalization of Japanese Financial Institutions

Japan decided to channel its surplus funds abroad through her own financial institutions. Unlike Kuwait, Japan has a well-developed financial system and sophisticated manufacturing industries at home to assist in solving the problem of current accounts surplus. The rapid increase in foreign direct investment by Japanese manufacturing firms and portfolio investments by individuals and institutions have given Japanese financial institutions strong incentives to expand overseas.⁷ The internationalization of commercial

⁶ For detail see Viner (1988) chapter 1 and chapter 4.

⁷ Japan was far more advanced financially than any of the OPEC members.

banks, securities firms, and insurance companies is examined sequentially in the following sections.

1. Commercial banks overseas

Japanese commercial banks were the first to expand overseas. During the prewar period, Japan's official foreign exchange bank, the Yokohama Specie Bank, operated an extensive network of overseas branches; so did some of the major city banks. They constituted the financial infrastructure of Japan's international trade. Their international operations centered around providing finance for foreign trade by Japanese companies.

The Yokohama Specie Bank, however, was turned into a commercial bank under the 1947 directive of the General Headquarters of Allied Forces immediately after World War II. In contrast, a number of other banks were permitted to engage in foreign exchange business as authorized foreign exchange banks by the Ministry of Finance under the Foreign Exchange and Foreign Trade Control Law of 1949.

In 1954, the Foreign Exchange Bank Law was passed, and the Bank of Tokyo was designated to specialize in foreign exchange dealings and foreign trade finance. In order to perform these transactions efficiently,⁸ foreign exchange

⁸ These transactions included the purchase and sale of foreign currency, receiving and opening of letters of credit, purchase of export bills, payment of import bills, collection of bills of exchange, payment of money for remittance, and the purchase and sale of foreign exchange with customers and with other banks.

banks were permitted to conduct correspondent contracts with foreign banks and to establish overseas representative offices and branches.

Since 1950, with the trend towards the internationalization of Japan's economy, there has been rapid growth in the number of Japanese overseas branches. These overseas branches, notably in London and New York, quickly broadened their scope and began to absorb external funds to finance domestic industrial expansion.⁹ During the 1950s and 1960s, the shortage of foreign currency resulting from high growth also forced Japan's financial institutions to raise funds from Eurodollars and borrowing from U.S. banks.¹⁰

Most Eurodollar loans were taken up by the London branches of Japanese foreign exchange banks, passing immediately to the head office in Japan. After changing into Yen, the foreign funds were used for domestic loans. Meanwhile, the foreign exchange was used to import raw materials for the expansion of exports.¹¹ Japanese branches in New York served as agents for borrowing from American banks in the same manner.¹²

A further expansion of overseas branches occurred when Japanese foreign direct investment was initiated in the latter

⁹ See Ozawa (1989), p.51-52.

¹⁰ See Skully (1982), p.125.

¹¹ See Adam and Hoshii (1972), P.481.

¹² See Ozawa (1989), p.52.

half of the 1960s. Japanese banks appear to have followed their clients abroad just as the United States and European banks had. In particular, major city banks, which had developed very close relationships with industrial groups, and were obliged to follow their customers overseas in order to assist their clients' operations. Had banks not provided their customers with overseas services, they would most likely have lost their business to other foreign or local banks.

Japan's relatively smaller regional banks also began to branch overseas in the 1980s. This accelerated in the mid-1980s, since their primary customers, the small-and-medium-sized regional firms, began to move overseas due to the pressure created by the sharp appreciation of the Yen.¹³

Prior to 1972, Japanese foreign direct investment was under \$1 billion. The value of Japanese foreign direct investment surged to \$2.3 billion in 1972. During the mid-1970s, it stabilized between \$2.3 and \$3.5 billion, but increased dramatically to \$4.6 billion in 1978. Japanese foreign direct investment reached \$10 billion in 1984 and \$33 billion in 1987 (see table 18). The average annual growth rate of Japanese foreign direct investment was 32.6% between 1977 and 1987. This trend is expected to continue.

The Japanese share of foreign direct investment in the U.S. has increased rapidly in recent years. Before 1980, this

¹³ See Ozawa(1989), p.55.

was about a quarter of total foreign direct investment; by 1986, the share was almost one-half.

In general, the high growth rate of Japanese foreign direct investment helps explain the rapid overseas expansion of Japanese commercial banks in the 1970s and 1980s, including the rapid growth of Japanese banking in the U.S. after 1980.

Table 18. Japanese Foreign Direct Investment

Year	<u>Total</u>			<u>U.S.</u>			<u>Other Countries</u>		
	Value	Per-centage	Growth Rate	Value	Per-centage	Growth Rate	Value	Per-centage	Growth Rate
1977	2806	100	---	686	24.45	---	2120	75.55	---
1978	4598	100	63.86	1283	27.90	87.03	3315	72.10	56.37
1979	4995	100	8.63	1345	26.93	4.83	3650	73.07	10.11
1980	4693	100	-6.05	1484	31.62	10.33	3209	68.38	-12.08
1981	8932	100	90.33	2329	26.07	56.94	6603	73.93	105.77
1982	7703	100	-13.76	2738	35.54	17.56	4965	64.46	-24.81
1983	8145	100	5.74	2565	31.49	-6.32	5580	68.51	12.39
1984	10155	100	24.68	3359	33.08	30.96	6796	66.92	21.79
1985	12217	100	20.31	5395	44.16	60.61	6822	55.84	.38
1986	22320	100	82.70	10165	45.54	88.42	12155	54.46	78.17
1987	33364	100	49.48				33364	100	174.49

Unit: \$ million

Source: International Financial Bureau, Ministry of Finance.

Japanese foreign trade has grown substantially since the 1960s. From 1970 to 1988, the average annual growth rate of gross foreign trade (exports plus imports) was 16 percent. Japanese foreign trade was below \$10 billion in 1960. It reached about \$40 billion in 1970 and exceeded \$100 billion in 1974. The value of trade was \$270 billion in 1980 and \$452 billion in 1988. This rapid growth in foreign trade created

many business opportunities for Japanese banks, further stimulating overseas expansion (see table 19).

Table 19. Japanese Bank Offices Overseas

Organizational Forms	Years					
	1950 -55	1956 -60	1961 -65	1966 -70	1971 -75	1976 -80
Branch or Agency	14	16	21	15	50	41
Subsidiary	3	1	1	3	34	32
Representative Office	4	5	9	17	108	97
Total	21	22	31	35	192	170

Source: Japanese Banking, table 51, by the Financial Times Business Publishing Ltd.

The United States accounts for one-fifth of Japan's total imports and takes in one-third of her exports. Altogether, bilateral trade with the United States makes up one quarter of Japanese foreign trade. During the 1980s, the growth rate of trade with the United states was higher than the growth rate of trade with other countries. Since the United States is the biggest trading partner of Japan, expansion of Japanese financial institutions in the U.S. has been rapid. The number of Japanese agencies, branches, and subsidiaries in the United States was 28 in November 1972. It increased to 63 in December, 1976 and 111 in December, 1987.¹⁴

Since the 1960s, Japanese trading companies worked aggressively to expand their business overseas and set up

¹⁴ See Jeffries (1988), Table 13, Growth of foreign banks in the United States.

local offices. After a substantial amount of trade had built up, a city bank would open its own representative office. The representative office attempted to finance Japanese trading and manufacturing companies to meet Japanese commercial needs. If business prospered, the representative office would eventually become a branch office. When legally possible, a locally incorporated subsidiary would be established. The main business of overseas branches and subsidiaries was to finance foreign trade and make loans to Japanese firms, which included the overseas branches of Japanese trading and manufacturing companies.

Gradually, banks would extend their business and finance to local firms engaging in Japanese trade. After gaining experience in the international market and loan markets, overseas branches and subsidiaries of Japanese banks have conspicuously developed their activities by participating in international syndicates, gradually moving into local banking business, such as lending to local manufacturers, state and municipal governments, and utility companies.¹⁵

At the beginning of the 1970s, city banks typically earned a mere 2-6 percent of their net operating income through overseas branches. It is estimated that international business had increased to 6-15 percent in 1980, and 15-30 percent by 1990. The number of overseas branches and

¹⁵ See Bronte (1982), p.27; and Federation of Bankers Associations of Japan (1982), p.17.

representative offices of 13 city banks and three long-term credit banks are increasing rapidly. By the end of 1986, the 13 city banks had 147 overseas branches and 230 representative offices, while the three long-term credit banks had 17 branches and 46 representative office abroad. Japanese banks have entered the markets in almost all parts of the world since 1980. Fifty-four branches are located in Asia, 53 in North America, 43 in Europe, 13 in Latin America, and one in Middle East. No Japanese branches have been opened in Oceania or Africa. Representative offices, have followed similar pattern, 91 offices are located in Asia, 52 in North America, 49 in Europe, 36 in Latin America, 27 in Oceania, 25 in the Middle East, and 3 in Africa.¹⁶

Before 1980, none of Japan's banks ranked among the world's top five in terms of deposits, and only one ranked among the top ten. By 1986, the top seven were Japanese. Moreover, there are sixteen Japanese banks ranking among the largest 25 in the free world. In 1986, Dai-Ichi Kanyo became the largest international bank in terms of asset size, surpassing Citicorp. Furthermore, nearly 36 percent of total worldwide bank assets were held by Japanese banks in June, 1988.

Japanese banks have become a major presence in international lending in global markets. Japanese banks have overtaken U.S. banks as the principal lenders in

¹⁶ See Ozawa (1989), p.57.

international markets and as principal lenders to final borrowers. At the end of September 1985, net claims by Japanese banks on final borrowers in international markets were \$125 billion as compared with \$24 billion for U.S. banks.¹⁷ According to the Bank for International Settlements, 85 percent of all new international banking claims in 1988 involved funds passing to or from Japan.

In summary, the development of Japan's international banking can be divided into four stages. First, prewar overseas branches and representative offices were restored and extended to serve ordinary foreign exchange business following the war. In the second stage, these branches and representative offices began to serve as conduits for capital to finance industrialization at home during the Japanese high growth era. A third stage involved "following-the-business" and "following-the-customer" activities, in which Japanese banks eagerly accommodated their customer's changing needs in connection with the extended foreign marketing, foreign trade, and foreign direct investment since the late 1960s. In the final stage of business development, Japanese banks channel surplus funds outward to finance deficit countries and are moving into the local banking business in host countries.¹⁸

¹⁷ See "Japanese Banking's Global Challenge", Mendelsohn Banker, April 1986, p.46-476.

¹⁸ See Ozawa (1989), p.58.

2. Securities companies overseas

Securities companies were the second group of Japanese financial institutions to expand overseas. Prior to 1945, Japanese securities firms were small institutions specializing in bond trading. The Japanese securities industry was encouraged by the economic booms of the 1950s and started to expand in the mid-1950s, when the industry received additional aid from the Japanese government, through the establishment of securities finance companies, the last resort of the security industry.

However, the growth of the Japanese securities industry did not continue very long due to fierce speculation in 1960. Small and medium-sized securities houses which had been over-extended were brought to the brink of bankruptcy, sparking off a round of mergers in the early 1960s.¹⁹ Japan's economy recovered in the latter half of the 1960s and continued to boom until the first oil shock. The Japanese security companies thus grew steadily during this period.

In the mid-1960s, the Japanese security industry, led by the four biggest security companies, moved into international business.²⁰ They offered a broad range of services to

¹⁹ See Bronte (1982), p.77.

²⁰ Actually, Yamaichi opened the first overseas office in New York in 1953. By the mid-1960s, each of the "big four" established offices in North America and Europe. Office in Singapore, Hong Kong, and Middle East followed in the 1970s. The primary purpose of these overseas operations was the sale of Japanese securities to foreign institutional and individual investors and later the sale

domestic and foreign clients after the internationalization policy was adopted in the early 1970s, and by the early 1970s, the power of the larger securities houses in the financial community had begun to rival that of the banks.

Until 1971, equities, bonds, and other foreign assets were subject to declaration and liquidation at request according to the old Japanese foreign exchange law, and each foreign investment required approval. In 1971, this situation finally changed and Japanese investors were permitted to invest in foreign securities, since the country's current account surplus and reserves were beginning to put it in a embarrassing position. All Japanese individuals and institutions, except Japanese mutual funds, were permitted to purchase foreign equities in any amount.

At the end of 1972, the Japanese securities houses began marketing shares and beneficiary certificates of foreign mutual funds to Japanese investors. This situation changed abruptly in 1974, with the first oil shock. All short-term foreign investments were banned by the Japanese government to protect the nation's balance of payments position.

In 1977, the ban was lifted and foreign equity and bond purchase by residents became fully free. The Japanese emerged as net purchasers of foreign securities for the first time in several years. This surge was largely the result of the

of foreign securities to Japanese investors. However, prior to 1979, virtually all of the overseas operations lost money, except for Hong Kong (Viner, 1988, P.21).

Ministry of Finance's encouragement of the big institutional investors, notably the life insurance company and pension funds, to diversify their portfolio investment abroad. It was hoped that the capital outflows would balance Japan's international accounts and take some upward pressure off the yen. The decontrol of outward Japanese investment created new brokerage opportunities for Japanese securities companies.

The new foreign exchange law, adopted in 1980, continues this fully free policy. Japanese purchases of foreign securities have continued to grow rapidly in step with the chronically increasing current account surplus of the 1980s. Furthermore, as Japanese investors become more sophisticated, they are willing to take risks in pursuit of higher returns, as predicted by the decreasing absolute risk aversion hypothesis. Demand for foreign securities, therefore, becomes even stronger. The sale of Japanese shares to western investors has also increased rapidly due to the superior performance of the Tokyo stock market and successful Japanese economy which began to boom in 1979. This has translated into a real bonanza for Japanese securities companies and contributed to the fast growth of the Japanese security industry.²¹

Japanese security firms are increasingly becoming a dominant force in international activities. Before 1980, it was uncommon to see a Japanese securities firms among major

²¹ See Wright (1987), p.72.

investment banks in the world. In 1986, Nomura Securities surpassed Merrill Lynch in equity as the largest investment firm in the world; in addition three other Japanese firms now belong to the world's top ten.

In 1986, the big four security firms already accounted for nearly one-quarter of all underwriting in the buoyant Eurobond market. The big four account for one-fourth of the long-term U.S. government bond trading and are moving in on the equity market. By the first quarter of 1987, Normura had leapt to first place among Eurobond lead managers.

Since the mid-1960s, the big four Japanese security companies have maintained offices in Europe and the United States. Actually, Yamaichi opened the first overseas office in New York in 1953. In the early 1970s, they expanded their overseas networks to include Hong Kong, Singapore, and Bahrain, while the medium-sized security houses began moving abroad for the first time. The international departments of Japanese securities firms are expanding their operation year by year. By the end of 1980, a total of 114 bases had been established in New York, London, Frankfurt, Zurich, Hong Kong and other principal cities. Twelve securities companies have made their entry into overseas markets. The number of affiliated companies abroad total 39, in nine cities. Three branch offices were established in London, and 28 representative offices in 12 cities. The primary purpose of these overseas operations was the sale of Japanese securities

to foreign institutional and individual investors and, later, the sale of foreign securities to Japanese investors.²²

Prior to 1979, these foreign branch networks were unable to generate positive profits. Most security companies made money in London and Hong Kong, but lost everywhere else. The foreign investment boom, which started in 1978, turned the profitability of these overseas network around. The increase in the issuance of foreign bonds by Japanese companies overseas made underwriting business another profitable activity. Furthermore, the new foreign exchange law of 1980 stimulated Japanese investment in foreign securities. Their earnings increased continuously and rapidly (see table 20).

Table 20
Earnings per Share of Major Japanese Securities Firms

<u>Bank</u>	<u>9/1980</u>	<u>9/1981</u>	<u>9/1982</u>	<u>9/1983</u>	<u>9/1984</u>	<u>3/1985</u>
Nomura	23.7	26.3	20.6	29.5	39.2	49.6
Nikko	19.7	18.8	13.5	18.6	27.0	37.2
Yamaichi	16.7	18.1	15.5	18.6	29.3	42.6
Daiwa	16.4	22.5	15.6	22.1	33.4	49.6

Source: Wright and Pauli (1987), Table 6-2, p.69.

Japanese securities firms have expanded quickly in the United States since the early 1980s. In order to finance the biggest budget deficit in history and to simultaneously keep interest rates low, the U.S. government developed an increasing dependence on foreign investors, especially the

²² See Viner (1988), p.21.

Japanese. In 1986, gross trading volume (total sales and purchases) of U.S. government securities by Japanese investors averaged more than \$150 billion per month.²³

In 1987, there were 14 Japanese securities firms in the U.S. and they have made every effort to channel their funds into the U.S. Three of the top four Japanese securities firms had seats on the New York Stock Exchange for several years. In 1988, the giant Japanese securities firms took control of 7 of 44 Wall Street securities houses and are currently recognized as primary dealers by the Federal Reserve Bank of New York. The primary dealers not only have the privilege of conducting business directly with the United States Federal Reserve System but have also acquired substantial prestige, which increases opportunities to underwrite local equity offerings.²⁴

3. Insurance companies overseas

Insurance firms were the last to enter the international market. Growing at an explosive rate since the end of World War II, Japanese insurance companies have emerged as one of the principal economic powers in the country. They have the highest growth rate of any financial service firm in the world. Their \$300 billion-plus assets in 1986 are expected to expand 15 percent annually for the next 15 years.

²³ See Viner (1988), p.23.

²⁴ Ibid, p.24.

By the end of 1985, there were 23 domestic life insurance and 23 domestic non-life insurance companies in Japan. According to Japan's insurance laws, life insurance companies are not authorized to offer non-life insurance, nor are non-life companies permitted to offer life insurance.²⁵ Most of the large insurance companies are members of industrial groups. Usually, each of the major industrial groups includes a life and a non-life insurance company. These companies make a major portion of their loans and equity investments to members of their own group. The insurance companies, in turn, receive the bulk of the group's life and non-life insurance business. Insurance companies are probably more dependent on their own industrial group for business than any other members in the group.²⁶

Japanese insurance companies placed a large portion of their investments into long-term fixed rate loans to private industry, especially during the economic boom period, when the proportion rose above 70 percent. Although still high at 45 percent in 1985, it has experienced a sharp decline. The non-life companies invested above 30 percent of their resources in loans in 1975, and 20 percent in 1985. They are a vital source of long-term funds for Japan's heavy industrial

²⁵ Only private agricultural co-operatives are allowed to sell both life and non-life insurance to their own members.

²⁶ See Bronte (1982), p.101-102.

companies since most loans are directed to large industrial borrowers.²⁷

The slow-down in the Japanese economy after the first oil crisis led to a lower demand for long-term loans. Corporations have shifted their preference from indirect financing to direct financing. While the banks have been hit with a simultaneous decline in the growth of their share of loanable funds since the first oil crisis, the insurance companies have also seen a steady and quick decline. This has left the insurance companies with far more unused loan capacity than the banks.

The insurance companies thus have to compete more with the banks for customers. They must become more aggressive lenders both domestically and internationally.²⁸ Japanese insurance companies began making yen-denominated loans to foreign borrowers in the late 1970s. Since then, expansion of yen-denominated loans has grown very fast.

This expansion is not sufficient to compensate fully for diminishing investment opportunities at home, however. Companies have chosen to invest some of their excess funds in foreign currency-denominated securities. Such international investments are reinforced by the existing interest differential between domestic and foreign securities due to the relaxation of government regulations. The large

²⁷ Ibid, p.106.

