
Article

Financial Deepening and the Role of Government in Taiwan (1961-1990)

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Summary

The increase in financial institutions during the 1960s and 70s was a very significant event in accumulating a large amount of capital and satisfying the need for investment. The balance between savings and investment in the periods stayed mostly in equilibrium. The financial market was developed under the direction of the authorities and contributed largely to the financing of the 1980s. The informal sectors have occupied an important position in the

financial system in Taiwan and the government cherished them.

The successful capital formation in Taiwan also lay in several other factors. The growth of income positively affected the amount of savings. The increase in income was caused by the growing private sectors, the government interventions through its spending, and the improvement of the trade balance. Low inflation which the government sought vigorously to maintain, the restriction on lands speculation, and tax-free interest earnings certainly influenced the savings rate. Stable political conditions, salary structure, the number of medium and small firms, social security system, and traditional philosophy and culture, all are considered to affect savings in Taiwan.

Without the large amount of savings and the development of the financial system, Taiwan could not have succeeded in accumulating enough capital for investment. The role of the government in financial development was dominant and the financial deepening driven by the government was very successful to achieve hyper-economic growth.

1. Introduction

Taiwan is one of the leading Asian countries that achieved miraculous economic growth accompanied by successful financial sector development. By looking at the way the financial sectors in Taiwan were developed, we may understand the robust policy coordination with regards to financial deepening. Financial deepening is defined as the development of financial sectors and the subsequent growth of capital available to the country. The main objective of

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financial deepening is the accumulation of capital for investment, and investment is one of the fundamental instruments to achieve economic growth.

This paper will deal with two subjects that form the core of financial deepening, the development of financial systems and the trend of capital formation. The development of financial sectors not only affects the supply side of capital, savings, but also plays a very important role in responding to the demand for capital, borrowing. Firms heavily rely on credit for investment and banks are the most fundamental source of the financing (Wade, p. 133). When a country has a sophisticated financial system, borrowers can access the financial resources relatively easily, and institutions can offer effective lending.

If there are already enough financial assets, the growth of financial sectors is the key element which determines whether a country can efficiently respond to the demand side of financial capital or not. Once financial sectors are strong enough to accept any type of capital demand, the economic policies designed by the government to stimulate private and public investment may work smoothly, leading subsequent economic growth. Section 2 will explore the development of the financial sectors in Taiwan.

In order to accumulate capital and increase savings, many factors have to be considered. The development of financial sectors is the one of the important elements that influence savings, but there are several other factors which should be examined to understand the more detailed mechanism of financial deepening in Taiwan. Section 3 deals with this topic in detail.

2. The development of Financial Sectors

A. Financial Institutions

Table 2.1 shows the number of financial institutions in Taiwan. Until 1961, the Bank of Taiwan, a commercial bank controlled by the Taiwan local government, was taking responsibility for the role of a central bank. From 1961 to 1979, the Central Bank of the Republic of China (CBC) was allowed to operate as a central bank under the direct supervision of the president of Taiwan. In 1979, the CBC came to be

supervised by the cabinet in order to implement economic policies designed by the cabinet and legislators more effectively.¹

Six government-owned banks played an important role to facilitate the development of particular sectors. The Export-Import Bank of China was organized in 1979 to finance import and export sectors. The Land Bank of Taiwan, established in 1949, engaged in land reforms by dealing with agricultural loans and real estate. The Farmers Bank of China started its operation in 1967 to finance mainly agricultural industry. The Bank of Communications, which resumed operations in 1960, managed venture capital investment financing and medium and long-term loans for public enterprises. The Central Trust started its business in Taiwan in 1949 in order to give a variety of financial services to the government such as insurance, trust, and banking. The Cooperative Bank of Taiwan, which had been established by the Ministry of Finance, was entitled to examine the services of credit cooperatives and to operate agricultural financing.

Medium and Small Business Banks (MSBB) were identified by the Banking Law of 1975 as the specialized banks which offer medium and long term credit to small and medium farms. The number of head offices of the MSBB has remained eight but the local offices have increased substantially, especially in 1977-78. Cooperatives, which consist of Credit Cooperative Associations, Credit Departments of Fishermen's Associations, and Credit Departments of Farmer's Associations, were relatively stable through the period. The Cooperatives were responsible for offering loans to and receiving deposits from the members.