²⁸ Ibid, p.106.

interest differential between yen-and-dollar-denominated paper makes overseas investments very attractive. After the Federal Reserve System announced a major change in monetary policy in 1979, the U.S. experienced wider fluctuations and higher interest rates than other countries, especially Japan. The regulation change regarding portfolio management also accelerated international investment by insurance companies. In order to halt the rise of the yen, the Ministry of Finance recently raised its foreign investment limit for life companies from 10 percent to 30 percent of total portfolios.

Life insurance companies have been allowed to invest in foreign securities since 1970. International investment did not, however, become popular until late 1970, when the above factors emerged. From 1978 to 1983, Japanese insurance company's domestic portfolio of securities increased fourfold. Their investment in foreign securities increased even faster. The share of foreign securities rose from 3.7 percent of the total portfolio in 1978 to 22.2 percent in 1983. In addition to investing in foreign securities, life insurance companies are also interested in real estate overseas. While equity investment is increasing rapidly, investment in the real estate market purportedly tripled in 1986.

B. International Investment Strategies

Japan has invested most of her surplus in long-term instruments. The percentage of long-term to total foreign

assets increased from 52 percent in 1973 to almost 70 percent in 1985. In 1972, investment in foreign securities (international portfolio investment) exceeded foreign direct investment for the first time. Investment in foreign securities includes the purchase of foreign stocks, foreign bonds, yen denominated bonds and others.

Investment in securities overseas has dominated foreign direct investment every year since 1977. In that year, Japanese investment in securities overseas was 1.7 billion U.S. dollars, almost equivalent to its prior peak, before the first oil crisis.

The average growth rate of investment in securities was about 80 percent from 1981 to 1986. In 1986, investment in long-term foreign securities by private Japanese investors reached \$102 billion which was higher than the entire 1986 account surplus of 86 billion dollars. Private Japanese purchases of \$88 billion in long-term foreign securities in 1987, although lower than in 1986, was still approximately equal to the current account surplus of \$87 billion.

Until 1970, investments in foreign securities were negligible, below 5 million U.S. dollars. This can be attributed to several factors. In the early postwar years, Japan suffered from a critical shortage of foreign exchange. Portfolio investment by the Japanese was restricted.

Foreigners' use of the open capital market to raise funds publicly was virtually prohibited prior to 1970.²⁹

Regulatory changes in 1971 encouraged indirect investment outflows, resulting in an increase of net outflows from \$62 million in 1970 to \$1.787 billion in 1973. The purchase of foreign securities reached a record high of \$6.56 billion in 1973. In November and December of 1973, regulations on investments in securities and stocks abroad were tightened significantly, precipitating a fall in outflows in 1974 to \$2.051 billion. Net outflows dropped to \$141 million in 1974, then plummeted to a record low of \$24 million in 1975.

Net portfolio investment overseas did not recovered until 1977, when the net outflow of portfolio investment overseas rebounded back to its prior 1973-level of \$1.718 billion. Even though foreign equity purchased by residents became fully free in 1975, portfolio investments did not recover completely until a general liberalization of purchases of foreign securities took place in 1977. This is because foreign bond purchases far exceeded foreign stock purchases.³⁰ In 1977, almost no foreign stocks were purchased, while the purchase of foreign bonds was about \$1.8 billion.

As a result of favorable monetary conditions in Japan and a widening of interest rate differentials abroad, net purchases of foreign securities by Japanese residents rose

²⁹ See Horne (1985), p.144.

³⁰ See Feldman (1986).

dramatically to \$5.3 billion in 1978 and \$5.9 billion in 1979. During the current account deficit period of 1979-80, the yen bond market was severely regulated, although the outflow of capital related to domestic interests was not. Net purchases of foreign securities by Japanese residents fell to \$3.7 billion in 1980 from \$5.9 billion in 1979.

The new foreign exchange law passed in 1980 allows unregulated acquisition of any foreign securities. As a result, investments in foreign securities surged to a record high of \$8.8 billion in 1981. It was the first time that investments in foreign securities exceeded the current account surplus (see Table 21). Within 10 years of portfolio investment liberalization, capital outflows by portfolio investment overseas was able to fully offset the current account surplus.

Since 1981, the capital outflow due to portfolio investment overseas has fully offset the current account surplus every year except 1983 and 1984. Even then, about 80 percent and 90 percent of the current account surplus was offset by overseas portfolio investment in 1983 and 1984, respectively.

The deregulation of external transactions by the New Foreign Exchange and Foreign Trade Control Law (1980) stimulated Japanese institutions to pursue portfolio

diversification via investment in foreign-currency assets.³¹ Since 1980, outflows of portfolio investment by institutional investors has been particularly large. Life insurance companies, especially, whose assets are growing very rapidly, have diversified rapidly away from yen to higher yielding foreign assets.

The bulk of the long-term net capital outflow took the form of portfolio investment which almost doubled from \$16 billion in 1983 to \$31 billion in 1984 and \$60 billion in 1985. Between 1980 and 1985, the Japanese bought over \$125 billion more foreign securities than they sold. The net portfolio investment overseas reached a record high of \$102 billion in 1986, falling back to \$88 billion in 1987.

The share of total foreign assets held in portfolio investments increased dramatically from 3 percent in 1970 to 77 percent in 1986. Long-term investment in foreign assets includes foreign direct investments, trade credit, loans, and portfolio investment. Portfolio investment replaced the trade credit in 1980, as the most important way of channeling surplus funds outside Japan. The increase in portfolio investment also illustrates the gradual maturity of Japanese investors and financial institutions.

³¹ See OECD (1985), Table 8, p.22.

Table 21. Key Indices for Japanese International Investments

Year	Investment in Foreign Securities	Increases in Foreign Assets	Current Account	a/b (%)	a/c (%)	Growth Rate in Foreign Securities Investments
	(a)	(b)	(c)	(d)	(e)	(f)
1970	62	2031	1970	3	3	---
1971	195	2231	5797	9	3	215
1972	1188	5020	6624	24	18	509
1973	1787	8468	-136	21	-1314	50
1974	141	4063	-4693	4	-3	-92
1975	24	3392	-682	1	-4	-83
1976	146	4559	3680	3	4	508
1977	1718	5247	10918	33	16	1077
1978	5300	14872	16534	36	32	209
1979	5865	16294	-8754	36	-67	11
1980	3753	10817	-10746	35	-35	-36
1981	8777	22809	4770	39	184	134
1982	9743	27418	6850	36	142	11
1983	16024	32459	20795	49	77	65
1984	30795	56775	35003	54	88	92
1985	59773	81815	49169	763	122	94
1986	101977	132095	85845	77	119	71
1987	87757	132830	87015	66	101	-14

Source: Ministry of Finance, Japan.

1. Stock Investment

Although net investment in foreign stocks (purchases minus sales) is rather small compared to investment in foreign bonds, the growth rates have been over 100 percent annually since 1983, excluding 1984. Net foreign stock investment increased rapidly from \$240 million in 1980 to \$1 billion in 1985 and then to about \$17 billion in 1987 (see table 22). About 20 percent of the current account surplus was invested in foreign stock in 1987. In contrast, under 5 percent of the current account surplus was invested in foreign stock prior to

1985. An increasing percentage of the Japanese current account surplus is invested in foreign stocks.

If the purchase of foreign stocks is examined, we can find that the growth rate accelerated from 20 percent in 1981 to 280 percent in 1986, staying at 240 percent in 1987. In terms of value, the purchase of foreign stocks increased from about \$1 billion in 1980 to \$71 billion in 1987 (see table 22).

No matter the gross or net purchase of foreign stocks, statistics show rapid growth in foreign stock investments in recent years. This indicates that the Japanese are willing to take more risks in order to pursue higher yields. The hypothesis of decreasing absolute risk aversion can, therefore, be supported. Japanese initial preference for foreign bond investment was mainly due to familiarity of bond investment at home. Over time, the Japanese increased stock purchases and adjusted their portfolio in

Table 22. The Japanese Purchase of Foreign Stock, 1981-87.

Year	Purchase	Sale	Net	Growth Rate of Purchase	Growth Rate of Net
1981	937	697	240	---	---
1982	1126	975	151	20.17	-37.08
1983	2106	1445	661	87.03	337.75
1984	1570	1519	51	-25.45	-92.28
1985	5484	4489	995	249.30	1850.98
1986	20917	13869	7048	281.42	608.34
1987	70936	54062	16874	239.13	139.42

Unit: \$ million

Source: Ministry of Finance, Japan.

international investment to obtain an optimal portfolio. This supports the hypothesis of international portfolio investment adjustment process, discussed in chapter four.

In the early stages of overseas investment, the Japanese concentrated on US securities. Portfolio investment in US securities began as a trickle in the early 1970s and became a flood by 1985. Commercial banks, securities firms, and insurance companies set up branches or subsidiaries in the United States to take advantage of the growing market.

In 1975, purchases of U.S. stocks accounted for 96 percent of Japanese foreign stock investment. During the period 1980-1987, this ratio was still high, above 70 percent despite diversification into Europe and Asia. The stock purchase in US stock dropped from 88 percent of total foreign stock investment in 1982 to 72 percent in 1987, but increased back to 80 percent in 1988. US stock purchased by the Japanese was below \$1 billion in 1981. This increased to \$21 billion in 1987 and \$71 billion in 1988. In 1986, only the UK, and Switzerland purchased more foreign equity investment in the United States than Japan. However, the Japanese increased their holdings at a faster pace, becoming the number one investor in the US stock market in 1988.

Japanese investment in UK, Germany, and other European countries is just a fraction of that invested in the United States. Japanese investment in countries, such as Hong Kong, and Singapore is even smaller. However, the Japanese have

diversified their international investment into Europe and Asia gradually. Investment in Europe initially took place fitfully in the early 1980s, but has increased dramatically since 1987. Japan's net acquisition of equities in Singapore soared 15-fold to \$229 million in 1988 from \$16 million in 1987. Net investment in Hong Kong equities increased from US\$ 26 million in 1987 to US\$ 78 million in 1988.

The Japanese prefer blue-chip stocks. A company's image, as well as its financial performance, are important to Japanese investors. Among the top-selling stocks in Japan are: (1) American Express, (2) Dow Chemical, (3) Disney, (4) Merrill Lynch, and (5) IBM.³²

According to Normura Securities Co. Ltd's Yoshirari Morimoto, most Japanese fund managers have little expertise in foreign equities. Therefore, joint ventures have become an alternative way of handling foreign equity investments. During the last few years, Japanese financial companies have formed an estimated 30 joint ventures and working relationships with U.S. money managers. A U.S. manager handling U.S. securities in a Japanese investment trust is a common situation, and some joint operations are formed in order to share technology.³³ It takes time for Japanese

³² See Kiley (1987).

³³ See Rosenberg (1988).

financial institutions and fund managers to become mature in international equity investment.

2. Bond Investment³⁴

Traditional Japanese conservatism, the lack of experience, and the dearth of timely direct sources of information have thus far led the Japanese to invest most of their long-term money in foreign bonds, and little in foreign stocks.³⁵ Prior to 1987, over 90 percent of Japanese foreign securities investment were held in bonds. In other words, foreign bond investment has been preferred by Japanese investors historically.

Not only the absolute value but also the growth rate of the acquisition of foreign bonds has been much larger relative to stocks from, 1982 to 1986.³⁶ The growth rate of acquisition of foreign bonds increased from 81 percent in 1982 to 146 percent in 1984. It accelerated to 417 percent in 1985 and 362 percent in 1986. In 1980, the acquisition of foreign bonds was \$14 billion, which was ten times the acquisition of foreign stocks. In 1986, the acquisition of foreign bonds reached a record high \$1,346 billion. In 1987, the purchase of foreign bonds decreased somewhat to \$1,273 billion, which

³⁴ Excluding the discussion of yen denominated foreign bonds.

³⁵ See Bronte (1982), P.248.

³⁶ The exception is 1983, when the growth rate of the acquisition of foreign bonds was lower than the growth rate of the acquisition of foreign stocks.

still is eighteen times the acquisition of foreign stocks (see table 23).

Table 23. The Japanese Purchase of Foreign Bonds, 1981-87.

Year	Purchase	Sale	Net	Growth Rate of Purchase	Growth Rate of Net purchase
1981	9401	3591	5810	---	---
1982	16980	10904	6076	80.62	4.58
1983	22905	10400	12505	34.89	105.81
1984	56348	29575	26773	146.01	114.10
1985	291338	237859	53479	417.03	99.75
1986	1346989	1253965	93024	362.35	73.94
1987	1273829	1200944	72885	-5.43	-21.65

Unit: \$ million

Source: Ministry of Finance, Japan.

Similar to stocks, Japanese purchases of foreign bonds are concentrated in the United States but to a lesser degree. According to the U.S. Treasury Bulletin, purchases of bonds in the United States accounted for 20 to 60 percent of total Japanese foreign bond investment. In 1987, 43 percent of the total Japanese foreign bond investment was in U.S. bonds.

Most of the bond investments in the U.S. are (1) treasury bonds and notes or (2) bonds issued by U.S. government corporations and federally sponsored agencies. Since 1977, these two types of bonds accounted for over 80 percent of the securities purchased in the U.S., with the exception of 1980, when they accounted for only 73 percent. This surged up to about 90 percent from 1984 to 1988.

C. Evaluation

In the early postwar years, a critical shortage of foreign exchange forced Japan to adopt export-led policies to earn foreign exchange on the one hand, and enforce exchange control policies to eliminate the spending of foreign exchange on the other. When a current account surplus emerged in the late 1960s, restrictive capital policies impeded capital movement and caused a huge accumulation of international reserves. The development of the international financial system was retarded by restrictive international investment policies.

This situation was met by the Japanese with a quick response. Liberalization and internationalization of the Japanese financial system and investments became the top goals in the 1970s. A sequential liberalization of outward investment policies was adopted. International investments, mainly by the private sector, increased rapidly from \$1 billion in 1968 to \$15 billion in 1978 and to \$133 billion in 1987.

The liberalization of capital movements consequently helped the internationalization of the Japanese financial system. Japanese financial institutions began to move overseas in the 1970s, speeding up this process in the 1980s. In 1985 and 1986, foreign direct investment by the finance and insurance industries accounted for over 30 percent of Japanese foreign direct investment.

Commercial banking, investment banking and insurance activities were rigidly separated in Japan after World War II. To extend their activities and to respond to changes in the economic environment, commercial banks, securities firms, and insurance companies branched overseas.

Commercial banks were the first to move into international markets, motivated by rapid growth in foreign trade and direct foreign investment, as well as low domestic capital costs and appreciation of the yen. Their overseas branches and representative offices channeled foreign funds back home to finance industrialization during the high growth era, and channeled domestic funds outward to eliminate surplus funds arising from maturation of the economy. Japanese commercial banks have wisely taken a long term approach to expansion overseas, setting localization as their final goal.

Before 1970, the primary function of overseas branches of Japanese security companies was the sale of Japanese securities to foreign investors to raise funds for Japanese corporations. The current account surplus and deregulation of outward investment created new brokerage opportunities for Japanese security companies. As the current account surplus surged and the wealth of Japanese individuals and corporations continued to accumulate in the 1980s, Japanese investors became sophisticated and risk-taking. They are now more willing to purchase high yielding long term instruments. As a consequence, the major function of overseas branches of

Japanese security companies has now become the sale of foreign securities to Japanese investors.

The overseas expansion of Japanese insurance companies represented the internationalization of Japanese institutional investors. Following the lead of commercial banks and security companies, Japanese insurance companies diversified their assets abroad, attempting to manage their foreign assets themselves.

Based on domestic investment experience in the early 1980s, the risk averse Japanese initially invested most of their funds in foreign bonds, and little in foreign stocks. This trend reversed itself over time, indicated by the rapid increase in stock investments during the late 1980s. Geographically, the United States is preferred by Japanese investors. At least 70 percent of the foreign stock holdings are of U.S. stocks and about 40 percent of the foreign bonds are held in U.S. bonds. However, Japan began to broaden its scope in the late 1980s, and foreign securities investments are now diversified into Europe and Asia.

In the Japanese experience, portfolio investment overseas took ten years to fully offset the current account surplus after portfolio investment liberalization. It took even longer for financial institutions to develop world-wide networks and overseas operations experience. At least fifteen years will be necessary for overseas units of Japanese financial institutions to become mature and be able to

localize. In general, the international development of Japanese financial institutions has been quite comprehensive and successful.

CHAPTER 6
TAIWAN'S PAST EXPERIENCES AND FUTURE STRATEGIES FOR
INTERNATIONAL INVESTMENTS AND FINANCIAL DEVELOPMENT

I. TAIWAN'S PAST EXPERIENCE IN INTERNATIONAL INVESTMENT

Before the major relaxation of exchange control in 1987, both private international portfolio investment and foreign direct investment by Taiwanese investors were negligible. Taiwan has maintained its restrictive capital control since the 1950s. Corporations and individuals were not allowed to hold or use foreign exchange and were required to sell their trade-generated foreign currency earnings to the central bank for Taiwanese dollars.

Prior to 1987, approved foreign direct investments by Taiwanese firms were less than \$60 million according to data provided by the Ministry of Finance, Republic of China. Total international portfolio investments by the private sector were even smaller.

The general public and most of the financial institutions were not allowed to hold foreign securities until the mid-1980s. Even the four authorized foreign exchange banks were held to a ceiling on cumulative foreign exchange holdings.¹

To reduce the pressure of chronic current account surpluses since 1980, the authorities began to allow limited overseas investment at the end of 1985. The Bank of Taiwan and four other banks were authorized to make "trust fund"

¹ This ceiling was removed in August 1984 to allow more flexibility for authorized foreign exchange banks to manage their portfolio.

investments in overseas capital markets on behalf of Taiwanese investors.² However, investors were limited to placing \$5,000 per year outside the country, and were restricted to government bonds, bank securities, and later corporate bonds. Investments in foreign equities continued to be forbidden. Further, the minimum term for trust investments, initially two years and later lowered to six months, exposed investors to an unacceptably high foreign exchange risk. These restrictions placed on the funds, together with the appreciation of the New Taiwan dollar, greatly restrained the overall outward investment.³

Since June 1986, the International Commercial Bank of China, the First Commercial Bank, Hua-Nan Commercial Bank and Chang-Hua Commercial Bank have been allowed to sell U.S. dollar-denominated certificates of deposit for periods of six to twelve months, which can be purchased and reimbursed in local currency. Once again the appreciation of Taiwan's currency made the purchase of foreign assets unattractive. In short, private international portfolio investment was very limited before the relaxation of exchange control, with the Central Bank of China as the only key player in foreign investments.

As mentioned in chapter 4, foreign reserve holding by the Central Bank is one form of international investment. The

² See Shea (1988), p.13.

³ See Seth and McCauley (1987), p.36.

average annual increase in foreign reserve was \$10 billion during the period between 1981 and 1987. In 1980, the investment in foreign assets by the Central Bank of China was \$1 billion. International investment increased rapidly to \$7 billion in 1985 and then surged to \$24 billion in 1986. In 1987, \$32 billion was added to the reserve stock of the Central Bank (see table 24).

Management of this large reserve by the Central Bank will be examined in light of the theories developed in chapter 4.

Table 24. Flow and Stock of Foreign Reserve

<u>Year</u>	<u>Increase Total in Reserve</u>	<u>Stock of Total Reserve</u>
1980	1,092	2,574
1981	5,035	7,694
1982	1,368	9,061
1983	3,478	12,541
1984	3,939	16,480
1985	7,040	23,520
1986	24,104	47,623
1987	31,822	79,446
1988	12	79,292

Unit: \$ million

Source: Financial Statistics, the Central Bank of China, various issues.

A. The Magnitude of Precaution-Oriented Reserves

Theoretically, the magnitude of precautionary reserve is a positive function of a country's openness, its history of fluctuations in payment deficits, and the level of difficulty of borrowing. The stock of reserve is also positively related

to national wealth but negatively related to the rate of return on other assets.