Foreign Banks were severely restricted in opening their businesses in Taiwan before 1965, therefore there was only one foreign bank (Dai-Ichi Kangyo Bank) during the first half of the 1960s. However, when the US economic aid ended in 1965, the authorities loosed the restrictions to make ties with foreign countries, encourage foreign investment, and improve the domestic banking system by learning from foreign banks and competing with them. The

Table 2.1 Number of Financial Institutions

Year	Domestic Banks	Medium Business Banks	Cooperatives	Foreign Banks	Investment and Trust Companies	Life Insurance Companies	Postal Savings System
1961	257	84	371	1	1	2	
1962	260	84	372	1	1	6	1,295
1963	276	86	375	1	1	10	1,295
1964	295	93	378	1	1	10	1,322
1965	311	96	378	4	1	10	1,299
1966	329	99	375	4	1	10	1,352
1967	352	107	375	5	1	10	1,367
1968	363	107	377	5	1	10	1,393
1969	371	109	378	5	1	10	1,402
1970	386	114	376	6	1	10	2,142
1971	410	118	371	6	5	9	2,172
1972	428	122	370	7	8	9	2,275
1973	441	127	368	9	8	9	2,306
1974	456	135	367	11	8	9	2,346
1975	473	138	361	12	8	9	2,376
1976	486	139	349	12	8	9	2,404
1977	498	139	352	12	8	9	2,413
1978	515	153	353	13	9	9	2,438
1979	528	161	353	13	23	9	2,352
1980	533	170	356	21	27	9	2,389
1981	558	179	356	24	31	9	1,470
1982	567	191	358	25	31	9	1,536
1983	575	196	358	28	31	9	1,538
1984	577	203	358	31	33	9	1,571
1985	601	211	358	32	35	9	1,592
1986	617	220	359	32	35	9	1,578
1987	648	239	356	34	39	9	1,579
1988	679	248	356	35	42	8	1,583
1989	708	269	359	38	52	11	1,574
1990	737	282	359	43	54	15	1,582

Source: Taiwan Statistical Data Book

number of foreign banks increased gradually over years. The year of 1980 recorded a rapid expansion of foreign banks from European countries which sought access to the lucrative and growing market in Taiwan (Gold, pp. 110-11). Although foreign banks were allowed to operate almost the same range of services as the domestic banks, they were not allowed to open more than one branch nor accept time deposits for longer than six months.²

Until 1971, there was only one Investment and Trust Company (ITC) in Taiwan; the China Development Bank, which was owned by the government. The market was opened up in 1971 in response to the need for long term loans. By 1972,

after seven additional private ITCs had formed, the authorities froze the number of companies in order to limit further competition. Their services were mainly medium and long-term loans and investment, trust deposit management, and securities underwriting.

In 1961, there were only two life insurance companies in Taiwan. It increased to 10 in 1963 and remained at 9 or 10 until 1988. Finally in 1989, when the US pushed the authorities to open the market for foreign companies, the number of insurance companies increased to 11 with the entry of 3 insurance companies from the United States. Since then, the number of companies has increased, totaling 29 in 1995.

The Postal Savings System (PSS) rose rapidly during the 1970s but decreased in 1982 and remained stable through the 1980s. The PSS receives deposits from wide range of people due to its extensive network of post offices. It also has the advantages of longer business hours and tax-free interest. Formerly, all the money collected by the PSS was redeposited to the CBC and the CBC used it to implement preferred economic projects. Starting in 1982, the money deposited into the PSS was distributed to four other government owned banks in addition to the CBC; the Bank of Communications, the Land Bank of Taiwan, the Farmers Bank of Taiwan, and the Medium Business Bank.

B. Financial Markets

(1) Money Market

The money market had not developed until 1976 when the first bills and securities company was established. Two more companies came into the market in 1977-78. The number of branches increased to 20 in 1991 and the value in the market constituted 14.6 percent of GNP, even though the ratio was only 1 percent in 1976 (Table 2.2). In 1992, the authorities further opened up the market by allowing banks to act as dealers.

(2) Capital Market

The bond market began to develop in the 1980s as an instrument to restrain the rise of money supply. Until then, the government was reluctant to issue bonds since they had bad memories of the high inflation, which occurred in China during the latter half of the 1940s. However, the huge increase in trade surplus in the 1980s pushed the authorities to implement a sterilization policy. The CBC issued tremendous amounts of bonds during the 1980s in order to sterilize the increase in money supply. The figures in Table 2.2 indicate a rapid increase in government bonds.