Several factors emphasized large reserve holdings in Taiwan: the importance of international trade and the trade deficits in the 1950s and 1960s; the requirements of defense vis-a-vis Mainland China; and the difficulties of borrowing internationally due to isolation from the international community and financial institutions in the 1970s and 1980s. The increased wealth due to current account surpluses enabled Taiwan to hold a high level of foreign reserve.

Before 1980, Taiwan's foreign exchange reserve was below \$2 billion and ranged between 10 and 30 percent of imports. In terms of the number of months, Taiwan's foreign-exchange could pay for one to three months of imports of goods and services. However, the import coverage increased dramatically from one month in 1980 to 28 months in 1987, which was far above the world average of 3.5 months and the world standard of import coverage of 3-6 months. Even taking into consideration the above factors, this foreign exchange reserve stock was still unjustified large.

Two reasons, probably related, may be put forward (following the analysis in chapters 2 and 4). The first reason for this rapid and steady accumulation of reserve was the mistaken expectations of the monetary authorities. When the current account surplus emerged in the early 1980s, the monetary authorities just viewed it as a short-term phenomena

and treated it as a transitory imbalance. They did not place it in the larger context of the political, national savings and investment, and foreign trade situations indicated in chapter 2.

The second reason for the large reserve stock was a general misunderstanding of the role of international reserves. If international reserve holding is only for precautionary purposes, then the magnitude of precaution-oriented reserves should be targeted to an appropriate level, but not as high as 28 months of imports. The excess beyond this appropriate magnitude should have been dealt with according to investment-oriented or profit-maximizing criteria, just as in the case of individual net wealth. Portfolio management of international reserves would thus also emphasize yields instead of merely safety or liquidity. In short, the money authorities did not distinguish the two different motives for reserve holding and failed to specify the appropriate maximum target for precautionary reserve holding.

B. Currency Composition of Foreign-Exchange Reserves

The selection of foreign currency may depend on the domestic exchange-rate regime, pattern of international trade and payments, marketability and liquidity of domestic or foreign currency, and expected yield of foreign currency. The US dollar replaced the British pound as the worldwide

acceptable currency after World War II. Financial instruments denominated in US dollars are also marketable and acceptable worldwide. It is therefore, not surprising that its currency against Taiwan pegged U.S. dollars and now holds a significant portion of exchange reserves in U.S. dollars.

The share of exports to the United States accounted for almost one-half of total exports in the 1980s.⁴ Even though import shares from the United States have declined, imports from the United States still account for above one-fifth of total imports. Total trade with the United States accounted for one-third of total foreign trade in the 1980s. In view of the pattern of international trade and economic ties with the United States, a high proportion of holdings in US dollars can be justified. In addition, Taiwan's heavy reliance on the United States for diplomatic support and for arms supplies, also make the US dollar the preferred currency.⁵

Even though a high proportion of US dollars can be expected, the high level of holdings of US dollars by the Central Bank of China cannot be justified. The Federal Reserve Bank of New York estimates that in 1983 more than 95 percent of Taiwan's assets were held in dollars remaining

⁴ The share of exports to the United States accounted for 34 percent of total exports in 1980. This continually increased to 49 percent in 1984 and stayed above 44 percent until 1987.

⁵ See Euromoney (1987), February, p.32.

roughly stable through 1986.⁶ A report by the Control Yuan of Taiwan in August, 1986 gave a similar picture. About 90 percent of the reserves were in US dollar denominated holdings.⁷ Compared to a world average of 67 percent in US dollar reserve holdings, estimated by the International Monetary Fund, both of these figures were far too high.⁸

C. Portfolio Management

To ensure the safety and liquidity of precautionary holding of international reserves, theories suggest that a certain proportion of reserves must be invested in short-term foreign government securities. The Central Bank of China invested her reserve funds exclusively in liquid instruments, especially bank deposits and short-term government securities. Almost all of the country's current account surplus and funds raised in loans from international settlement area banks are allocated in bank deposits in the Bank for International Settlements reporting area and its purchases of Treasury bills in the United States through 1986 (see table 25).⁹

⁶ See Seth and McCauley (1987), p.37.

⁷ See Euromoney (1987), February, p.31.

⁸ See Downes (1989), p.20.

⁹ Taiwan's capital outflow and inflow by the end of 1986, as captured in B.I.S. and U.S. data, was concentrated almost exclusively in the Central bank. Data in table 25 can illuminate the portfolio management behavior of the Central Bank of China.

Since the foreign exchange reserves have accumulated rapidly and going far beyond what is required for precautionary purposes, there is no reason for the Central Bank of China to continue adding to its bank deposits or adding to its holdings of low-yielding, short-term US treasury bills.

The U.S. balance-of-payments shows no diversification into long-term holdings prior to 1987. At least 90 percent of net purchases of US treasury securities was in short-term treasury bills each year before 1987. Actually, an annual average of 96.5 percent was in short-term treasury bills between 1981 and 1986.

D. Big Loss

The precautionary component of Taiwan's foreign exchange reserves was, paradoxically, a "low-yield, high risk" portfolio, which was exposed to the high exchange rate risk. In the eighteen months since January 1986, the U.S. dollar depreciated relative to the Taiwan dollar by more than 25 percent causing huge losses in the value of Taiwan's international assets. The appreciation of the New Taiwan dollar and the consequent depreciation of the U.S. dollar has reduced the NT dollar value of the stock of foreign assets in the Central Bank portfolios while leaving the value of its liabilities unchanged. Seth and McCauley (1987) estimated the valuation losses from the appreciation of NT dollars in the 17

months between December 1985 to May 1987 to be in excess of \$9 billion at the exchange rate of May 1987.

Table 25. Taiwan's Sources and Uses of Funds

<u>Year</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
<u>Source of funds</u>	0.9	2.0	6.1	6.2	8.6	20.1	26.1
Current account surplus	0.5	2.2	4.4	7.0	9.2	16.1	17.9
Banking borrowing	0.4	-0.2	1.7	-0.8	-0.6	4.0	8.2
<u>Uses of funds</u>	0.9	2.0	6.1	6.2	8.6	20.1	26.1
Increased bank deposits	1.2	1.2	4.7	5.4	6.7	14.4	7.9
Net purchase of US Treasury Securities	0.3	0.2	1.1	0.6	1.2	4.8	16.8
Bills	0.3	0.2	1.1	0.6	1.1	4.8	6.8
Coupons	0.0	0.0	0.0	0.0	0.1	0.0	9.8
Unexplained uses	-0.6	0.6	0.3	0.2	0.7	0.9	1.4

Unit: \$ billion

Sources: (1) Data for 1981-1986 is from Table 3 in Federal Reserve Bank of New York, Summer 1987, Vol. , No.2.

(2) Data for 1987 is from B.I.S., International Banking Developments; Department of the Treasury, USA, Treasury Bulletin; Central Bank of China, Financial Statistics.

This loss and the concurrent economic crisis in Taiwan (see chapter 2) forced the central bank to change its policies. The changes included relaxation of capital control, increase in gold purchases, establishment of an Overseas Economic Cooperation and Development Fund, support for the interbank dollar call loan market, and others.

II. NEW POLICIES OF RESERVE MANAGEMENT AND CURRENT SITUATION

A. Central Bank Policies

1. Relaxation of capital control

The most important change in managing foreign reserves by the Central Bank was the large-scale relaxation of exchange control starting from July 15, 1987. Individuals and corporations are free to retain and remit foreign exchange. Current account transactions are completely liberalized. As for capital-account transactions, investors are allowed foreign investments totaling a maximum of \$5 million, compared with \$5,000 under the previous regulations.

This dramatic change in capital liberalization is intended to encourage capital outflows via investment abroad. The new measures have, and will continue to have, great impact on the portfolio management of individual and institutional investors, on foreign direct investments of domestic firms, and on the development of international banking by domestic banks. Before examining the changes in foreign direct investment and portfolio investment caused by relaxation of exchange control, other changes in managing the reserve funds by the Central Bank of China will be examined in the following sections.

2. Increase in gold purchase

The Central Bank has purchased massive amounts of gold since 1987. Before 1987, the gold purchase was below 1 million fine troy ounces or below \$1.5 billion. The annual

purchase of gold increased by 2.1 million fine troy ounces in 1987 and 5.8 million troy ounces in 1988. The gold holdings of the Central Bank of China which were 3.2 million fine troy ounces in 1980, increased steadily to 5.6 million fine troy ounces in 1986. It increased to 7.7 million fine troy ounces in 1987 then to 13.5 million in 1988 (see table 26). The preference for gold is less clear cut at the ratio of gold to total reserves is considered. The ratio in 1987 and 1988 merely rebounded to previous levels of the early 1980s and is still below the levels of the 1970s.

In addition to portfolio diversification, other reasons for this massive purchase of gold, especially U.S. gold, are to reduce the bilateral trade surplus with the U.S. and eliminate the U.S. pressure for appreciation of the New Taiwan dollar.

3. Diversification of currency composition and securities portfolio

The Central Bank of Taiwan has diversified its foreign exchange reserve out of U.S. dollars since 1987. U.S. dollar holding declined to 72 percent in September, 1988 from 90 percent in 1987.¹⁰ The Central Bank of China diversified the reserve to 15 percent of its total reserve in German marks, 10 percent in Japanese yen, and 3 percent in the Netherlands and Hong Kong dollars in September 1988.¹¹

¹⁰ See Pauline (1988).

¹¹ Sources from Overseas Scholar (1988), October.

Before 1987, at least 90 percent of net purchases of U.S. Treasury securities were invested in short-term

Table 26. Central Bank of China Gold Holdings--Stock

Year	Amount	Growth Rate	Value	Growth Rate	Percentage of Gold/Total Reserve
1980	3.2	---	369	---	14.4
1981	3.3	2.2	459	24.3	6.0
1982	3.7	15.0	530	15.4	5.9
1983	4.1	9.9	682	28.7	5.4
1984	4.5	8.5	816	19.7	5.0
1985	5.0	12.3	964	18.2	4.1
1986	5.6	11.2	1313	36.2	2.8
1987	7.7	37.6	2698	105.4	3.4
1988	13.5	75.9	5395	100.0	6.8

Amount Unit: Million fine troy ounces

Value Unit: \$ million

Source: Financial Statistics, The Central Bank of China.

Treasury bills. In 1987, the U.S. balance-of-payments shows Taiwanese investment was diversified into long-term Treasury bonds for the first time. \$9.8 billion worth of U.S. Treasury bonds were also purchased in 1987 by Taiwanese investors.¹²

4. The Overseas Economic Cooperation and Development Fund (1988)

Taiwan also recycled its surplus through aid and loans to developing nations. The main purpose of this was to encourage economic co-operation with friendly developing countries. The policy is expected to help create new export markets and reduce the country's dependence on U.S. trade. Moreover,

¹² It is quite possible that the major investor for U.S. Treasury bonds was the Central Bank of China, given the small institutional investors and inexperienced individual investors.

Taiwan's role as a capital donor will enhance its commercial ties, reducing its global isolation.

In November 1988, Taiwan set up an Overseas Economic Cooperation and Development Fund amounting to \$10 billion. The first fiscal year budget allocation to the fund was \$100 million. The second fiscal year this rose to \$125 million and the third year it will be \$200 million. The money will be invested in various industries overseas and will be used to help Third World countries develop their exports.

5. Support for the interbank dollar call loan market

Central Bank provided \$4 billion for the interbank dollar call loan market in Taipei. A dollar call market would help local banks raise short-term capital more easily. It can free local banks from paying higher interest rates to foreign lenders and thus reduce local production costs of domestic banks and their borrowers. It does not make sense for the Central Bank of China to continue to deposit all of its foreign reserves overseas at a low rate while domestic banks have to borrow U.S. dollars from foreign banks at higher cost.

6. Support foreign branches of domestic banks and domestic firms

To encourage overseas branching out, the Central Banks have decided to deposit \$2 to 3 billion in each of the foreign branches of domestic banks. They are thus able to finance foreign subsidiaries of domestic firms.

It is apparent that the Central Bank of China has changed its approach to the management of its international reserves.

Economic efficiency is being emphasized now more than ever. The following two sections will examine the changes in foreign direct and portfolio investment resulting from the relaxation of exchange control.

B. Foreign Direct Investment

To escape the unfavorable domestic investment environment and to maintain international competitiveness, Taiwanese firms invest abroad. This ensures access to natural resources, cheaper labor markets, and world markets. Seeing the advantages in such movements, the Taiwanese government has reversed years of tight restrictions to encourage domestic firms to invest abroad.

Foreign direct investments began to accelerate in 1984 and increased dramatically after 1987, when capital control was completely abolished. Taiwanese foreign direct investments may be classified into resource, labor, and market-oriented investments, all of which are trade-oriented. Taiwanese foreign investments are the natural response to the dynamic changes in her comparative advantage and growth of international protectionism.¹³

The changes in macroeconomic factors in Taiwan include (1) rises in the prices of production factors, (2) increases in the costs of environmental protection, (3) rises in international protectionism, and (4) increases in the exchange

¹³ See Kojima (1978), P.84-85.

rate. Since the first three points were already discussed in chapter 2, we will now look specifically at the impact on foreign direct investment of increases in exchange rates.

Foreign direct investment became more attractive following the dramatic appreciation of local currency. From 1985 to 1989, the NT dollar has risen over 50 percent against the U.S. dollar, with most of the climb taking place in 1987. However, the appreciation of the New Taiwan dollar makes export goods expensive and difficult for sale. In contrast, this makes foreign operations, especially a U.S. operation, cheap.

Before 1980, approved foreign direct investments were \$10 million. In 1980, this increased dramatically to \$42 million due to the political crisis (see chapter 2). During the early 1980s, foreign direct investment was around \$11 million. It grew rapidly to about \$40 million in 1984 and 1985, and to \$57 million in 1986. Yet, the absolute amount of foreign direct investment by Taiwanese firms was still small (See Table 27). However, with the relaxation of exchange control and the deteriorating investment environment at home, foreign direct investment accelerated in 1987 and 1988 to \$102 million and \$219 million respectively. The increase in 1987 was 80 percent and in 1988 110 percent over the preceding year.

The United States is the most important host country for Taiwan (see table 28). In 1980, approved investment in

the U.S. accounted for 83 percent of total approved investment. U.S. investment increased steadily from \$1.6 million in 1981 to \$35.7 million in 1985. Whereas in 1981, U.S. investment was 15 percent of total investment; in 1985, it was 86 percent. Although U.S. investment has dropped off in percentage terms, the absolute amount has continued to increase. In 1988, the amount of investment was \$123 million.

Taiwan's interest in the U.S. represents an extension of its ties to the U.S., and offers the attraction of a big and sophisticated market. The diffusion of protectionist sentiment is another important reason for Taiwanese companies to increase foreign direct investment in the United States. Market factors, of course, favor U.S. investments.

Asian countries such as the Philippines, Thailand, Indonesia, Malaysia, and Mainland China are secondary host countries for Taiwanese investors.¹⁴ In 1988, \$36 million and \$12 million were invested in the Philippines and Thailand respectively. Investment in Malaysia was \$3 million and Indonesia \$2 million. These Southeast Asian countries provide not only provide cheaper labor but also other production factors, such as land and materials. The instability in the Southeast Asian countries, a source of uncertainty for Taiwanese firms, is offset by insecurity in Taiwan itself;

¹⁴ Data of foreign direct investment in Mainland China are not available.

Table 27. Amount of FDI by Taiwanese Firms

<u>Year</u>	<u>Total</u>	<u>USA</u>	<u>Thailand</u>	<u>Malaysia</u>	<u>Indonesia</u>	<u>Philippine</u>
1978	5,196	3,270	238	0	0	0
1979	9,364	620	145	971	3,700	0
1980	42,105	35,130	20	0	120	0
1981	10,764	1,645	72	0	1,960	0
1982	11,632	2,500	0	0	8,960	0
1983	10,563	2,858	1,764	3,000	0	250
1984	39,263	30,530	200	1,216	4,900	0
1985	41,334	35,690	2,609	0	1,000	0
1986	56,911	45,967	5,810	0	1,780	71
1987	102,751	70,058	5,366	5,831	950	2,640
1988	218,739	123,335	11,886	2,707	1,923	36,212

Unit: Thousands of US dollars

Source: Ministry of Economic Affairs, ROC.

Table 28. Percentage of FDI by Taiwanese Firms

<u>Year</u>	<u>Total</u>	<u>USA</u>	<u>Thailand</u>	<u>Malaysia</u>	<u>Indonesia</u>	<u>Philippine</u>
1978	100	63	5	0	0	0
1979	100	7	2	10	40	0
1980	100	83	0	0	0	0
1981	100	15	1	0	18	0
1982	100	21	0	0	77	0
1983	100	27	17	28	0	2
1984	100	78	1	3	12	0
1985	100	86	7	0	2	0
1986	100	81	10	0	3	0
1987	100	68	5	6	1	3
1988	100	56	5	1	1	17

Source: Ministry of Economic Affairs, ROC.

there is not much difference between domestic and foreign markets in terms of country risk.

The growth of foreign direct investment has increased demand for international financial services from domestic banks and encouraged international banking.

C. Portfolio Investment

As mentioned, international portfolio investment by the private sector was very limited before the relaxation of exchange control. After the relaxation of capital control, the authorities have attempted to liberalize the portfolio investment overseas.

In 1988, eight securities investment consulting companies were permitted to advise investors on what overseas mutual funds and securities to buy. They were also allowed to introduce fifty-four kinds of foreign mutual funds to Taiwanese investors. However, the securities investment consulting firms are not allowed to conduct the actual transactions. Local investors must mail-order securities directly from overseas firms. In the same year, all local banks were allowed to establish trust departments and to operate foreign trust funds which invest in foreign securities. In this manner, foreign mutual funds were introduced into Taiwan.

In November 1988, four local trust-management companies each launched \$40 million international mutual funds.

Taiwanese investors can access foreign securities through these four local international funds. This represents the first time that local firms can operate the foreign securities in overseas markets. However, domestic securities firms are still not allowed to brokerage foreign stocks. To gain a clear picture of portfolio investment, stocks, bonds, and real estate investments will be examined in the following sections.

1. Stock investment

Currently, there are only three channels for Taiwanese investors to invest in foreign stocks. First, mutual funds introduced by foreign securities investment consulting companies in 1988; second, mutual funds introduced by local banks through their trust fund accounts; and third international mutual funds, launched by the trust-management companies. Individual investors are still not allowed to purchase foreign stocks directly. The total purchase of foreign stock is still limited (see table 29)¹⁵. The stable exchange rate since 1989 may encourage the purchase of foreign stock.

The total purchases of foreign stock through U.S. financial intermediaries jumped to \$175 million in 1987 from \$88 million in 1986, increasing 55 percent in 1988 to \$271 million. Even though the growth rate was high, the absolute

¹⁵ The statistics on total purchase of foreign securities are not available. However, the trend of Taiwanese securities investment can be derived from the statistics on Taiwanese foreign security transactions through U.S. financial intermediaries in Table 29 and 30.

amount remained negligible. Even in 1987 and 1988, net purchases of foreign stocks were below \$40 million.

An interesting point revealed through data is that the purchase of U.S. securities through U.S. financial intermediaries declined since the appreciation of the NT dollar against the US dollar. Before the appreciation of local currency, the purchase of U.S. securities accounted for more than 94 percent of total purchase of foreign securities through U.S. financial intermediaries. The appreciation of the NT dollar since 1986 reduced the attractiveness of U.S. stock relative to other foreign stocks. The share of U.S. stock decreased to about 65 percent in 1987 and 1988, shown in table 29.

Table 29. The Taiwanese Purchases of Foreign Stock Through U.S. Financial Intermediaries, 1981-1988.

Year	Purchase		Sale		Net	
	Total	U.S.	Total	U.S.	Total	U.S.
1981	17	16	20	19	-3	-3
1982	17	16	15	14	2	2
1983	42	40	43	42	-1	-2
1984	151	149	85	82	66	67
1985	32	31	32	32	0	-1
1986	88	75	91	68	-3	7
1987	175	113	142	102	33	11
1988	271	181	234	163	37	18

Unit: \$ million

Source: Treasury Bulletin, Department of the Treasury, USA.

2. Bond investment

The purchase of foreign bonds increased rapidly after 1985. Before 1985, the purchase of foreign bonds was below \$100 million. The purchase increased to about \$400 million in 1985, \$1.4 billion in 1986, and about \$12 billion in 1987 (see table 30). In 1987, the net purchase of foreign bonds was up to about \$10 billion. Data show that Taiwan invested a high portion in U.S. bonds when total bond purchases surged up after 1986. Before that, no specific pattern can be found and the purchase of other foreign bonds outweighing the purchase of U.S. bonds most of the time.

Table 30. The Taiwanese Purchases of Foreign Bond Through U.S. Financial Intermediaries, 1981-1988.

Year	<u>Purchase</u>		<u>Sale</u>		<u>Net</u>	
	Total	U.S.	Total	U.S.	Total	U.S.
1981	14	10	4	2	10	8
1982	83	7	6	4	77	3
1983	54	6	12	5	42	1
1984	33	10	45	38	-12	-28
1985	398	290	184	161	214	129
1986	1352	1071	1304	1034	48	37
1987	11825	11120	1925	1355	9900	9765
1988	5310	5062	2596	2371	2714	2691

Unit: \$ million

Source: Treasury Bulletin, Department of the Treasury, USA.

However, most of the purchases of U.S. bonds were probably made by the Central Bank of China. Private investors only purchased a minor part.¹⁶ The Central Bank of China changed its way of managing the reserve stock and began to purchase long-term bonds.

III. STRATEGY FOR INTERNATIONAL PORTFOLIO INVESTMENT

Since the relaxation of capital control, growth in total foreign reserves of the Central Bank has been curtailed. The recent increase in international reserves was limited due to the concurrent rapid increase in imports (see table 24). It is international investment by the private sector which has grown most rapidly since the relaxation of capital control. The absolute amount of international investment by the private sector is still small, however, and the Central Bank still plays the key role.

Foreign direct investment is the most important way for the private sector to invest overseas. International portfolio investment has not increased rapidly, however, due to the booming domestic security market and the continuous appreciation of local currency.

According to the decreasing absolute risk aversion theory greater amounts of money will be invested in risky assets as

¹⁶ Since private investors, individual investors and institutional investors are minor players in foreign securities markets, most of the purchase of U.S. bonds must be done by the Central Bank of China.

individual wealth increases. The relative risk aversion properties for individual investors also predict that the percentage invested in risky assets is likely to increase with wealth or at least remain constant.¹⁷

The future economic growth and current-account surplus will support and guarantee the prosperity of international investment. Without this support, international investment can still increase rapidly due to the increased demand for international diversification, based on the rising wealth-level of Taiwanese investors. For private investors, the international portfolio investment strategy will depend on the expectation of future growth, investor's type, and the degree of risk aversion.

A. Expectation for the Future Development

The Council for Economic Planning and Development predicts that the economic growth rate will be 7 percent and the inflation rate will be below 3.5 percent over the next four years. It also predicts that the export surplus will continue but that it can be reduced by \$1 billion each year, from \$10 billion in 1989 to \$6 billion in 1993. Accelerated by the appreciation of New Taiwan dollars, personal income

¹⁷ The empirical studies reviewed in Chapter 4 show that the individual utility function had relative risk aversion properties somewhere between constant relative risk aversion and decreasing relative risk aversion.

will increase 9.5 percent each year to \$10,000 in 1993 from \$7,000 in 1989. Moderate economic growth will continue.

B. Individual Investors

Since individual investors make up the majority on the domestic stock market, and the household sector is the dominant net saving sector, the initial development of international portfolio investment will naturally depend on the behavior of individual investors.

The choice of investment instruments by individual investors depends on their expectations of future growth of the economy. Optimistic individuals expect a continuous economic growth and current account surplus, they may prefer securities with long-term maturity and high returns. Stocks and long-term bonds may be the appropriate investment instruments.

On the other hand, pessimistic individuals may expect a short period of continuous economic growth and current account surplus. They may prefer the securities with short-term maturity but high safety, such as short-term, government bonds.

To ease the process of international investment, the accessibility of foreign stocks is very important. So far, the direct purchase of foreign stocks by individuals is still prohibited. Because this control measure contradicts the trend of development, liberalization of foreign stock

purchases is necessary. A foreign stock section could be opened and foreign stocks and bonds allowed to be listed on the Taiwan Stock Exchange. Some introduction to foreign stock must be given to help investors develop a better understanding of foreign capital markets. It may be necessary to provide domestic investors with information concerning foreign stocks, such as ratings, etc.

C. The Institutional Investors

As mentioned before, institutional investors usually play an important role in international investments. In the United States and Japan, the main institutional investors include life insurance companies, pension funds and mutual funds. However, Taiwan's life insurance companies are less significant in the saving process relative to Japan or the United States. In terms of GNP, Taiwanese life insurance companies are only one-fifth as large as those of Japan. Furthermore, the investment behaviors of the life insurance companies are highly regulated.

Public pension funds are not allowed to invest overseas and private pension funds have not yet developed in Taiwan. In contrast, private pension funds are one of the fastest growing sectors of the Japanese and U.S. financial communities.

The sluggish development of the insurance company industry, pension funds, and mutual funds in Taiwan has slowed

down the learning process of international investments. In order to speed the learning process, policies encouraging the development of institutional investors and their internationalization are necessary.

IV. SLUGGISH DEVELOPMENT OF INTERNATIONAL BANKING IN THE PAST

Before the relaxation of exchange control, the development of international intermediations was quite slow. In particular, the setting up of financial institutions abroad was very sluggish. Up to 1986, Taiwanese banks had only 5 representative offices, 13 branches, and 3 subsidiaries abroad, with the majority established between 1980-1986.

Only three banks have overseas operation units. Four representative offices, 9 branches, and 3 subsidiaries belong to the International Commercial Bank of China. The First Commercial Bank owns one representative office and three branches. The Bank of Communication has only one branch overseas.

Table 31. Taiwanese Banks Overseas

<u>Year</u>	<u>Representative Office</u>	<u>Branches</u>	<u>Subsidiary</u>
Before 1950	0	1	0
1950s	0	3	0
1960s	0	0	0
1970s	1	4	0
1980-1986	4	5	3
Total	5	13	3

Source: The Ministry of Finance, ROC.

The geographical distribution is as follows: U.S. (6), Japan (2), Singapore (2), Panama (2), Australia (1), Bahrain (1), Canada (1), France (1), Philippines (1), Saudi Arabia (1), Thailand (1), West Germany (1), and U.K. (1). International operations concentrate mainly on trade finance for Taiwanese firms.

V. CURRENT DEVELOPMENT OF INTERNATIONAL BANKING

To increase Taiwan's ties to world financial markets and solve surplus funds problems, the Taiwanese government first allowed then encouraged government-controlled banks to open overseas branches. The government also encouraged Taiwan's cash-rich industrialists to buy financial institutions in foreign countries. Taiwan's financial authorities hope to upgrade the quality of their overseas banking network by adding overseas branches to the existing sixteen.

In November 1988, restrictions on the number, form and location of banks' foreign branches were lifted. At least half of the domestic banks have already, or are attempting to, set up foreign branches to expand their network.¹⁸

For half a century, the only Taiwanese bank to have offices in the U.S. was the International Commercial Bank of China, which set up a New York agency office in 1936. In

¹⁸ These include the Commercial Bank of China, Bank of Communications, Chang-Hwa Bank, Hwa-Nan Bank, First Commercial Bank, City Bank of Taipei, Overseas Chinese Bank, and United Overseas Chinese Bank.

April 1989, the Bank of Communications, one of the nation's two development banks, opened a branch in San Jose, California and plans to have a branch in Amsterdam operational by 1990. The Bank of Communications branch in San Jose, which has a wholesale banking license, is targeting Taiwan conglomerates that have production facilities in Silicon Valley. The San Jose branch also provides export credits to American companies in order to stimulate imports from the United States. The Bank of Communications is providing the San Jose branch with \$25 million in capital.

In addition, Chang-Hwa Bank, one of the four biggest banks in Taiwan, set up a representative office in New York in October, 1989 and plans to set up a branch in Los Angeles in October, 1990. Hwa-Nan Bank, also among the four biggest banks, opened a new branch in Los Angeles in January, 1990 and another in New York in May, 1990.

The First Commercial Bank also set up a branch in New York in March 1990 and plans to have a branch in Los Angeles soon. Four other banks - the Bank of Taiwan (the biggest), the City Bank of Taipei, the Overseas Chinese Bank, and the United Overseas Chinese Bank - are in the process of applying to foreign authorities, largely U.S., for licenses.

Moreover, individual Taiwanese investors and business groups are establishing or investing in banks abroad following the easing of capital control in July, 1987.

In December, 1988, Pacific Electric Wire & Cable Corporation, one of the richest Taiwanese industrialists, invested \$37.5 million to purchase a chain of eight Texas savings and loans associations, renaming them Pacific Southwest Bank. The country's largest industrial group, Formosa Plastics Corporation, invested \$3 million in Washington D.C.'s Credit International Bank which was established in February, 1989. As a whole, Taiwanese and other Asian investors hold about 80 percent of Credit International Banks which have \$14 million in capital. The bank engages in private banking, real estate advisory services, and trade finance.

In March, 1989, Taiwan's China Trust Co. opened a New York bank called China Trust Bank in the hope of putting Taiwan entrepreneurs in on the ground floor of the mergers-and-acquisitions business. It also plans to establish a branch of the China Trust Bank in Los Angeles and to expand in Southeast Asia and Europe. Taiwan's Overseas Chinese Commercial Banking Corporation and United World Chinese Commercial Bank attempted to buy Hang-Lung Bank of Hong Kong, but were unsuccessful.

It is evident that Taiwanese banks are attempting to develop their foreign branch networks and to internalize ownership-specific advantages through foreign expansion.

VI. STRATEGY FOR INTERNATIONAL BANKING DEVELOPMENT

The strategy for the development of international banking must depend on the current advantages and future outlook. The current macroeconomic advantages for Taiwanese banks are: a dynamic international trade and a favorable fund supply of large international reserves. However, the future outlook may also be important for Taiwanese banks. Rapid growth in foreign direct investment is another favorable factor.

A. Continued Growth in Exports

In 1952, exports accounted for only 8 percent of the GNP. Exports rose over 20 percent in 1966 and 40 percent in 1972. In 1978, exports already accounted for over 50 percent of the GNP, reaching a peak of 59 percent of the GNP in 1986 and 1987. Balassa and Williamson (1987) point out that export expansion acts as an engine of economic growth for Taiwan. By using input-output analysis, Kuo (1983) showed that export growth after 1955 accounted for an increasing share of the economy's total output growth. By the mid-1970s, roughly two-thirds of the economy's output growth came from the expansion of exports (see table 32).

Without the expansion of exports, rapid economic growth cannot be achieved. It is reasonable to expect that a strategy of export expansion is likely to be maintained in the future. Even though the high growth in exports may not

Table 32. Contributors to Output Expansion

Period	<u>Domestic Expansion</u>	<u>Export Expansion</u>	<u>Import Substitution</u>	<u>Other Substitution</u>
1956-61	61.6	22.5	7.7	8.2
1961-66	63.2	35.0	0.5	1.3
1966-71	51.4	45.9	5.7	-3.0
1971-76	34.7	67.7	-2.4	---

Unit: Percentage

Source: Kuo, Shirley (1983). The Taiwan Economy in Transition.

continue, the same level of export is likely to remain. Given the huge export volume and value (\$60 billion a year), growth of Taiwan's own international banking network is not only possible but also necessary.

B. Rise in Foreign Direct Investment

Continued growth of foreign direct investment is necessary for the following three reasons:

1. The promotion and support of exports, opening sales and servicing branches in the major trading countries or the potential trading countries is necessary. For some large scale industries, maturation can be achieved through overseas investments.
2. Foreign direct investment in the advanced industrial countries makes it easier for Taiwanese firms to keep in touch and upgrade on the latest developments in technology and markets trends. Technology update and information collection can ensure the competitive ability

of Taiwanese firms and the expansion of exports.

3. To secure the supply of raw materials and access to inexpensive supplies of natural resources, Taiwanese overseas investment must increase.

From the above analysis and data observations in table 27, we can expect that the foreign direct investment by Taiwanese firms will continue to increase in future years. The Investment Commission of the Economic Ministry predicted that the value of foreign direct investment will reach \$4 billion in 1991, \$6 billion in 1992, and \$9 billion in 1993.

C. Continuous Current Surplus

Given the instability of the political situation, the rise in wage rates, the surge in environment protectionism, and the deterioration of the social security system, domestic investment may not recover to the high growth era of the 1970s. The imbalance between domestic savings and investment and the resultant current account surplus, therefore, are likely to remain. Even though the NT dollar appreciated over fifty percent in the past couple years and many import restrictions was lifted, exports expansion continued but imports did not increase rapidly. This reflects that the competitiveness of Taiwanese firms remain strong and the consumer behaviors take time to adjust (detail see appendix

E). Therefore, a current account surplus can be expected at least in the short-run.

In the long-run, the export expansion will depend on the upgrade of industry technology, improvement of international marketing, and adjustment of the production structure. If this adjustment is successful, then Taiwanese exports will continue to expand, just as in the case of Japan in the 1970s. In that case, current account surpluses can be expected to continue.

This continuous current surplus can provide a cheaper source of funds for domestic banks and strengthen their competitiveness in the world or in other host countries. However, the continuous current surplus is not a key factor for the development of international banking. The status of a major trading and investment country will push the development.

D. Analysis and Strategy Suggestions

For Taiwanese banks, competitive advantages from imperfections in product markets are weak. The range of services is limited and service quality is inferior. Technology in general is behind other countries. Bank names are in their infant stage and not known to the outside world. In contrast, competitive advantages from imperfections in factor markets are strong. Since foreign banks are still restricted in Taiwanese money capital, Taiwanese banks can

benefit from this segmented input market. Information capital is another advantage over they can have other banks. This information capital advantage can combine with macroeconomic factors, the large amount of international trade and the increase in foreign direct investment to create comparative advantages.

Actually, macroeconomic factors are the major advantages of Taiwanese banks. International reserves are huge and fund availability is good. To help domestic banks branch out, the Central Bank deposited \$2 to \$3 billion in each foreign branch. Foreign branches of domestic banks have thus been able to finance foreign subsidiaries of domestic firms. International trade and foreign direct investments are large and expected to increase even more. The only disadvantage Taiwan has in terms of macroeconomic factors is nationality. However, it must be pointed out that the disadvantages of nationality, bank name and human capital were outweighed by the volume of trade and foreign direct investment in the Japanese experience.

Taiwanese banks in the 1980s have similar types of competitive advantages and disadvantages as Japanese banks in the 1970s. From Japan's experiences, it is reasonable to believe that Taiwan can successfully develop her international banking system.

According to chapter 3, the easiest places for Taiwanese banks to expand are the markets without entry barriers and

operational restrictions, due to the lack of international banking experience and bank reputation. To reap the benefits from economies of scale, information collection, fund transfers, and access to the most important financial centers, a basic global network which consists of at least two foreign branches, must be established. Major financial centers, such as New York, London, and Tokyo are the ideal targets. Beyond this basic global network, locations for additional branches must depend on individual banks' ownership-specific advantages. For Taiwanese banks as a whole, agglomeration of multinational enterprises is the best place to set up branches in terms of commercial banking activities. If the development of investment banking is a concern, financial centers are the best alternative. However, the choice between a center of foreign direct investment and a financial center must depend on the individual bank's ownership-specific advantages and future goals.

Taiwanese foreign businesses are in the first stage of development. The main borrowers will be the industrial subsidiaries overseas, and the main funding will come from the parent bank or interbank money market. Branches are the best way for Taiwanese banks to expand overseas in this stage. A branch allows its bank to have maximum control over its foreign operations. The acquisition or setting up of a foreign subsidiary is too risky for Taiwanese banks which do not have financial expertise and experience in foreign

operations. However, subsidiaries become the best way for Taiwanese banks to expand when they are integrated into the local banking environment and have gained enough experience from overseas operations.

To reduce the threat imposed by multinational banks from other countries, relaxation of the constraints placed on domestic banks' foreign activities are necessary. Increasing the branches' networks and global operations are also necessary for attaining economies of scale, technology transfer and reputation building. The government should allow banks to expand the size and number of branches. In particular, economics of scale have important implications for relatively small Taiwanese banks. Multinational banking is a means for Taiwanese banks to achieve a more efficient system and reduce production costs. To strengthen the Taiwanese bank names, new policies could be adopted by the government to show a strong commitment to banks' stability and willingness to play the role of lender of last resort, in order to increase the confidence of depositors. The government can also make its large international reserves available to foreign branches.

To narrow the technology gap, the government might help Taiwanese banks set up a world-wide data telecommunication system for computerizing foreign exchange business. In addition, government should also encourage de-centralized

decision making by overseas branches to increase operational efficiency of public sectors banks.

CHAPTER 7 CONCLUSION

Few studies have examined Taiwan's current account imbalance and resultant surpluses in relationship to international investment and the development of international banking. This study is meant to bridge that gap by focusing on Taiwan's need to expand foreign investment and develop international banking capability.

A well-developed international banking system can channel surplus funds overseas in the form of trade credit and loans. It can also help firms and individuals invest overseas by providing the necessary funds, information, and advice.

Since Taiwan is new to international banking, the main dilemma will be to determine the optimal strategy for establishing an effective and efficient international banking system. Specific issues that will need to be addressed are how to determine the best locations for foreign branches and how to choose the most appropriate organizational form.

A development policy must capitalize on ownership-specific macro-type and micro-type advantages. The latter are firm characteristics and include technology, reputation, financial expertise, capital assets, and information banks. The macro-type pertain to the environment the banks come from, the volume of international trade, the tradition of foreign direct investment, the existence of surpluses, and nationality.

The ownership-specific advantages are sources of potential gains in international banking. The multinational banks' choice of locations and organizational form abroad are tied to the magnitude and likelihood of potential gains. Since banks integrate their comparative advantages, these will influence their mode of operation as well. Banks from different countries vary in their initial endowments. This naturally affects relative efficiency in any specific location and form.

A bank's prior experience and level of development in international banking are also important. With greater localization abroad, it experiences a reduction in risks. This influences organizational and locational choice as well. The gains from locational and organizational choice will encourage both geographical diversification and decentralized growth.

This is supported by the experiences of Japan in the 1970s and 1980s. Japan had a well-developed financial system and sophisticated manufacturing industries. Japanese banks have moderate micro-type but strong advantages in international banking. While human capital was weak to begin with, especially in investment banking, Japan's advantage was strong in information capital. In terms of product differentiation, she was strong in quality control but weak in product innovation. Name recognition was also weak in the 1970s. Macro-type advantages were very strong, despite

Japan's status as a defeated country in the World War II. The existence of surplus funds, foreign direct investments, and booming international trade were all favorable preconditions for success. It is, therefore, no surprise that Japan has been so successful in developing an international banking system. Taiwanese banks in the late 1980s and early 1990 have a mixed basket of advantages and disadvantages similar to that of Japanese banks two decades ago. Taiwan has a developed domestic financial system and sophisticated manufacturing sector. However, her capital market has developed unevenly, and the existing range of financial instruments is limited.