The stock market started to operate in 1962 when the Taiwan Stock Exchange Corporation (TSEC) was established.³ The government gave several incentives to companies in order to promote listings. Cooperate income tax was reduced 15 percent for three years and dividends and interest were free from income tax. It was not until the Fuh-Hwa Security Finance Company was established in 1980 when rapid development hit the market. The Fuh-Hwa's company contributed to an increase in the marketability of securities by offering large amounts of stock loans for securities transactions. Table 2.2 explains the number of listings and the total market value of the stocks. The number and value

Table 2.2 Money and Capital Markets

Money Market				
Year	Value (Million NTS)		Ratio of GNP (%)	
1979	7,474		1.06	
1980	86,613		5.82	
1985	309,816		12.32	
1989	580,347		14.63	
Bond Market				
Year	Corporate	Government	Total Value (Million NTS)	Ratio of GNP (%)
1961	107	776	883	1.3
1970	480	9,030	9,510	4.2
1980	25,008	18,432	43,440	2.9
1989	45,429	208,695	254,124	6.4
Stock Market				
Year	Listings	Value (Billion NTS)		Ratio of GNP (%)
1962	18	7		8.9
1970	42	20		8.8
1980	102	219		14.7
1986	130	548		19.0
1989	181	6,174		156.0

Source: Shea, pp. 230-31

increased year after year.

C. Informal Financial Sectors

The informal sectors are the markets where money transactions such as savings, lending, and borrowing are made without regulations and supervision by the authorities. The informal sectors in Taiwan have played a very important role as is seen in the next section. Because of its significant influence on the society, financial dualism is said to be existent in Taiwan (Dessus, Shes, and Shi, p. 89).

The unregulated system is divided into two groups, gray markets and curb markets. While the former is mainly composed of credit unions, financial investment companies, financial leasing companies, and financial installment companies, the curb markets include rotating credit clubs, moneylenders, and pawnbrokers.

Since financial investment companies, financial leasing companies, and financial installment companies are required to be licensed by the Ministry of Economic Affairs and credit unions are unofficially permitted by the Ministry of Finance, they are called "gray" markets. The services which the informal financial sectors engage in are very broad: mutual loan and savings, financial leasing, financial installment credit, informal margin credit for stock purchases, rotating mutual credit, loans against dated checks, secured and unsecured borrowing, and so on.⁴

Even though some of the activities the informal financial sectors engaged in are illegal, the authorities do not strictly suppress them since they are well aware of the importance of the informal system for the Taiwan economy. The unregulated sectors are the last institutions which households and small and medium firms rely on and they contribute to the stimulation and

mobilization of savings and the allocation of loanable funds in Taiwan.

D. Financing by Each Financial Sector

Table 2.3 indicates the share of financing to business sectors by each financial system. It is notable that informal financial sectors occupy approximately a quarter of the total lending through the periods. Table 2.4 shows the more detailed components of financing activities to public enterprises and private business sectors.

While public firms come to rely less on financial institutions year after year by increasing the use of money market, capital market, and unregulated financial sectors, the private enterprise's share of financial institutions remains relatively stable. The development of the money market contributed to both private and public companies since they both increased the share up to more than 10 percent in 1990. On the other hand, the capital market is less popular for private sectors than for public firms. While the share of capital market increases in public sectors, it is more or less decreasing in private enterprises.

It is obvious that private sectors depend much more on the loans from informal financial systems than public sectors do. However, the ratio in private firms is decreasing while that in the public sectors is increasing. In 1964, the ratio was 47.7 percent in the private and only 0.5 percent in the public, but the percentage in the private sectors reduced down to 23.5 in 1990, while the ratio in the public sectors went up to 7.3 in 1989.

Table 2.3 Average Percentage of Financing by the Financial Sectors

Year	1964-70	1971-75	1976-80	1981-85	1986-90
Financial Institutions	57.1	67.4	57.2	52.2	54.1
Money Market			4.5	10.6	6.9
Capital Market	15.7	9.8	13.9	13.9	15.1
Informal Sectors	27.2	22.8	24.4	23.3	23.9

Source: Shea, p. 232

Table 2.4 Composition of Sources of Domestic Borrowings by Private and Public Enterprises (%)

Year	Public Enterprises				Private Enterprises			
	Financial Institutions	Money Market	Capital Market	Informal System	Financial Institutions	Money Market	Capital Market	Informal System
1964	97.7		1.8	0.5	51.5		0.8	47.7
1965	97.5		1.7	0.8	55.5		0.7	43.9
1966	97.7		1.6	0.7	53.8		0.9	45.2
1967	98.7		0.0	1.3	60.0		1.0	39.0
1968	94.8		0.0	5.2	64.3		1.1	34.6
1969	96.1		0.0	3.9	64.0		0.9	35.1
1970	98.2		0.0	1.8	61.9		0.8	37.3
1971	98.5		0.0	1.5	63.7		0.7	35.6
1972	98.3		0.5	1.2	67.9		0.6	31.5
1973	98.6		0.4	1.0	72.5		0.4	27.2
1974	97.2		2.7	0.2	69.5		0.6	29.9
1975	95.8		4.1	0.1	69.6	0.1	0.5	29.8
1976	94.0	1.0	4.8	0.2	67.1	0.3	0.6	32.0
1977	91.5	2.4	6.0	0.2	62.9	2.9	0.6	33.6
1978	86.3	3.3	10.3	0.1	59.6	4.0	0.5	35.8
1979	84.5	2.0	11.9	1.7	56.9	8.1	0.5	34.6
1980	96.3	1.3	10.6	1.8	54.7	8.9	0.5	36.0
1981	82.0	4.8	10.1	3.1	52.5	11.6	0.5	35.3
1982	82.1	3.7	10.1	4.0	53.2	13.3	0.5	33.0
1983	82.2	4.6	9.2	4.0	54.5	14.2	0.7	30.6
1984	79.0	7.6	10.2	3.1	54.1	15.0	1.0	29.9
1985	77.6	10.0	9.5	2.8	51.2	13.1	1.0	34.7
1986	76.4	9.1	12.1	2.4	50.2	8.4	0.8	40.7
1987	71.7	7.6	17.0	3.7	55.9	6.6	0.6	36.9
1988	73.2	5.5	16.7	4.6	63.3	5.7	0.6	30.4
1989	75.0	4.6	13.0	7.3	64.7	7.3	0.4	27.6
1990	64.2	17.8	11.1	6.9	66.1	10.0	0.4	23.5

Source: Shea, pp. 236-37

3. The Accumulation of Capital and Savings

A. Theoretical Approach: What Affects National Savings?

Since savings is the fundamental source for investment, how the savings rate increase is a crucial question raised by policy makers. Among the many factors which can be considered to influence the savings rate, five indicators are perceived as the most relevant elements that explain the level of savings.

The first factor is the level of income. If one does not have enough income to spend for basic necessities such as food and clothing, it is impossible to save. Income has to be at least more than the amount of money people spend in order to produce savings. Increase in income is heavily dependent on economic growth and economic growth is indirectly influenced by the savings rate through the investment rate. This

leads to the idea that income and saving rate are related.⁵

Because the increase in income has an impact on the savings rate, the factors which increase income have an indirect impact on the level of savings. Under the simple Keynesian model, government spending and export income which are independent from savings are very important factors for explaining the level of income. Since consumption and investment are highly related to savings, they may not explicitly account for an income increase which leads to the rise of savings.

The second element that affects the savings rate is the availability of financial institutions and real assets. When there exist only a few financial institutions, the chance that people save will be low. It is also important to note that when there are many

appreciating real assets such as land, gold, and jewelry, money tends to flow into these assets rather than banks, particularly in periods of inflation.

Thirdly, tax on interest has a great impact on the savings rate. To give people an incentive for savings, the tax imposed on the earnings from interest has to be as low as possible. When the tax rate is too high, people are reluctant to save because of the scarce return in savings.

The fourth factor which affects savings is interest rates. To increase the amount of savings, real deposit interest has to be positive. When the inflation rate is higher than the interest rate, it is better to buy goods at the present than to save for future consumption. Negative real interest rate lowers the value of money in the future, so that people try to keep goods instead of saving money. However, considering the fact that Hong Kong and Korea have successfully increased the savings rate under the negative real deposit rate, it does not always lower the savings rate.⁶

It is generally true that the increase in the real interest rate raises savings, but this theory does not always explain real economic performances either. According to the study by Fry (1984, p. 86), the rise of the real interest rate did not have a significant effect upon the increase in the savings rate in fourteen Asian countries.