Taiwanese banks enjoy major advantages flowing from Taiwan's current international economic position. Large surpluses, booming international trade, and the consequent growth of foreign investments provide favorable preconditions for Taiwan's banks to develop internationally.

The optimal strategy for international banking must focus on the choice of location and organization. Dynamic financial centers, without barriers to entry or operational restrictions, should constitute a major target. A basic network of at least two foreign branches must be established. Geographical dispersion in different international financial centers, preferably on different continents, will be most desirable. Beyond the core network, centers with high foreign direct investment and commercial activity would be the best places for additional branches. If the development of

investment banking is desired, financial centers would be important. The locational choice between a foreign direct investment hub and a financial center thus depends upon the individual bank's specialization and expectations.

Initially, branch-banking will be the best medium for overseas expansion since the parent bank already has complete information and long-term business relationships in the foreign markets. A branch also provides for direct control of foreign operations, especially in the area of personnel management. However, as Taiwan's banks gain experience from overseas operations, the subsidiary will become the better form for the integration of Taiwanese banks with the local environment. This has been the pattern of Japan's expansion abroad. In new areas with the potential for development of trade and foreign direct investment, the representative office will be preferred.

Governments can help by instituting policies which strengthen banks' advantages and eliminate the restrictions which hinder banks' overseas operations and expansion. Since Taiwanese banks are not well known to the outside world, the government of Taiwan can help significantly by stepping up its role as lender of last resort. The government can also make part of its large international reserves available to foreign branches and subsidiaries. To increase operational efficiency of public sector banks, the government should also strongly encourage de-centralized decision making by branches abroad.

Autonomy is necessary to facilitate personnel and budgeting management.

Is international portfolio investment an answer to the problems posed by the trade imbalance and growing surpluses? Although some restrictions on investments have been relaxed since the mid-1980s, such investment remains at an insignificant level. What is the likely future trend? What steps can the government take to accelerate investment?

According to portfolio theory, risks specific to individual companies or industries can be eliminated through diversification. Market risk can be reduced through international diversification. Therefore, international investments have a lower level of risk for any given rate of return, or, conversely, a higher rate of return for any given level of risk, than domestic portfolio investments. Investors' welfare will thus be increased by diversification of portfolios to include assets of different kinds and maturities from different countries.

Japan showed decreasing absolute and relative risk aversion as wealth grew and investors gained confidence. Her international portfolio investment increased dramatically over a period of twenty years. In recent years, Japanese investors are increasing relative investment in stocks. Geographical diversification is also proceeding from a concentration in U.S. assets to European and Asian assets.

Since the level of international portfolio investment by Taiwanese investors was still low after exchange control was lifted, raising this level will provide splendid possibilities for the future. This is particularly so given the potential for political crisis in the future. Because Taiwan's wealth position is strong and improving, there are certainly strong incentives to follow Japan's lead and shift towards high-yielding assets.

There is a need for complementary and supporting government policies. All restrictions on trading in foreign securities need to be lifted. Foreign securities firms should persuade the government to open a foreign securities section in the Taiwan Stock Exchange and allow foreign stocks and bonds to be listed and freely traded. Investors must also be allowed to purchase foreign stocks directly through domestic financial intermediaries. Secondly, there is a strong need to improve investor understanding of foreign securities and markets, and the risks and potential of international investment and diversification. Thirdly, international investment activities by institutional investors should be encouraged. Fourthly, foreign banks and financial institutions should be encouraged to operate in Taiwan's markets. Fifthly, in order for Taiwanese banking to increase its efficiency, it is necessary for the Taiwanese government to encourage domestic and international banking and investment

by insuring a climate free from protection, which is implied by the multilateral framework (see appendix F).

The simultaneous development of the international portfolio investment and the international banking system will be mutually reinforcing. Given the expected growth in international portfolio investment, institutions which specialize in investment banking will choose to locate their branches in international financial centers with the intention of maximizing their income from brokerage, distribution, and arbitrage. Investors will also benefit from the quick, low-cost financial services flowing from global funds management and networks.

Since these developments in international banking and international investment are new, the economic data are not available for empirical testing. Based on recent data obtained from Japan regarding the Japanese banking experience, the hypotheses developed in this thesis can be further examined and tested in the future. The comparative strengths of Taiwan's banks are such that Taiwanese banks will act as universal rather than specialist banks.¹ This tactic will be greatly strengthened should the government adopt the steps recommended earlier. As a late-comer, however, Taiwan's

¹ A universal bank offers all banking products to all types of customer. It combines both commercial and investment banking activities and offers a full range of services to its customers. In contrast, a specialist bank engages in only one of these activities and offers only a limited range of products.

comparative advantage may lie in focusing on a few specialized functions of international banking. Whether and in what respects universal or specialist banking merits emphasis is still an open subjects.² Here again, further studies are necessary.

The rapid currency appreciation and the changes in other macroeconomic factors, will cause the changes in the composition of both exports and imports, which in turn will affect foreign trade and the current account surplus. Further research on these changes will be necessary in order to make more accurate projections concerning the surplus. There is also need for an in depth analysis of the development of technology, entrepreneurship, and productivity. Only successful adjustment in these areas can ensure that the exports and surplus will continue.

² See Wink (1987), Pozdena (1989), Holloway (1989), and Cottrell (1985).

APPENDICES

APPENDIX A: THE EXISTENCE OF POLITICAL CRISIS

The existence of political crisis, arising the termination of diplomatic relations with the United States in 1979, can be observed in the deposit growth rate. The average deposit growth rate was 30 percent during 1971-1978. It dropped in 1979 to 8.8 percent from 34.6 percent in 1978. The deposit growth rate in commercial banks dropped in 1979 to 7.7 percent from 31.0 percent in 1978. The deposit growth rate in medium banks also dropped to 19.8 percent in 1979 from 42.4 percent in 1978, and in cooperative associations to 10.9 percent in 1979 from 37.3 percent in 1978. Almost all financial institutions in Taiwan suffered from a similar experience.

The deterioration was also reflected in deposit composition. Checking account growth declined from 52.2 percent in 1978 to 2.7 percent in 1979. The passbook deposit growth rate also fell from 22.0 percent in 1978 to 6.0 percent in 1979. The time deposit growth rate fell to negative values from 35.5 percent in 1977, to -15.7 percent in 1979.¹

The growth rate of the weighted average stock price index in the Taiwan securities market had been below 10 percent in

¹ See Ho (1984), p.42.

1976 and 1977. It surged up to 53 percent in 1978. In 1979, however, it dropped to 1 percent, and continued to fall to -2 percent in 1980 and -13 percent in 1982.

Other supporting evidence comes from the amount of approvals of investment by overseas Chinese. Investments increased steadily from \$39 million in 1976 to \$222 million in 1980. It fell to \$39 million suddenly in 1981; due to a time-lag of approval by authorities, the decline in investment approvals did not show up until 1981. Investment dropped even more in 1983 to \$29 million. As of 1986, it was still low at \$65 million.

The data on Taiwanese direct investments in the U.S. also give a particularly clear picture about the political crisis in 1980. From 1959 to 1979, total Taiwanese direct investment in the U.S. was \$9 million. In the single year 1980, the amount of investment in the U.S. shot up to \$35 million. For Taiwanese, the United States may be considered the safest place in the world to invest. After 1980, investment in U.S. dropped back to 2-3 million during the next three years when people's confidence in their economy was restored.

APPENDIX B: THE ACCOUNTING FRAMEWORK

The relationship between the balance of payments and domestic conditions can easily be illustrated by a macroeconomic accounting identity. In a simplified economy without government, gross national product consists of three types of expenditures: consumption (C), investments (I), and net exports (X-M; where X represents exports and M represents imports);

$$Y = C + I + (X - M).$$

Simple algebraic rearrangement yields the following macroeconomic identity,

$$S - I = X - M.$$

This says that an imbalance between savings (S) and investment is offset by either a surplus or a deficit in the net export of goods and services. If investment is greater than savings ($S - I < 0$), then the excess expenditure would be met by a current-account deficit ($X - M < 0$) or excess imports. On the other hand, if investment is less than savings ($I < S$), then the excess savings will result in a current account surplus ($X - M > 0$) or an excess of exports.

APPENDIX C: FOREIGN BANKS IN TAIWAN

Local branches of foreign banks have multiplied rapidly since 1961. Foreign banks accounted for 0.07 percent of the total number of financial institutions in 1961 and increased to 0.92 percent in 1987. Taiwan change her restrictive attitude in order to encourage foreign investment in Taiwan after the end of U.S. economic aid in 1965 (Lee and Tsai, 1988). The number of local branches of foreign banks increased quickly from one in 1964 to 13 in 1979. After the termination of diplomatic relations with the U.S. in 1978 and the withdrawal from the IMF in 1980, the authorities gave foreign banks easier access to the domestic market to offset international isolation. The number grew to 33 in 1987.

Even though entry by foreign banks has been permitted, the organizational form, location and operations are still strictly controlled. Thus far, they are allowed to open only two branches in Taiwan: one in Taipei and the other in Kaohsiung. Entry into Taiwan is permitted only through branches or representative offices and not through wholly owned subsidiaries. Prior to 1989, foreign banks were also not able to obtain securities underwriting and brokerage licenses.

APPENDIX D: THE KUWAITI EXPERIENCE

In the past two decades, Kuwait has achieved spectacular success in economic growth. By the end of 1980, the total GNP had grown to KD8.8 billion from only KD1.1 billion in 1971.² Per capita income increased to KD6,200 (\$23,000) by 1980 from KD1,410 (\$3,970) in 1971. Although large quantities of oil were discovered in Kuwait in 1938, production did not begin until 1946. Prior to 1973, relatively modest beginnings of economic development were evident in Kuwait. The major increase in oil prices in October 1973, generated substantial revenues, fueling the engines of rapid economic development in the 1970s.

Cost-of-living indices for Kuwait show an increase of 90 per cent between 1972 and 1980. This inflation played a very significant role in a country almost entirely dependent on imports. Excess money and strong demand, which included an acceleration in public spending in response to the surge of current account surplus, were major reasons for the high inflation rate during this period. In other words, too much money chasing too few assets, led to an increase in financial

² The "KD" represents the Kuwait Dinar.

assets. Speculation on land and stocks also added tremendous upward pressure to prices.³

The major source of wealth in Kuwait is still crude petroleum; any oil production in excess of current expenditure requirements represents the transformation of oil wealth into non-oil wealth in the form of foreign investments or investments in domestic industrialization. Due to the low absorptive capacity of the domestic market and insufficient domestic investment opportunities, reinvesting oil surplus funds has taken the form of foreign investment. Investing overseas can be viewed as a safeguard against adverse developments affecting oil. For example, the Reserve Funds for Future Generations was introduced in 1976 to serve as a pension fund for one decade after the oil runs out.⁴ Most of the funds are invested in international equity and bond markets.

³ See Hazem (1984), p.166.

⁴ The Reserve Fund for Future Generations was given an initial transfer of 50 percent of the State General Reserve Funds, i.e. KD 632.7 million, and was to receive 10 percent of the state revenue annually plus all profits earned on the General Reserve Fund. This fund is not supposed to be used until 2001. By 1987, the Reserve Fund for Future Generations had grown to about \$60 billion while the State General Reserve Fund had reached \$30 billion. For details see Khouja and Sadler (1979), p.202; The Economist, 22 August 1987; and Euromoney, March, 1988, p.53.

A. Kuwaiti Strategies for Developing
International Financial Intermediaries

When Kuwait began to invest in foreign market in the early 1940s, London was the dominant financial center of the world. Kuwait's currency was pegged to the pound sterling at that time, as Kuwait was still a British protectorate. Due to strong economic and political linkages between Kuwait and Britain, a reserve account was set up in London to handle government surpluses and investments. The Kuwait Investment Board was established in London in 1952 to handle government investments. This board was later replaced by the Kuwait Investment Office.⁵

With the ending of the protectorate agreement in 1961, Kuwait adopted aggressive strategies for economic development, promoting different kinds of industries. In particular, a few investment companies and other financial institutions were established between 1961 and 1965. The Kuwait Investment Company was set up in 1961, followed by the Kuwait Foreign Trading, Contracting and Investment Company in 1965. The former is 50 per cent government owned, the latter 80 per cent. Together with the Kuwait International Investment Company, a privately owned venture established in 1973, these investment companies form the major Kuwaiti actors on the foreign investment scene.

⁵ For details see Khouja and Sadler (1979), chapter 11.

Before the first oil shock, the Kuwait Investment Office not only managed Kuwait's European investments, but also its American investments. However, responsibility for those and all other government investments was returned to officials in the Ministry of Finance in Kuwait when foreign assets increased in response to the first oil shock. Although the Kuwait Investment Office continued its work in London and some new financial institutions were established, an extensive Kuwaiti international banking system was not developed to handle international investment.⁶ Except for some international investments managed by Kuwaiti investment companies, stock and equity investments in the other countries are handled by local banks and other financial agents in U.S., Germany, Switzerland, France, Belgium, Holland and Japan.⁷

The government, however, tends to rely on domestic financial institutions as its intermediaries in bonds transactions. The "Three Ks", the Kuwait Investment Company, the Kuwait International Investment Company, and the Kuwait Foreign Trading Contracting and Investment Company, are most

⁶ The Kuwait Investment Office still played an important role in international investments until recent years. Most foreign investments outside the Gulf area are still handled by London Kuwait Investment Office. In 1987, about \$45 billion of the total \$95 billion international investments were managed by Kuwait Investment Office according to The Chemical Week (January 20, 1988) pointed out that Kuwait Investment Office has \$70-75 billion available, including about \$25 billion in an international equities portfolio.

⁷ Mattione (1985), p.104; Khouja and Sadler (1979), p.200.

often involved. During 1974, the "Three Ks" and two other banks, the Al Ahli Bank and the Commercial Bank of Kuwait, handled over fifty bond issues and syndicated loans in foreign markets. By 1975, the "Three Ks" were among the leading issue-managing institutions in the world, with Arab investors accounting for 20 percent of the world's credit securities during the last quarter of 1974. In 1975, the Three Ks" managed or co-managed forty-eight bond issues totaling \$1.16 billion.⁸

During 1974, a number of financial institutions with overseas financial interests were also established. The Kuwait Financial Center was formed to provide financing for brokerage and import/export credits. The Kuwait Commercial and Industrial Investment Company was formed to invest in securities and other projects and to increase channels of investment at home and abroad. This shows Kuwait's attempt to develop her own financial system to deal with of international investments.

B. Kuwait's International Portfolio Investment Strategy

Given the large oil reserve and chronic current account surplus, liquidity constraints caused by a budget deficit are not a major concern for Kuwait. The absence of short-term fiscal demands on surplus funds has allowed Kuwait to follow long-term investment strategies abroad. Given the choice of

⁸ See khouja and Sadler (1979), p.204-205.

foreign direct investment and portfolio investment, Kuwait prefers the latter. Unlike Japan or other industrial countries, Kuwait did not have the expertise or domestic industrial base to establish and operate enterprises abroad. Consequently, foreign direct investment by Kuwait is negligible.

Kuwaiti investments abroad are mainly of the portfolio type. Kuwait's portfolio is heavily skewed in favor of long-term rather than short-term assets. Long-term securities, stocks and bonds, with higher rates of return are returned over short-term instruments such as bank deposits and treasury bills.

Since oil is an exhaustible resource, reinvesting the revenues into long-term productive assets is essential. International diversification is also important because of the potential for increasing returns and the inherent safety. Kuwait's investments are diversified in the United States, Great Britain, West Germany, Japan and other countries.

In 1967, there was a major devaluation of sterling by sixteen percent, resulting in an enormous loss for Kuwait. Since a large proportion of income was still being received in sterling during the early 1960s, most of the reserves were deployed abroad via London. This immediately provoked Kuwait into reconsidering her foreign portfolio investment policy. The growing magnitude of her reserves relative to her current account balances, made the problem of portfolio management

crucial. In 1974, the first oil price hike increased oil revenue and international reserves dramatically. Further, reserves were assumed likely to accumulate beyond the foreseeable future under a reasonable estimation of the oil market. Global inflation became an important consideration in the management of reserves.

Prior to 1974 most of Kuwait's investments were in safe, but low-yielding assets, such as the U.S. and British treasuries. Only occasional investments in equities and other kinds of assets through international investment trusts continued to be managed from London.⁹ Beginning in 1974, Kuwait's policy on long-term investments changed directions and evolved along new lines. The allocation of the international portfolio was roughly 60 percent in equities and 40 percent in bonds with maturity between five and seven years.

Mattione (1985) estimated that total net holdings of foreign assets by Kuwait were between \$85 billion and \$87 billion dollars at the end of 1982.¹⁰ Of this the Kuwait government probably held \$64 billion while the remaining \$23 billion belonged to the private sector. The government held \$12 billion in short-term securities such as bank deposits and British T-bills and \$ 52 billion in long-term securities,

⁹ See Cooke and Muehring (1988), p.182.

¹⁰ The Economist (August, 1987) estimated about \$95 billion dollars in the beginning of 1987.

consisting of equity holdings (\$26 billion), bonds (\$18 billion) and loans to the IMF, the Arab Economic Development, Iraq, and other countries (\$8 billion).¹¹

1 Stock investment

The Kuwaiti government views stocks as the best way of guaranteeing safe and positive real rates of return because they represent tangible real assets and are the best hedge against inflation. Stocks are diversified across sectors and across countries according to the principle of international diversification.¹²

The United States, Great Britain, West Germany, and Japan account for almost all of Kuwaiti stock investments. Preference for these four markets is due to (1) the existence of variety of financial instruments with different maturities. There are short, medium, and long-term equity and debt instruments such as stocks and bonds, treasury bills, and government bonds; (2) the large size of the money and capital markets and their ability to absorb substantial amounts of funds; (3) the availability of organized stock exchange and secondary markets; and (4) the existence of financial legislation to protect investors.¹³

¹¹ For detail see Mattione (1985), p.97-100.

¹² Kuwait's foreign direct investments are concentrated in the oil industry and are relatively unimportant compared to international portfolio investments and will be omitted from the discussion.

¹³ See Mattione (1985), p.232.

Mattione (1985) estimated that Kuwait held \$11 billion in U.S. stock and \$2 billion in UK stock, by the end of 1982.¹⁴ Nearly all holdings of U.S. stock are under 5 percent for each company because U.S. law requires public disclosure of holdings above that level and the Kuwaiti authorities wishes to avoid such exposure. The American portfolio was diversified across all sectors and included the manufacturing, energy, financial, and service sectors. On the other hand, stock investment in the British market has been concentrated in the areas of insurance, property, and investment trusts. In contrast to its small portfolio holdings of stocks in the U.S., Kuwait has routinely held big shares in British companies. In August 1987, Kuwait had above a 5 percent share in at least 16 big companies in Britain. However, the Kuwait Investment Office has followed a policy of not seeking seats on the boards of companies or a role in the day to day management, even when it is the largest investor.¹⁵ Investment in Germany has also been narrow and concentrated in manufacturing industries such as auto, steel, engineering, and chemical industries. Its Japanese portfolio is highly diversified as the holdings are only relatively small.

¹⁴ In late 1979 Kuwait held between \$1 million and \$50 million in U.S. stock, predominantly in the top 500 U.S. corporations, according to Khaled Abusuud, advisor to the emir of Kuwait.

¹⁵ See Vielvoye (1987), Oil & Gas Journal, p.22.