This uncertainty comes from the two opposite effects on savings: substitution effect and income effect.⁷ Substitution effect makes people deposit more with the higher interest rate. Since future gains from savings increase due to the higher interest rate, they may substitute present consumption to future consumption. On the other hand, income effect works in the opposite direction against substitution effect, reducing savings as the interest rate rises. Savers tend to think that the rise of the interest rate will increase their assets, which makes them spend more instead of saving. If this is the case, the savings rate will either not increase at all or decrease.

Which effect has more impact on savings depends on the amount of money each individual saves. Under the condition of *ceteris paribus*, if the amount of savings is large enough, then higher interest rate will

most likely make savers think that the total value of their assets increases. In this circumstance, the income effect is stronger than the substitution effect. On the other hand, when people do not have any savings, there is no way for the income effect to work. The increase in interest rate will be the only incentive for them to save. The substitution effect supersedes the income effect when the amount of savings is very little.

The fifth factor that influences national savings is capital flight and capital inflow. When a country opens its economy, the amount of savings will be influenced by the capital movement between the domestic economy and foreign countries. To prevent national savings from falling, a country has to avoid capital flight, while it increases total savings and investment by capital inflows from foreign countries. The capital inflow or outflow is mainly determined by the relative attractiveness of financial assets and social stability of the domestic country to the assets and stability in foreign countries.

Besides the five elements mentioned, there are many other factors which influence the savings rate, such as family structure, the social security system, and education.

B. The Relations of GNP to Savings in Taiwan

Table 3.1 shows the amount of savings per capita in Taiwan. The growth rate in the 1970s is especially high, with an average rate of 21.8 percent. If it is compared with the growth rate of GNP per capita, some inconsistency can be found during the 1980s. When the growth rate of savings is relatively high, the growth rate of GNP per capita indicates a relatively low value. If we look at the excess savings (which are calculated by the formula, a ratio of gross savings to GNP minus a ratio of gross investment to GNP), the reason for the inconsistency becomes clear. The excess savings in the 1980s is very high, implying that a larger part of savings was not used for investment. In other words, Taiwan had already accumulated enough capital for investment by the 1980s.

This successful accumulation of capital in Taiwan can be accounted for by the rise of income. As

Table 3.1 Per Capita Savings and GNP

Year	Savings Per Capita		GNP Per Capita		Excess Savings % to GNP	% of Deposit		Ratio to GNP	
	Million NTS	Increase Rate	Million NTS	Increase Rate		Public	Private	Public	Private
1961	1,308		6,483		-1.6	38.0	62.0	7.67%	12.51%
1962	1,332	1.79%	6,911	6.20%	-2.6	34.8	65.2	6.71%	12.57%
1963	1,564	14.81%	7,569	8.70%	0.8	31.6	68.4	6.53%	14.13%
1964	1,774	11.83%	8,581	11.79%	1.6	29.4	70.6	6.08%	14.59%
1965	1,969	9.93%	9,173	6.45%	-2	24.4	75.6	5.24%	16.23%
1966	2,392	17.68%	9,972	8.01%	1	22.5	77.5	5.40%	18.59%
1967	2,843	15.85%	11,198	10.95%	-1.6	19.1	80.9	4.85%	20.54%
1968	3,285	13.47%	12,743	12.13%	-2.7	21.0	79.0	5.41%	20.37%
1969	3,871	15.13%	14,403	11.52%	-0.7	21.2	78.8	5.70%	21.18%
1970	4,351	11.05%	15,793	8.80%	0.01	20.1	79.9	5.54%	22.01%
1971	5,198	16.29%	17,958	12.06%	2.6	15.8	84.2	4.57%	24.37%
1972	6,919	24.87%	21,090	14.85%	6.5	16.8	83.2	5.51%	27.30%
1973	9,100	23.97%	26,836	21.41%	5.3	20.6	79.4	6.99%	26.93%
1974	10,750	15.35%	35,297	23.97%	-7.7	19.9	80.1	6.06%	24.40%
1975	13,471	20.20%	36,304	2.77%	-3.8	22.0	78.0	8.16%	28.94%
1976	16,509	18.40%	42,567	14.71%	1.6	22.8	77.2	8.84%	29.94%
1977	19,982	17.38%	49,002	13.13%	4.3	19.8	80.2	8.07%	32.70%
1978	25,688	22.21%	57,731	15.12%	6.1	24.1	75.9	10.72%	33.77%
1979	27,117	5.27%	68,439	15.65%	0.5	23.9	76.1	9.47%	30.15%
1980	31,464	13.82%	83,626	18.16%	-1.6	23.1	76.9	8.69%	28.93%
1981	34,928	9.92%	97,280	14.04%	1.3	22.7	77.3	8.15%	27.75%
1982	40,126	12.95%	102,898	5.46%	4.8	20.6	79.4	8.03%	30.96%
1983	48,531	17.32%	112,276	8.35%	8.7	19.3	80.7	8.34%	34.88%
1984	56,570	14.21%	124,578	9.88%	11.9	19.5	80.5	8.85%	36.55%
1985	69,439	18.53%	130,598	4.61%	14.8	17.6	82.4	9.36%	43.81%
1986	84,334	17.66%	150,387	13.16%	21.4	15.5	84.5	8.69%	47.39%
1987	103,826	18.77%	167,182	10.05%	18.4	14.4	85.6	8.94%	53.16%
1988	126,095	17.66%	180,129	7.19%	11.7	13.4	86.6	9.38%	60.62%
1989	151,629	16.84%	197,393	8.75%	8.5	15.8	84.2	12.14%	64.68%
1990	159,260	4.79%	212,595	7.15%	7.3	15.0	85.0	11.24%	63.68%

Source: Taiwan Statistical Data Book

mentioned in the preceding section, savings is closely related to income. The correlation number between savings per capita and the GNP per capita in the previous year is 0.97. The GNP per capita and savings per capita in the previous year are also highly correlated, showing 0.96. According to the Granger causality test (Table 3.2), savings is better explained by income rather than the other way round.⁸

This result is supported empirically. The amount

of savings is not exactly consistent with the amount of investment and the gap between savings and investment is particularly large during the 1980s in Taiwan. Because a large portion of savings was not assigned for investment, the GNP per capita did not increase at the same rate as savings rises.

Table 3.1 also shows the percentage of deposits by public and private sectors. While the proportion of public savings declines, the deposits by the private

Table 3.2 Granger Causality Tests

Null Hypothesis	Observations	F-statistic	Probability
Savings does not cause GNP	28	0.98274	0.38946
GNP does not cause Savings	28	6.63003	0.00533

sector increase each year. The private sector was able to save more and more due to the higher income. If we look at the ratio of savings by each sector to the GNP, we found that the decrease in public savings was not because of the weakening of the government, but because of the emergence of powerful private sector. The share of public savings in the GNP is relatively constant ranging from 4 to 12 percent, and it increases gradually. However, the ratio of private savings increases substantially. In 1961, it was only 12.5 percent but it became five times greater by the end of the 1980s.

The ratio of government spending to the GNP (Table 3.3) also supports the fact that the influence of

the Taiwan government did not abate at all. The percentage increases little by little reaching 31.2 percent in 1991. The power of the government has not been changed much but the private sector came to have huge impact on its economy, surpassing the government influence. The percentage of government expenditure on economic development had been increasing until the beginning of the 1980s. The increase in government expenditure and especially the spending on economic development raised national income, therefore the government spending contributed to the rise of savings.

The rise of the GNP in the 1980s can be explained by the improvement of the trade balance.