2. Bond investment

Kuwait holds approximately \$18 billion in predominantly medium-term bonds with 5 to 7 year maturity issued by governments and corporations in a variety of currencies. The distribution of Kuwait's bond portfolio can be explained by considerations of rates of return, safety and diversification. Only a small fraction of the portfolio has been invested in such safe but low-yielding bonds as British and U.S. Treasury bonds. In general, the higher-yielding Euro-bond issues have been preferred. The composition of the Euro-bond portfolio is similar to that of the stock portfolio. The bond portfolio has been invested in a variety of currencies, predominantly in issues from corporate and public-sector borrowers in developed countries, with a small proportion invested in less developed countries. Using this global diversification strategy, Kuwait has been able to attain high yields without too much risk.¹⁶ Bonds denominated in Kuwaiti Dinar (KD) are another effort by Kuwait to achieve its goal of safety. For example, during 1974 several KD private and public bonds were issued by the "Three Ks" for the Asian Development Bank, Sudan, Yugoslavia and Ireland.

The policy of using the Kuwaiti Dinar as the transaction currency has the following underlying objectives:¹⁷ (a) the establishment of the dinar as a strong, internationally

¹⁶ See Mattione (1985), p.122.

¹⁷ See Mattione (1985), p.234.

accepted currency; (b) support of the creation of an international financial market in Kuwait; and (c) providing an alternative market to Kuwaiti lenders without foreign currency risk.¹⁸ Obtaining status as a key currency would constitute macro-type competitive factor for Kuwaiti banks and thus aid the development of Kuwaiti multinational banks. However, this attempt was not successful.

C. Evaluation

Kuwait represents a typical case of a developing economy characterized by a foreign trade sector relying heavily on the export of a single raw material, and it is accordingly vulnerable to the unfavorable consequences of deterioration in the terms of trade. Fortunately, oil prices were quite stable before the first oil shock allowing Kuwait to accumulate twenty years worth of experience in managing trade surpluses. Even though the average current surpluses were small during those early years, Kuwait had the opportunity to learn about the operation of foreign investments.

Although there is evidence that Kuwait has made attempts to develop an independent international banking system, these efforts have been only partially successful due to her weak domestic economic base. About 65 percent of the GDP could be attributed to the oil sector during the 1970s, while only 35 percent stemmed from the non-oil sector. Manufacturing

¹⁸ Ibid.

accounted for only 5 to 7 percent of the GDP in the late 1970s and early 1980s. Although foreign direct investment in the oil-industry has increased, foreign direct investment in manufacturing firms are unlikely to be popular for a country with such a weak manufacturing sector. In 1982, only 3.5 billion dollars were invested in the U.S., with most of it concentrated in the petroleum industry. Unless it broadens its scope by diversifying into a variety of industries, the development of international banking will be difficult for Kuwait.

Kuwait responded quickly to the sudden surge in its foreign reserve and has held a sophisticated international investment portfolio since the first oil shock. Since early 1970s, Kuwait has been trying to increase the relative importance of its investments to complement oil revenues in the total government budget in the short-run and try to replace oil revenue, when oil is ultimately depleted, in the long run.¹⁹ While crude oil remains the ultimate source of the nation's economic strength, foreign investment income has become an important source of earnings, providing the equivalent of 75 percent of the oil export revenue, or 25.3 percent of the GNP in 1982. Total government expenditures in 1982 were less than half of the income from investments. By 1986, foreign investment income from Kuwait's estimated \$95 billion in investments had overtaken oil as the biggest source

¹⁹ See Al-Awadi (1975), p.38.

of revenue. In short, Kuwait's international investment strategy has been quite successful, despite an incomplete international financial system.

The policy of investing overseas as a safeguard against adverse developments affecting oil has proven itself since 1980. Exports fell in 1980 due to cutbacks in oil sales in order to maintain OPEC prices. Yet income from overseas investment is still stable and healthy, although the level fell with the decline in Euro-market interest rates after 1981-85.²⁰

²⁰ See Wilson (1987), p.47.

APPENDIX E: TAIWAN'S CURRENT ACCOUNT SURPLUS

The NT dollar appreciated over 50 percent against the U.S. dollar during 1985-1989. However, exports increased steadily from \$30.5 billion in 1985 to \$65.9 billion in 1989. This shows that nominal exchange rates are not the only factor affecting export competitiveness. In addition to the domestic inflation rate, changes in the exchange rate and price level of important competitors must be taken into consideration. Historically, Japan, Korea, Hong Kong, and Singapore are the major competitors in exports. Their level of exports is shown in Table 33.

Table 33. Exports by Selected Countries

<u>Year</u>	<u>Taiwan</u>	<u>Japan</u>	<u>Korea</u>	<u>Hong Kong</u>	<u>Singapore</u>
1983	25.0	145.5	23.2	22.1	20.4
1984	30.2	168.3	26.3	28.4	22.7
1985	30.5	174.0	26.4	30.1	21.5
1986	39.5	205.6	33.9	35.5	21.3
1987	53.2	224.6	46.2	48.5	27.3
1988	60.3	259.8	59.6	63.2	38.0
1989	65.9	269.7	N.A.	N.A.	N.A.

Unit: \$ billion

Sources: International Financial Statistics, IMF, 1989.
Financial Statistics, The Central Bank of China.

Inflation in Taiwan was far low that of her trading competitors. Over the period 1985-89, Taiwan's CPI (consumer

price index) increased only 7 percent. During the same period, the CPI in Japan, Korea, and Hong Kong was above 13 percent (see Table 34). Further, the currency appreciated in all other countries except Hong Kong whose exchange rate was linked to the US dollar at a fixed rate of HK\$ 7.8 to \$1.00.²¹ As a result, Taiwan experienced a smaller appreciation in its real bilateral exchange rate than in its nominal rate.

In 1989, the CPI and exchange rate index of Taiwan were still lower than Japan, the most important competitor. Taiwan can thus continue to enjoy benefits from a lower real exchange rate.²² Since 1987, Korea has experiencing rapid currency appreciation and inflation. Consequently, Korea and Taiwan have been similar in terms of the change in real exchange rate at the end of 1989. Further, worker strikes and political instability since late 1987 have also weakened Korea's export expansion. Without appreciation of the Hong Kong dollar, however, the CPI in Hong Kong increased rapidly to 116 percent in 1988. In addition, potential absorption by China in 1997 has created a crisis in confidence, which in turn weakens competitiveness in foreign trade. The only country which

²¹ "HK\$" represents the Hong Kong dollar; rather than intervene in the foreign exchange market, monetary authorities made a commitment to buy and sell Hong Kong dollar notes at the fixed rate.

²² Since 1985, the Japanese yen has sharply appreciated.

might gain more from a lower real bilateral exchange rate is Singapore.

Table 34. Dollar Exchange Rate and CPI

Country	Item	Year				
		1985	1986	1987	1988	1989
Taiwan-	Exchange Rate	39.85	37.84	31.85	28.59	26.41
	Exchange Index	100.0	105.3	125.1	139.4	150.9
	CPI	100.0	100.7	101.2	102.5	107.0
Japan -	Exchange Rate	238.54	168.52	144.64	128.15	137.96
	Exchange Index	100.0	141.4	164.2	184.9	172.0
	CPI	100.0	100.6	100.7	101.4	113.0
Korea -	Exchange Rate	870.02	881.45	822.57	731.47	671.46
	Exchange Index	100.0	98.7	105.8	118.9	129.6
	CPI	100.0	102.8	105.9	113.4	119.9
Singa- pore -	Exchange Rate	2.20	2.18	2.11	2.01	1.95
	Exchange Index	100.0	101.0	104.5	109.3	112.8
	CPI	100.0	98.6	99.1	100.6	103.0
Hong Kong -	Exchange Rate	7.79	7.80	7.80	7.80	7.80
	Exchange Index	100.0	100.1	100.1	N.A.	N.A.
	CPI	100.0	103.2	108.5	115.9	N.A.

Note: Currency units per US dollar; index and CPI, 1985=100.

Sources: International Financial Statistics, IMF, 1989.

Financial Statistics, The Central Bank of China.

Her exchange index was only 113 percent and her CPI 103 percent in 1989. However, Singapore faces a new problem in the form of a worker shortage, which will hurt her export sector.

The effect of NT dollar appreciation was reflected in the slow growth in exports. The growth rate declined from 29.6 percent in 1986 to 9.3 percent in 1989. Given current exchange rate appreciation, however, some low profit margin

industries have moved outward, as discussed in chapter 6. The more profitable industries which remained in Taiwan performed well in the new economic environment during these two years. At the end of 1989, the NT depreciated slightly against the US dollar to its current level, \$27.10. Exports growth will continue but can be slowed by currency appreciation. Negative growth is unlikely.

On the import side, trade liberalization has been implemented since the late 1970s. Average tariff rates dropped to 31 percent during 1980-1984 from 44 percent in 1978. In 1986, a new liberalization program was launched due to the pressure from the United States. Tariffs were cut over 1800 items at the beginning of 1987 and on additional items of interest to the United States in April, 1987. Tariff rates fell to around 20 percent in 1987. Non-tariff barriers have also been reduced. In 1986, the complex system of valuing imports for assessing customs duties was simplified. As a result of trade liberalization, the share of permissible imports for which licenses are automatically approved, has been rising.²³

Under these measures, total imports increased 43 percent in 1987 and 41 percent in 1988 which far outpaced the growth rate of exports. Among agriculture, mineral, and

²³ According to a report of OECD in 1988, the permissible imports accounted for about 70 percent of total imports, while controlled imports accounted for 20 percent. The other 10 percent were not subject to licensing.

manufacturing products, the manufactured inputs increased relatively rapidly.

Table 35 shows that the increase in the import growth of basic metals ranked top among all the manufacturing products. Transportation equipments and precision instruments ranked second and third, respectively. Electrical machineries and apparatus followed. Since most of the increases in imports were capital goods, the share of capital goods picked up (see Table 36).

Table 35. Import Quantum by Commodity Groups

<u>Group</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Agriculture products	100	119	121
Minerals	100	111	127
Manufacturing products	100	136	171
Basic metals	100	163	268
Transportation equipments	100	162	247
Precision instruments			
and equipments	100	163	196
Electrical machineries	100	139	160
Paper and printed matter	100	129	145
Machineries	100	125	139
Chemicals	100	122	139
Chemical products	100	106	139
Textile products	100	115	118
Processed food	100	110	114

Source: Taiwan Statistical Data Book, Council for Economic Planning and Development, ROC, 1989.

Table 36. Composition of Imports

Period	Total	Capital Goods	Consumption Goods	Agricultural & Industrial Raw Materials
1985	100	23.8	8.5	67.7
1986	100	26.9	8.6	64.5
1987	100	28.8	8.0	63.2
1988	100	28.0	7.6	64.4

Unit: Percentage

Source: Taiwan Statistical Data Book, Council for Economic Planning and Development, ROC, 1989.

As a consequence of the special effort made by Taiwan, the share of imports from the U.S. increased from 21.8 percent of total import in 1987 to 26.2 percent in 1988. The import of iron and steel from the U.S. increased from \$0.3 billion in 1986 to \$3.4 billion in 1988. Transportation equipment increased from \$42 million in 1986 to \$486 million in 1988. The annual growth rates of both items were over 200 percent (see Table 37). Machinery and tools increased from \$1.3 billion in 1987 to \$2.7 billion in 1988. Furthermore, chemicals and agricultural products, such as soybeans, wheat, and corn showed a similar pattern. As a result, the trade surplus with the U.S. dropped to \$11 billion in 1988 from \$16 billion in 1987. The total trade surplus also declined to \$11 billion in 1988 from \$19 billion in 1987. This indicates a strong effort on the part of Taiwan to improve both the bilateral trade imbalance with the U.S. and the total trade imbalance.

However, the total increase in imports was only \$3 billion in 1989, compared to \$11 and \$13 billion in 1987 and 1988 respectively. In addition to the meager growth of exports, slow adjustment of consumer behaviors may be a contributing factor to the slow growth of total imports. It takes time for consumers to adjust their consumption behavior. The trade surplus increased back to \$16 billion in 1989. This is evidence that a trade surplus is likely to continue, even though it will diminish overtime.

Table 37. Import From U.S.A.

Item	1986		1987		1988	
	Value	Growth Rate	Value	Growth Rate	Value	Growth Rate
Total	5,416	14	7,629	41	13,002	70
Soybeans	382	3	424	11	527	24
Wheat	108	-9	112	4	145	30
Cotton, raw	33	-76	164	394	99	-40
Machinery & tools	1,278	21	1,866	46	2,658	42
Chemicals & pharmaceuticals	1,207	41	1,534	27	2,285	49
Transportation equipment	42	-62	132	217	486	269
Iron & steel	296	43	756	156	3,370	346
Metal manufactures	33	22	37	13	57	57
Others	2,039	9	2,605	28	3,375	30

Value unit: \$ million

Growth rate unit: Percentage

Source: Taiwan Statistical Data Book, Council for Economic Planning and Development, ROC, 1989.

Due to rapid foreign direct investment and the development of international portfolio investment, investment

income will become more significant. Investment income increased rapidly from \$0.9 billion to \$6.6 billion in 1989. This will slow down the decline of the current account surplus caused by smaller trade surpluses. The rise in foreign direct investment will allow the subsidiaries to purchase increased amounts of machinery, intermediate products, etc., further increasing Taiwan's exports. As a result, the current account may decline very slowly at most. In short, a current account deficit is not expected in the near future. The Council for Economic Planning and Development predicts that the export surplus can be reduced by \$1 billion per year from 1990, implying that the trade surplus will continue to exist until 2000.

APPENDIX F: A MULTILATERAL APPROACH

When I began this thesis, it was my ambition to show that policies which encourage Taiwanese investment abroad, will benefit the entire world, as well as Taiwan. I was not able to do so because Taiwanese investments began to flow abroad only recently, and they have not yet diversified long-run foreign direct investment or equity participation. In addition, relatively few empirical studies have been done on Taiwanese investments abroad. Only two papers from the Chung-Hua Institute for Economic Research (1988a, 1988b) examine Taiwan's foreign direct investment. They survey motives for overseas investment. However, they do not study the impact on other countries. As a result, the case for this must rest on general trade theory, which is solid in this respect.

The gains from international free trade are well documented in the international trade literatures (Samuelson, 1962, 1939; Bhagwati, 1968; Kemp, 1962; Haberler, 1950; Ohyama, 1972; Dixit and Norman, 1980). International trade raises the real income of the economy by improving the efficiency of resource utilization. Free trade is not only pareto-superior to autarky but also pareto-efficient, being superior to various degrees of trade restriction.

The main idea is represented in Figure 5, which refers to a large country case. A fuller exposition is in Bhagwati (1983). There are two goods, good 1 and 2, PP represents the production possibility frontier, and the QQ is the Baldwin locus which is derived under the assumption that the economy will engage in free trade. Under autarky, production and consumption are at A and social utility is at U^A . With free trade, production is at F and consumption at C on EF. The total welfare, therefore, is raised up to U^C .

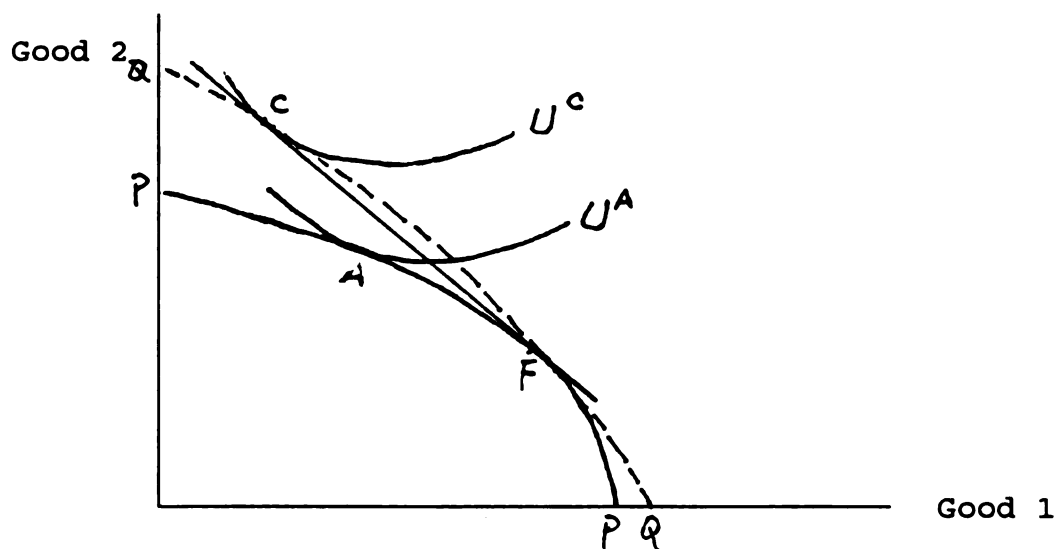


Figure 5. Gains from Trade

This idea has been extended by Dixit and Norman (1980), Krugman (1979, 1981), Markusen (1981), and Markusen and Melvin (1982), who relaxed some key assumptions made in the earlier literature.

In short, free trade among countries can lead to the allocative efficiency of natural resources and thus maximize the welfare of the individual country as well as the world as a whole. Any restrictions, such as tariffs, quotas, taxes, etc., will impede the development of trade. This will harm the trading countries directly and other non-trading countries indirectly. For example, a total cessation of trade between two countries due to the war, will slow the economic growth of both countries. The resulting lower GNP of these two countries will force them to cut their imports from a third country. As a result, welfare of all three countries will decrease.²⁴

This explains why industrialized countries make efforts to reduce barriers to trade. The General Agreement on Tariffs and Trade (GATT) was designed to prohibit new restrictions on trade. It called for not only non-discrimination in trade restrictions but also trade liberalization under conditions of reciprocity. Over forty years, GATT has had great success in accomplishing its objectives.

Similarly, world production becomes more efficient if factors move from low to high productivity countries. Foreign investment increases a host country's factor endowments and output growth. It also helps non-host countries serve other countries whose GNP and demand for imports are growing. The case for encouraging international investments by surplus

²⁴ A cessation of investment has similar effects.

countries is very strong. In terms of the benefits for investing nations and others, this has direct relevance to the bilateral trade imbalance between the United States and Taiwan.

It is not fruitful for U.S. trade policy to concentrate on exerting pressure on Taiwan to accept more U.S. imports. It seems logical that these objectives should be pursued through encouraging increased capital flows between capital surplus nations and others. A multilateral approach is a necessary alternative to bilateral trade diplomacy which serves to harden protectionist tendencies.

The Taiwanese government has already put forth efforts to liberalize her import policy. Further liberalization will serve mutual interests. On the other hand, the United States needs to help Taiwanese investment overseas and assist the development of its international banking system to encourage capital outflows to either the U.S. or other nations. If capital flows into the U.S., it helps U.S. growth and increases imports from other countries which in turn will produce economic growth. If capital flows out to other countries, the consequences of economic growth in these countries will increase imports from the United States, which in turn will help U.S. growth. As a result, more than two countries will benefit from this adjustment process.

Under a multilateral framework, this thesis points out the importance of developing an international investment and

banking system in Taiwan and suggests the optimal strategy for doing so.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Adams, T.F.M., and Hoshii, Iwao (1972). A Financial History of the New Japan. Tokyo: kodansha International Ltd.
- Agmon, Tamir, and Lessard, Donald R. (1977). "Financial Factors and the International Expansion of Small Country Firms." in Multinationals From Small Countries, 197-219. edited by Tamir Agmon, and Charles Kindleberger. Cambridge: The MIT Press.
- Al-Awadi, Yousef A. (1975). OPEC Surplus Funds and the Investment Strategy of kuwait. Ph.D Dissertation, University of Colorado.
- Aliber, Robert Z. (1984). "International Banking: A Survey." Journal of Money, Credit, and Banking, 16(4), November, 661-712.
- Areskoug, Kai (1983). "International Banking: A Functional Overview." in International Banking, edited by Emmanuel N. Roussakis, Praeger.
- Ariyoshi, Akira (1988). "Japanese Capital Flows." Finance & Development, September, 28-30.
- Arndt, H.W. (1983). "Financial Development in Asia." Asian Development Review, 1(1), 86-100.
- Arrow, K. J. (1971). Essays in the Theory of Risk Bearing. Chicago: Markham.
- Azhary, M.S. El (1984). The Impact of Oil Revenues on Arab Gulf Development. Colorado: Westview Press.
- Bahrain (1983). "Backwash From Kuwait." The Banker, April, 12.
- Baker, James C. (1978). International Bank Regulation. New York: Praeger Publishers.

- Baker, Kent; Hargrove, Michael; and Haslem, John (1977). "An Empirical Analysis of the Risk-Return Preferences of Individual Investors." Journal of Financial and Quantitative Analysis, No.12, 377-389.
- Balassa, Bela (1972). "Industrial Policies in Taiwan and Korea." in Economic Theory and Mathematic Economics, edited by Luis Eugenio Di Marco. New York and London: Academic Press.
- Balassa, Bela, and Williamson, John (1987). Adjusting to Success: Balance of Payments Policy in the East Asian NICs. Washington, DC: Institute for International Economics.
- Ball, Clifford A., and Tschoegl, Adrian E. (1982). "The Decision to Establish a Foreign Bank Branch or Subsidiary: An Application of Binary Classification Procedures." Journal of Financial and Quantitative Analysis, 17(3), September.
- Beblawi, Hazem (1984). The Arab Gulf Economy in a Turbulent Age. New York: St. Martin's Press.
- Bhagwati, Jagdish N. (1968). "The Gains from Trade Once Again." Oxford Economic Papers, vol.20, 137-148.
- Bhagwati, Jagdish N., and Srinivasan, T.N. (1983). Lectures on International Trade, London: The MIT Press.
- Bhatt, V.V. (1986). "Improving the Financial Structure." Finance & Development, June, 20-22.
- Blanden, Michael (1987). "The Risen Sun." The Banker, July, 74-97.
- Blume, Marshall E., and Friend, Irwin (1975). "The Asset Structure of Individual Portfolios and Some Implications for Utility Functions." The Journal of Finance, 30(2), 585-603.
- Blumenthal, Tuvia, and Lee, Chung H. (1985). "Development Strategies of Japan and the Republic of Korea: A Comparative Study." The Developing Economics, September, 23(3), 221-235.
- Board of Governors of Federal Reserve (1977). Sixty-Fourth Annual Report, Board of Governors of Federal Reserve, 410-412.

- Board of Governors of Federal Reserve (1987). Seventy-Fourth Annual Report, Board of Governors of Federal Reserve, 179-190.
- Brimmer, A.F., and Dahl, F.R. (1975). "Growth of American International Banking: Implications for Public Policy." The Journal of Finance, 30(2), 341-363.
- Bronte, Stephen (1982). Japanese Finance: Markets and Institutions. London: Euromoney Publications.
- Bryant, Ralph C. (1987). International Financial Intermediation. Washington D.C.: the Brookings Institution.
- Buckley, p.; Enderwick, P.; and Davies, H. (1979). "Multinational Companies." Management Bibliographies & Reviews, 5(3), 171-242.
- Buell, Barbara; Melcher, Richard A.; and McNamee, Mike (1987). "Japan on Wall Street." Business Week, September 7, 82-83.
- Burstein, Daniel (1988). Yen: Japan's New Financial Empire and its Threat to America. New York: Simon and Schuster.
- Caplan, Basil (1987). "Learning to Live With Super-Yen." The Banker, January, 51-56.
- Cargill, Thomas F., and Hutchison, Michael M. (1988). "The Response of the Bank of Japan to Macroeconomic and Financial Change." in Monetary policy in Pacific Basin Countries, 227-246. edited by Hang-Sheng Cheng, Boston: Kluwer Academic Publishers.
- Cargill, Thomas F., and Royama, Shoichi (1988). The Transition of Finance in Japan and the United States: A Comparative Perspective. Stanford, California: Hoover Institution Press.
- Caves, Richard E. (1971). "International Corporations: The Industrial Economics of Foreign Investment." Economica, No.38, February, 1-27.
- Cebenoyan, A. Sinan (1990). "Scope Economies in Banking: The Hybrid Box-Cox Function." The Financial Review, 25(1), February, 115-125.
- Chanda, Nayan (1989a). "Bark Worse Than Bite." Far Eastern Economic Review, June 8, 99-100.

- Chen, T.C., and Su, S.Y. (1988). Causes for Taiwan's International Investment, presented in the Seminar of Taiwan's Trade and Exchange rate problems. (in Chinese)
- Cheng, Chu-Yuan (1986). "United States-Taiwan Economic Relations: Trade and Investment." Columbia Journal of World Business, Spring, 87-96.
- Cho, K.R. (1986). "Determinants of Multinational Banks." Management International Review, 26(1), 10-23.
- Chou, Chi (1986). "An Analysis of Investment Anticipation and Its Determinants." Chung-Hua Institution for Economic Research, Economic Papers No.82. (in Chinese)
- Chou, Tein-chen (1985). "The Pattern and Strategy of Industrialization in Taiwan: Specialization and Offsetting Policy." The Developing Economies, June, 23(2), 138-157.
- Chung-Hua Institution for Economic Research (1988a). A Study of International Investment. Taiwan: CHIFER, May, 1-128. (in Chinese)
- Chung-Hua Institution for Economic Research (1988b). Industry Policies to International Investment. Taiwan: CHIFER, June, 1-93. (in Chinese)
- Clegg, Jeremy (1987). Multinational Enterprise and World Competition: A Comparative Study of the USA, Japan, the UK, Sweden and West Germany. New York: St. Martin's Press.
- Cohen, Jerome B.; Zinbarg, Edward D.; and Zeikel, Arthur (1987). Investment Analysis and Portfolio Management. Illinois: Richard D. Irwin Inc.
- Cohn, Richard A.; Lewellen, Wilbur G.; Lease, Ronald C.; and Schlarbaum, Gary G. (1975). "Individual Investor Risk Aversion and Investment Portfolio Composition." The Journal of Finance, 30(2), 605-629.
- Cooke, Stephanie, and Muehring, Kevin (1988). "Inside Kuwait's Money Machine." Institutional Investor, August, 179-184.
- Cooper, S. Kerry; Fraser, Donald R.; and Uselton, Gene C. (1983). Money, the Financial System, and Economic Policy. London: Addison-Wesley Publishing Company.

- Corrigan, Gerald (1987). "The Globalization of Financial Markets and Institutions." Federal Reserve Bulletin, July, 569-577.
- Cottrell, Robert (1985). "Games Without Frontiers." Far Eastern Economic Review, 21 November, 64-68.
- Crane, Dwight B, and Hayes, Samuel L. (1982). "The New Competition in World Banking." Harvard Business Review, July/August, 88-94.
- Deak, Nicholas L., and Celusak, JoAnne (1984). International Banking. New York Institute of Finance.
- Detrie, Jean-Pierre; Ramanantsoa, B.; CESA; and France, J. (1986). "Diversification: The Key Factors For Success." Long Range Planning, 19(1), 31-37.
- Dixit, A., and Norman, V. (1980). Theory of International Trade, Cambridge: Cambridge University Press.
- Dohner, R.S., and Terrell, H.S. (1988). "The Determinants of the Growth of Multinational Banking Organizations: 1972-86." Board of Governors of the Federal Reserve System, International Finance Discussion Papers, No.326.
- Downes, Patrick T. (1989). "Managing Foreign Exchange Reserves." Finance & Development, December, 20-21.
- Dunning, John H. (1981). "Explaining Outward Direct Investment of Developing Countries: In Support of the Eclectic Theory of International Production." In Multinationals from Developing Countries, edited by Krishna Kumar, and Maxwell G. McLeod. Lexington: D.C. Heath and Company.
- Dunning, John H. (1988). Explaining International Production. Boston: Unwin Hyman.
- Edwards. Sebastoan (1984). "Demand for International Reserves and Monetary Equilibrium." Review of Economics and Statistics, vol 66, 495-500.
- Edwards, Sebastian (1985). "On the Interest Rate Elasticity of the Demand for International Reserves: Some Evidence From Developing Countries." National Bureau of Economic Research Working Paper, No.1532.

- Edwards, Sebastian, and Wijnbergen, S.V.(1986). "The Welfare Effects of Trade and Capital Market Liberalization." International Economic Review, 27(1), February, 141-148.
- Elton, Edwin, & Gruber, Martin (1987). Modern Portfolio Theory and Investment Analysis, New York: John Wiley & Sons.
- Emery, Robert F. (1988). "Monetary Policy in Taiwan, China." in Monetary Policy in Pacific Basin Countries, edited by Hang-sheng Cheng. Boston: Kluwer Academic Publishers.
- Erb, Richard D. (1989). "The Role of Central Banks." Finance & Development, December, 11-13.
- Erdilek, Asim, ed. (1985). Multinationals As Mutual Invaders: Intra-Industry Direct Foreign Investment. New York: St. Martin's Press.
- Ethier, Wilfred (1983). Modern International Economics, New York: W. W. Norton & Company, Inc.
- Euronomey Publication (1985). "Why Japanese Institutions Are Going International." Euromoney, March, 33-80.
- Euromoney Publication (1987). "Japanese Securities Companies." special supplement Euromoney, 1-80.
- Fairlamb, David (1987). "Japanese Banks Undercut a Bigger Slice." The Banker, March, 50-51.
- Federal Reserve Bank of New York (1987). "Financial Consequences of New Asian Surpluses." Quarterly Review, Federal Reserve Bank of New York, Summer, 12(2), 32-44.
- Federation of Bankers Associations of Japan (1982). Banking System in Japan. Federation of Bankers Associations of Japan.
- Feldberg, Charles B.; Kane, Edward J, & Reuber, Grant (1990) "The Supervisory Implications of Financial Globalization: Three Views." Economic Perspectives, May/June, 30-38.
- Feldman, Robert Alan (1986). Japanese Financial Markets. Massachusetts: The MIT Press.
- Fennema, M. (1982). International Networks of Banks and Industry. Boston: Martinus Nijhoff Publishers.

- Fieleke, Norman (1977). "The Growth of U.S. Banking Abroad: An Analytical Survey." Key Issues in International Banking, Federal Reserve Bank of Boston, Conferences Series, No.18, 39-40.
- Fingleton, Eamonn (1987). "Taiwan Looks to 1997." Euromoney, May, 102-112.
- France, Banque de (1984). "Japanese Brokers and Banks Join in Battle." The Economist, November 17, 81-82.
- Francis, Jack Clark (1986). Investments: Analysis and Management, New York: McGraw-Hill.
- Freedman, C. (1977). "Micro Theory of International Financial Intermediation." The American Economic Review, 67(1), 172-179.
- Frenkel, Jacob A. (1974). "International Liquidity and Monetary Control." in International Money and Credit: the Policy Roles, edited by George Von Furstenberg. Washington: International Monetary Fund.
- Friend, Irwin, and Blume, Marshall (1975). "The Demand for Risky Assets." The American Economic Review, 900-922.
- Galenson, Walter, ed. (1985). Foreign Trade and Investment: Economic Development in the Newly Industrializing Asian Countries. London: The University of Wisconsin Press.
- Gart, Alan (1989). An Analysis of the New Financial Institutions: Changing Technologies, Financial Structures, Distribution Systems, and Deregulation. New York: Quorum Books.
- Geisst, Charles R. (1988). A Guide to Financial Institutions. New York: St. Martin's Press.
- Giddy, Ian H. (1983). "The Theory and Industrial Organization of International Banking." Research in International Business and Finance, 3, 195-243.
- Gilbert Gary G. (1975). "The Performance of Foreign Banks in the United States: Implications for Federal Regulation." Banking and Economic Research Section Division of Research, Federal Deposit Insurance Corporation, Working Paper No.75-9.
- Gold, Thomas B. (1986). State and Society in the Taiwan Miracle. New York: M.E. Sharpe Inc.

- Goldberg, Lawrence G., and Saunders, Anthony (1980). "The Causes of U.S. Bank Expansion Overseas: The Case of Great Britain." Journal of Money, Credit, and Banking, 12(4), 630-643.
- Goldberg, Lawrence G., and Saunders, Anthony (1981). "The Determinants of Foreign Banking Activity in the United States." Journal of Banking and Finance, March, 17-32.
- Goldberg, Lawrence G., and Saunders, Anthony (1981). "The Growth of Organizational Forms of Foreign Banks in the U.S." Journal of Money, Credit, and Banking, 13(3), 365-374.
- Goldstein Carl (1987). "A Cash-Stuffed Case for Investment." Far Eastern Economic Review, March 26, 74-75.
- Goldstein Carl (1988). "Going for the Gold." Far Eastern Economic Review. April 28, 64-65.
- Goldsmith, Raymond W. (1983a). The Financial Development of India, Japan, and the United States. London: Yale University Press.
- Goldsmith, Raymond W. (1983b). The Financial Development of Japan, 1968-1977. London: Yale University Press.
- Gray, Jean M., and Gray, H. Peter (1981). "The Multinational Bank: A Financial MNC." Journal of Bank and Finance, 5, March, 33-63.
- Green, Gary P. (1987). Finance Capital and Uneven Development. Boulder and London: Westview Press.
- Group of Thirty (1982). How Central Banks Manage Their Reserves. New York: Group of Thirty.
- Grubel, Herbert G. (1968). "International Diversified Portfolios: Welfare Gains and Capital Flows." The American Economic Review, No.58, 1299-1314.
- Grubel, Herbert G. (1977). "A Theory Multinational Banking." Banca Nazionale del Lavoro Quarterly Review, December, 349-364.
- Grubel, Herbert G. (1979). "A Proposal for the Establishment of an International Deposit Insurance Corporation." Essays in International Finance, No. 133, 1-24.

- Haberler, G. (1950). "Some Problems in the Pure Theory of International Trade." Economic Journal, vol.60, 223-240.
- Hak, Choi (1988). "Taiwan's Foreign Exchange System : A Model for LDCs With BOP Difficulties." Asian Economies, September 30, No.66, 5-28.
- Heggestad, A.A., and Mingo, J.J. (1976). "Price, Nonprices, and Concentration in Commercial Banking." Journal of Money, Credit, and Banking, February, 107-122.
- Heller, H. Robert, and Heller, Emily E. (1974). Japanese Investment in the United States: With a Case Study of the Hawaiian Experience. New York: Praeger Publishers.
- Heller, H.R., and Knight M. (1978). "Reserve-Currency Preferences of Central Banks." Essays in International Finance, No. 131, 1-35.
- Hill, Joanne, and Schneeweis, Thomas (1983). "International Diversification of Equities and Fixed-Income Securities." The Journal of Financial Research, 6(4), Winter, 333-343.
- Hinterhauser, Gerhard (1987). "Down Tumble the Barriers." The Banker, January, 65-67.
- Hipple, F. Steb (1974). "The Disturbances Approach to the Demand for International Reserves." Princeton Studies in International Finance, No.35. Princeton: Princeton University.
- Hiraoka, Leslie S. (1985). "Japan's Increasing Investments Abroad." Futures, October, 495-508.
- Ho, Ching-Ing (1988). "Bilateral Trade Imbalance Between Taiwan and the United States: Analysis From Financial Side." Free China's Industry, 69(5), May, 1-26. (in Chinese)
- Holloway, Nigel (1989). "Tokyo's Walls Tremble." Far Eastern Economic Review, 11 May, 54-55.
- Hood, Neil, and Young, Stephen (1979). The Economics of Multinational Enterprise. London and New York: Longman Group Limited.
- Horne, James (1985). Japan's Financial Markets: Conflict and Consensus in Policy Making. Boston: George Allen & Unwin.

- Houpt, James V. (1980). "Foreign Ownership and the Performance of U.S. Banks." Federal Reserve Bulletin, Board of Governors of the Federal Reserve System, July, 1-26.
- Huang, Chi (1989). "The State and Foreign Investment: The Case of Taiwan and Singapore." Comparative Political Studies, April, 93-121.
- Hughes, Helen (1977). "Technology Transfer: The Australian Experience," in Multinationals From Small Countries, edited by Tamir Agmon, and Charles Kindleberger. Cambridge: The MIT Press, 101-131.
- Hymer, Stephen Herbert (1976). The International Operations of National Firms: A Study of Direct Foreign Investment. Cambridge: The MIT Press.
- IMF (1988). "Newly Industrializing Economic in Asia," World Economic Outlook, Washington, DC: IMF, 80-87.
- Isoda, Takuro (1988). "Eager to Have Role in U.S. Financing." Pensions & Investment Age, October 31, 71-75.
- "Japanese Banking's Global Challenge." Mendelsohn Banker, April 1986, 466-476.
- Jarrell, Gregg A. (1984). "Change at the Exchange: The Causes and Effects of Deregulation." Journal of Law & Economics, Vol.17, October, 273-312.
- Jeffries, Francis M. (1988). Japanese Foreign Direct Investment in U.S. Banking and Financial Services. Poolesville, Maryland: Jeffries & Associates, Inc.
- Jewitt, Ian (1987). "Risk Aversion and the Choice Between Risky Prospects: The Preservation of Comparative Static Results." Review of Economic Studies, 73-85.
- Johanson, J., and Vahlne, J.-E. (1977). "The Internationalization Process of the Firm: A Model of Knowledge Development and Increasing Foreign Market Commitments." Journal of International Business Studies, Spring/Summer, 23-32.
- Jones, Ronald W., and Kenen, Peter B. (1984). Handbook of International Economics.
- Jung, Woo S. (1986). "Financial Development and Economic Growth: International Evidence." Economic Development and Cultural Change, 34(2), 333-346.

- Kareken, John, and Wallace, Neil (1977). "Portfolio Autarky: A Welfare Analysis." Journal of International Economics, No.7, 19-43.
- Kashiwagi, Yusuke (1987). "Japan's Goal: Reduce Its Surplus, Expand Its Exports." The Magazine for Financial Executives, 3(4), 5-8.
- Kaufman, George G. (1986). The U.S. Financial System: Money, Markets, and Institutions. New Jersey: Prentice-Hall.
- Kaushik, S.K., ed. (1987). International Banking and World Economic Growth: the Outlook for the Late 1980s. New York: Praeger.
- Kemp, M.C. (1962). "The Gain from International trade." Economic Journal, vol.72, 803-819.
- Key, Sydney J. (1982). "Activities of International Banking Facilities: The Early Experience." Economic Perspectives, Federal Reserve Bank of Chicago, Fall, 37-45.
- Khouja, M.W., and Sadler, P.G. (1979). The Economy of Kuwait. New York: the Macmillan Press Ltd.
- Khoury, Sarkis J. (1979). "International Banking: A Special Look at Foreign Banks in the U.S." Journal of International Business Studies, Winter, 36-52.
- Kiley, David (1987). "What U.S. Stocks Are the Japanese Buying?" Business Month, March.
- Kindleberger, Charles P. (1983). "International Banks as Leaders or Followers of International Business: An Historical Perspective." Journal of Banking and Finance, 7, 583-595.
- Kindleberger, Charles P. (1984). A Financial History of Western Europe. London: George Allen & Unwin.
- Kindleberger, Charles P. (1987). International Capital Movement. London: Cambridge University Press.
- Kitchen, Richard (1986). Finance for the Developing Countries. New York: John Wiley & Sons.
- Knox, Brian (1978). "Foreign Portfolio Investment in Korea as Part of the Liberalization of Capital Movements." Asian Economies, December 31, No.27, 26-30.

- Kohsaka, Akira (1987). "Financial Liberalization in Asian NICs: A Comparative Study of Korea and Taiwan in the 1980s." The Developing Economies, 25(4), 325-345.
- Kojima, Kiyoshi (1978). Direct Foreign Investment: A Japanese Model of Multinational Business Operations. London: Croom Helm.
- Kouri, Pentti J.K., & Porter, Michael G. (1974). "International Capital Flows and Portfolio Equilibrium." Journal of Political Economy, 443-467.
- Krugman, P.R. (1979). "Increasing Returns, Monopolistic Competition, and International Trade." Journal of International Economics, vol.9, 469-479.
- Krugman, P.R. (1981). "Intraindustry Specialization and the Gains from Trade." Journal of Political Economy, vol.89, 959-973.
- Kumar, Krishna, and Mcleod, Maxwell G. (1981). Multinationals from Developing Countries. Lexington, Massachusetts: D.C. Heath and Company.
- Kuo, Shirley (1983). The Taiwan Economy in Transition. Colorado: Westview Press, Inc.
- Kuznets, Paul W. (1988). "An East Asian Model of Economic Development: Japan, Taiwan, and South Korea." supp. Economic Development and Cultural Change, Spring, 36(3), s11-43.
- Landell-Mills, J.M. (1989). "The Demand for International Reserves and Their Opportunity Cost." IMF Staff Paper, 36(3), September, 708-732.
- Landell-Mills, Joslin (1989). "The Financial Costs of Holding Reserve." Finance & Development, December, 17-19.
- Lease, Ronald; Lewellen, Wilbur; and Schlarbaum, Gary (1974). "The Individual Investor: Attributes and Attitudes." The Journal of Finance, 9(2), 413-433.
- Lee, Chung H. (1984). "On Japanese Macroeconomic." Economic Development and Cultural Change, 32(4), July, 713-723.
- Lee, Francis A. (1976). Foreign Banking and Investment in the United States: Issues and Alternatives. New York: John Wiley & Sons.

- Lee, Myun S. (1978). "Precondition for the Liberalization of Capital Movement." Asian Economies, March, No.24, 47-61.
- Lee, Smith (1984). "Japan's Brokerage Giant Goes International." Fortune, 19 March, 70-76.
- Lee, Y.S. (1985). "Central Banking: Theories and Policies." in Essays on Money and Finance: In Honor of Professor H.F. Lin, Taipei, 329-382. (in Chinese)
- Lee, Y.S., and Chen, S.C. (1984). "Financial Development in Taiwan: Retrospect and Prospect." in Proceedings of the Conference on the Industrial Development in Taiwan, Taipei: The Institute of Economics, Academia Sinica, December, 23-90. (in Chinese)
- Lee, Y.S., and Peng, H.N. (1985). "Financial Liberalization in Taiwan, ROC." in Industrial Policies of the Republic of Korea and the Republic of China, Conference Series 86-01, Korea Development Institute, November, 11-32.
- Lee, Yung-San, and Tsai, Tzong-Rong (1988). "Development of Financial System and Monetary Policies in Taiwan." in Conference on Economic Development Experiences of Taiwan and its New Role in an Emerging Asia-Pacific Area, edited by the Institute of Economics, Academia Sinica.
- Lessard, Donald R. (1971). "Multinational Portfolio Diversification in Developing Countries." Stanford Journal of International Studies, 80-112.
- Lessars, Donald R. (1975). "The Structure of Returns and Gains from International Diversification." in International Capital Market, edited by E. Elton, and M.J. Gruber. Amsterdam: North Holland.
- Lessard, Donald R. (1976). "World, Country and Industry Relationships in Equity Returns: Implications for Risk Reduction Through International Diversification." Financial Analysts Journal, January/February, 2-8.
- Lessard, D. R. (1979). "Transfer Prices, Taxes, and Financial Markets: Implications of Internal Financial Transfers Within the Multinational Corporation." Research in International Business and Finance, 1, 101-135.
- Lessard, Donald R., and Williamson, John (1985). Financial Intermediation Beyond the Debt Crisis. Washington, D.C.: Institute for International Economics.

- Levey, Haim, and Sarnat, Marshall (1970). "International Diversification of Investment Portfolios." The American Economic Review, 668-675.
- Lewis, M.K. (1987). "International and Multinational Banking." British Review of Economic Issues, 9(20), spring, 27-55.
- Lewis, M.K., and Davis, K.T. (1987). Domestic & International Banking. Cambridge, Massachusetts: The MIT Press.
- Liang, Kuo-shu (1988). "Financial Reform, Trade and Foreign-Exchange Liberalization in the Republic of China." Economic Review, The International Commercial Bank of China, March/April, No.242, 1-24.
- Liang, Kuo-shu, and Liang, Ching-ing Hou (1988). "Development Policy Formation and Future Policy Priorities in the Republic of China." supp. Economic Development and Cultural Change, 36(3), April, s67-97.
- Lin, Y.T. (1984). "A Review of the Securities Market in Taiwan." in Proceedings of the Conference on Financial Development in Taiwan, Taipei: The Institute of Economics, Academia Sinica, December, 225-284. (in Chinese)
- Lincoln, Edward J. (1988). Japan Facing Economic Maturity. Washington D.C.: The Brookings Institution.
- Llewellyn, David T. (1980). International Financial Integration: The Limits of Sovereignty. London: The Macmillan Press Ltd.
- Llewellyn, David T. (1982). "Avoid an International Banking Crisis." National Westminster Bank Quarterly Review, August, 28-39.
- Lu, Min-Jen (1981). "Taiwan's Economic Development: Retrospect and Prospect." Conference on the History of the Republic of China, August 23-28, 1-30.
- Machlup, Fritz; Salant, Walter S.; and Tarshis, Lorie, ed. (1972). International Mobility and Movement of Capital. New York: Columbia University Press.
- Mallakh, Ragaei El (1979). Kuwait: Trade and Investment. Boulder, Colorado: Westview Press.
- Markowitz, H.M. (1952). "Portfolio Selection." Journal of Finance, 77-91.

- Markowitz, H.M. (1959/70). Portfolio Selection: Efficient Diversification of Investment. Wiley, Re-issued by Yale University Press, 1970.
- Markusen, J.R. (1981). "Trade and the Gains from Trade with Imperfect Competition." Journal of International Economics, vol.11, 531-551.
- Marsh, Felicity (1983). Japanese Overseas Investment: The New Challenge. London: The Economist Intelligence Unit Limited.
- Marston, Richard C. (1987). Exchange Rate Policy Reconsidered. Working Paper No. 2310, National Bureau of Economic Research.
- Martineau, Lisa (1987). "A Long Wait for Foreign Banks." The Banker, January, 76-78.
- Mattione, Richard P. (1985). OPEC's Investments and the International Financial System. Washington D.C.: The Brookings Institution.
- McDougall, G.D.A. (1960). "The Benefits and Costs of Private Investment from Abroad: A Theoretical Approach." Economic Record, March, 13-35.
- Mckinnon, R.I. (1973). Money and Capital in Economic Development, Washington D.C.: The Brookings Institution.
- Mendelsohn, M.S. (1980) Money on the Move: The Modern International Capital Market. New York: McGraw-Hill Book Company.
- Mendelsohn, M.S. (1986). "Japanese Banking's Global Challenge." The Banker, April, 46-47.
- Michalopoulos, Constantine (1985). "Private Direct Investment, Finance and Development." Asian Development Review, 3(2), 59-71.
- Monroe, Wilbur F. (1973). Japan: Financial Markets and the World Economy. New York: Praeger Publishers.
- Moore, Jonathan (1987). "Much Venture, Little Gain." Far Eastern Economic Review, November 5, 81.
- Moreno, Ramon (1989). "Exchange Rates and Trade Adjustment in Taiwan and Korea," Economic Review, Federal Reserve Bank of San Francisco, Spring, 30-43.

- Morin, Roger, and Suarez, Fernandez (1983). "Risk Aversion Revisited." The Journal of Finance, 38(4), 1201-1215.
- Moskowitz, Warren E. (1979). "Global Asset and Liability Management at Commercial Banks." Quarterly Review, Federal Reserve Bank of New York, Spring, 42-48.
- Murphy, N.B., and Orgler, Y.E. (1982). "Cost Analysis for Branching Systems: Methodology, Test Results, and Implications for Management." The Journal of Financial Research, 5(2), 181-188.
- Niehans, Jurg (1977). "Benefits of Multinational Firms for a Small Parent Economy: The Case of Switzerland." in Multinationals Form Small Countries, Cambridge: THE MIT Press, 1-48.
- Niehans, Jurg (1983). "Financial Innovation, Multinational Banking, and Monetary Policy." Journal of Banking and Finance, 7, 537-551.
- Noland, Marcus (1988). "Japanese Household Portfolio Allocation Behavior." The Review of Economics and Statistics, 135-139.
- OECD (1985). Economic Surveys, August, 22.
- Ogilvie, N. R. (1980). "Foreign Banks in the U.S. and Geographic Restrictions on Banking." Journal of Bank Research, Summer, 72-79.
- Ohyama, M. (1972). "Trade and Welfare in General Equilibrium." Keio Economic Studies, vol.9, 37-73.
- Osborn, Neil (1985). "Now, the Japanese Attack the World's Financial Markets." Euromoney, October, 76-91.
- Osborn, Neil (1990). "Ohta's Empire in the Making." Euromoney, March, 37-39.
- Ozawa, Terutomo (1989). Recycling Japan's Surpluses. OECD.
- Park, Yoon S., and Zwick, Jack (1985). International Banking in Theory and Practice, California: Addison-Wesley Publishing Company.
- Parker, Marcia, and Star, M.G. (1988). "Foreign Banks Expand U.S. Base." Pensions & Investment Age, November 14, 32-33.

- Pauline, Loong (1988). "After the KIO, the TIO?" Euromoney, July, 20-22.
- Pavel, Christine, and Phillis, David (1987). "Why commercial Banks Sell Loans: An Empirical Analysis." Economic Perspectives, Federal Reserve Bank of Chicago, May/June.
- Pavel, Christine, and McElravey, John N. (1990). "Globalization in the Financial Services Industry." Economic Perspectives, Federal Reserve Bank of Chicago, May/June, 3-18.
- Perng, Fai-Nan (1988). "The Balance of Payments Adjustment Process in Taiwan, Republic of China." in International Payments Imbalances in the 1980s, edited by Norman S. Fieleke, 157-161.
- Pinsky, Neil (1978). "Edge Act and Agreement Corporations: Mediums for International Banking." Economic Perspectives, Federal Reserve Bank of Chicago, September/October, 124-130.
- Polakoff, Murray E., and Others (1977). Financial Institutions and Markets. Boston: Houghton Mifflin Co.
- Pozdena, Randall J. (1989). "Do Banks Need Securities Powers." FRBSF Weekly Letter, December 29. Federal Reserve Bank of San Francisco.
- Pratt, J. (1964). "Risk Aversion in the Small and in the Large." Econometrica, No.32, 122-139.
- Pugel, Thomas A., & Hawkins, Robert G. (1986). Fragile Interdependence: Economic Issues in U.S.-Japanese Trade and Investment. Massachusetts: D.C. Heath and Company.
- Ranis, Gustav, and Fei, John C.H. (1988). The Evolution of Policy Behind Taiwan's Development Success. New Haven and London: Yale University Press.
- Rosenberg (1988). "Tokyo on the Hudson." Institutional Investor, vol.22.
- Root, Franklin R., and Ahmed, A.A. (1979). "Empirical Determinants of Manufacturing Direct Foreign Investment in Developing Countries." Economic Development and Cultural Change, 27(4), July, 751-767.
- Rose, Petter S., and Fraser, Donald R. (1988). Financial Institutions. Homewood, Illinois: Business Publications, Inc.

- Roussakis, Emmanuel N., ed.(1983). International Banking. Praeger Publishers.
- Rugman, A.M. (1979). International Diversification and the Multinational Enterprise, Lexington: Farnborough.
- Sabi, M. (1988). "An Application of the Theory of Foreign Direct Investment to Multinational Banking in LDCS." Journal of International Business Studies, Fall, 433-447.
- Samuelson, P.A. (1939). "The Gains from International Trade." Canadian Journal of Economics and Political Science, 195-205.
- Samuelson, P.A. (1962). "The Gains from International Trade Once Again." Economic Journal, vol.72, 820-829.
- Saunders, A. (1986). "Why U.S. Banks Go Abroad." Skandinaviska Enskilda Banken Quarterly, 1, 4-9.
- Schaft, Wolfgang (1980). International Banks: A Documentation of Their Foreign Establishments. Hamburg: Verlag Weltarchiv.
- Shapiro, Alan C. (1989). Multinational Financial Management. Boston: Allyn and Bacon, 759-790.
- Sharma, Basu, and Taira, Koji (1982). "Foreign Direct Investment, Foreign Aid, Economic Growth and Employment in Selected Asian Countries." Asian Economies, September 30, No.42, 5-17.
- Shaw, E.S. (1973). Financial Deeping in Economic Development. New York: Oxford University Press.
- Shea, Jia-dong (1983). The Efficiency of Fund Allocations Under Credit Retaining and the Demand and Supply of Loans in the Dual Financial System in Taiwan. Chung-Hwa Institution for Economic Research, Economic Papers No.37, 1-22. (in Chinese)
- Shea, Jia-dong; Liang, Ming-yih; Yang, Ya-hwei; Liu, and Chen (1985). A Study of the Financial System in Taiwan. Chung-Hua Institution for Economic Research, Economic Papers No.65, 1-78. (in Chinese)
- Shea, Jia-dong (1988). "Internationalization of the Financial Sector in Taiwan, Republic of China. Paper presented at 1988 Joint conference on the industrial Policies of the Republic of Korea and The Republic of China, Seoul, Korea, February, 1-27.

- Silber, William L (1970). Portfolio Behavior of Financial Institutions: An Empirical Study with Implications for Monetary Policy, Interest-Rate Determination, and Financial Model-Building. New York: Holt, Rinehart and Winston, Inc.
- Skully, Michael T. (1982). Financial Institutions and Markets in the Far East: A Study of China, Hong Kong, Japan, South Korea, and Taiwan. New York: St. Martin's Press.
- Skully, Michael T., and Viksnins, George J. (1987). Financing East Asia's Success. New York: St. Martin's press, 94-125.
- Skully, Michael T., and Viksnins, G.J. (1987). Financing East Asia's success. New York: St. Martin's Press.
- Smith, M.A.M. (1979). "Intertemporal Gains From Trade", Journal of International Economics, vol.9, 239-248.
- Solnik, Bruno H.(1974). "Why Not Diversify Internationally." Financial Analysts Journal, July/August, 48-54.
- Solnok, Bruno (1988). International Investment. New York: Addison-Wesley Publishing Company, Inc.
- Stikker, Allerd (1988). "The Taiwan 2000 Study: Experiences and Impressions." Futures, August, 446-452.
- Stock, Francine (1982). "Kuwait: Building through investment." Petroleum Economist, December, No.49, 504-505.
- Stockman, Alan C. (1988). "On the Role of International Financial Markets and Their Relevance for Economic Policy." Journal of Money, Credit, and Banking, 20(3), 531-553.
- Sutter, Robert G. (1988). Taiwan Entering the 21st Century. New York: University Press of America.
- Suzuki, Yoshio (1980). Money and Banking in Contemporary Japan. London: Yale University Press.
- Suzuki, Yoshio (1986). Money, Finance, and Macroeconomic Performance in Japan. London: Yale University press.
- Suzuki, Yoshio (1987). The Japanese Financial System. Oxford: Clarendon Press.

- Tai, L.N. et al. (1986). A Study on How to Promote Financial Internationalization, Study Report (in Chinese).
- Takagi, Shinji (1988). "The Changing Japanese Financial System." Finance & development, March, 10-13.
- Teeters, N. (1983). "The Role of Banks in International Financial System." Journal of Banking and Finance, 7, 453-463.
- Terrell, Henry (1979). "U.S. Banks in Japan and Japanese Banks in the United States: An Empirical Comparison." Economic Review, Federal Reserve Bank of San Francisco, Summer.
- Tsaing, S.C. (1981). "Monetary Policy of Taiwan." in Proceedings of the Conference on the Experiences and Lessons of Economic Development in Taiwan, Taipei: The Institute of Economics, Academia Sinica, 249-269.
- United Nations (1987). Foreign Direct Investment, the Service Sector and International Banking. UNCTC current studies, series A, No. 7, United Nations Center on Transnational Corporations.
- Vertin, James R. (1984). International Equity Investing. Homewood, Illinois: Dow Jones-Irwin.
- Viner, Aron (1988). Inside Japanese Financial Markets. Illinois: Dow Jones-Irwin.
- Walker, D.A. (1978). "Economies of Scale in Electronic Funds Transfer Systems." Journal of Banking and Finance, 2, 65-78.
- Wall, Larry D., and Hunter, William C. (1989). "Bank Merger Motivations: A Review of the Evidence and an Examination of Key Target Bank Characteristics." Economic Review, September/October, 2-19.
- Walter, Ingo (1983). "International Capital Allocation: Country Risk, Portfolio Decisions, and Regulation in International Banking." Research in International Business and Finance, Vol.3, 245-292.
- Walter, Ingo (1985). Barriers to Trade in Banking and Financial Services, Trade Policy Research Center.

- Walter, Ingo, and Gray, Peter (1983). "Protectionism and International Banking: Sectorial Efficiency, Competitive Structure and National Policy." Journal of Banking and Finance, 597-609.
- Wells, Louis T. (1977). "The Internationalization of Firms From Developing Countries." in Multinationals Form Small Countries, edited by Tamir Agmon, & Charles Kindleberger, Cambridge: The MIT Press.
- Wells, Louis T. (1983). Third World Multinationals: The Rise of Foreign Investment from Developing Countries. Cambridge, Massachusetts: The MIT Press.
- Westerfield, Janice M. (1980). "How U.S. Multinationals Manage Currency Risk." Business Review, Federal Reserve Bank of Philadelphia, March/April, 19-27.
- White, Betsy B. (1982). "Foreign Banking in the United States: A Regulatory and Supervisory Perspective." Quarterly Review, Federal Reserve Bank of New York, Summer, 48-58.
- Whitman, Marina v. N. (1981). "International Trade and Investment: Two Perspectives." Essays in International Finance, No. 143, 1-30.
- Wiener, Arturo, and Knight, Edward (1989). "The Stock Market in Japan: An Overview and Analysis." CRS Report for Congress, March 15.
- Wilcox, Jarrod W. (1986). "Practice and Theory in International Equity Investment." Financial Analysts Journal, January/February, 17-21.
- Wilson, Rodney (1987). Gulf Trade and Finance. Boston: Graham & Trotman.
- Wink, Anthony Rohl (1987). "Is This the Age of the Universal Bank." The Banker, January, 23-29.
- Woo, Wing Thye (1988). "Puzzling the Real Reason for Taiwan's Trade Surpluses." Far Eastern Economic Review, July 21, 52-54.
- Wood, J.H. (1975). Commercial Bank Loan and Investment Behavior. London: John Wiley & Sons.
- Wright, Richard W., and Pauli, Gunter A. (1987). The Second Wave. New York: St. Martin's Press.

- Yang, Ya-Hwei (1986). A Study of the Contemporary Funds Market. Chung-Hua Institution for economic Research, Economic Papers No. 84, 1-29. (in Chinese)
- Yannopoulos, George N. (1983). "The Growth of Transnational Banking." in The Growth of International Business, 236-257. Edited by Mark Casson. Boston: George Allen & Unwin.
- Zimmerman, Gary C. (1983). "The Growing Presence of Japanese Banks in California." Economic Review, Federal Reserve Bank of San Francisco, Summer.

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