Table 3.3 Major Economic Indicators in Taiwan

Year	Percentage of Government Spending		Trade Balance (US Million)	Marginal Propensity to Save (MPS)	Savings Per Capita (Million NT\$)	Interest Rate of Time Deposit	Inflation Rate	Real Deposit Rate
	in GDP	for Economic Development						
1961		12.7	-127	0.17	1,308	7.20	3.2	4.00
1962	21.1	12.9	-86	0.10	1,332	6.48	3.0	3.48
1963	19.6	14.0	-30	0.42	1,564	6.00	6.5	-0.50
1964	19.4	13.9	5	0.25	1,774	6.00	2.5	3.50
1965	21.0	19.1	-106	-0.12	1,969	6.00	-4.7	10.70
1966	20.3	14.2	-86	0.44	2,392	6.00	1.5	4.50
1967	22.8	22.1	-165	0.15	2,843	5.40	2.5	2.90
1968	21.2	16.5	-114	-0.04	3,285	6.48	3.0	3.48
1969	22.7	17.2	-163	-0.06	3,871	6.48	-0.3	6.78
1970	23.4	17.9	-43	0.44	4,351	6.24	2.7	3.54
1971	22.3	15.5	216	0.39	5,198	6.50	0.0	6.47
1972	22.0	18.3	475	0.29	6,919	6.25	4.4	1.85
1973	22.8	22.8	691	0.35	9,100	8.00	22.9	-14.90
1974	18.0	25.3	-1,327	0.09	10,750	10.00	40.6	-30.60
1975	22.8	29.7	-643	-0.35	13,471	8.50	-5.1	13.60
1976	23.3	31.7	567	0.36	16,509	7.25	2.8	4.45
1977	25.3	34.7	850	0.32	19,982	6.00	2.8	3.20
1978	25.3	31.5	1,660	0.25	25,688	6.00	3.5	2.50
1979	23.3	30.4	1,329	0.17	27,117	9.50	13.8	-4.30
1980	25.9	31.5	78	0.09	31,464	10.25	21.5	-11.25
1981	26.5	33.5	1,412	0.31	34,928	10.75	7.6	3.15
1982	26.9	29.9	3,316	0.21	40,126	7.50	-0.2	7.70
1983	25.1	24.3	4,836	0.34	48,531	7.00	-1.2	8.20
1984	23.1	26.7	8,497	0.37	56,570	6.50	0.5	6.00
1985	23.0	24.5	10,624	0.39	69,439	5.25	-2.6	7.85
1986	23.6	24.4	15,680	0.60	84,334	4.00	-3.3	7.30
1987	21.2	25.9	18,695	0.30	103,826	4.00	-3.3	7.30
1988	22.0	25.5	10,995	-0.32	126,095	4.50	-1.6	6.10
1989	33.0	43.7	14,039	-0.17	151,629	8.25	-0.4	8.65
1990	28.1	25.9	12,498	0.23	159,260	7.75	-0.6	8.35

Source: Taiwan Statistical Data Book

Until the first half of the 1970s, the trade balance in Taiwan was mostly negative but turned to positive in 1976 and trade surplus rapidly increased through the 1980s (Table 3.3). Considering the fact that the government spending on economic development was declining, the increase in trade income is one of the key elements for economic growth in the 1980s. In this sense, the improvement in the trade balance contributed to raise savings in Taiwan through the rise of individual income.⁹

How much does one unit of income increase affect the savings? The answer depends on the marginal propensity to save (MPS). These figures are listed in Table 3.3. The data were produced by the following simple formula: the annual increase in disposal income divided by the increase in savings. The figures fluctuate frequently, but the average rate is rising. It should be kept in mind that the MPS itself is also the function of income.

C. The Availability of Financial Institutions and Assets

As is seen in previous section, the number of financial institutions has increased substantially. The easier accessibility of depository institutions unquestionably created more savings. Fry's survey indicates that the proximity of financial institutions has a significant impact on the savings rate in Taiwan. According to his regression analysis, a 10 percent reduction in rural population per rural branches increases the national savings rate in Taiwan by 1.7 percent over the period of 1961-81.¹⁰ These results clearly show that the development of financial sectors contributed to the rise of the savings rate in Taiwan.

There were not many reliable assets other than financial assets in Taiwan. Because of the stable inflation rate in Taiwan, people had much confidence on the reliability in the currency. The Taiwan authorities also made a great effort to prevent speculative investment on lands.¹¹ This lower

availability of real assets helped savings increase in Taiwan.

D. Interest Rates and Tax Incentives

The figures of the interest rates on time deposit, inflation rates, and real deposit rates are in Table 3.3. The real deposit rates are positive in most years except in 1963, 1973-74, and 1979-80. The negative rate in 1963 is small enough to be ignored and the figures during 1973-74 and 1979-80 reflect the oil crisis. If there were not external shocks, the real deposit rates in Taiwan could have been positive through all the years. These positive deposit rates substantially helped the savings rate increase.

It is clear that the positive deposit rates influence savings behaviors. However, the extent of the positive ratio does not seem to matter in Taiwan. The correlation numbers in Table 3.4 show the weak relationship between the amount of savings per capita and real deposit rates. Especially during the 1970s, the correlation number is negative. This result concurs with the study done by Fry who concludes that the real deposit rate of interest positively affects the national savings but "its magnitude is not large enough to warrant substantial policy significance."¹²

It seems that neither the substitution effect nor the income effect dominates one another. There are two possible reasons for this: (1) The magnitude of both effects is almost equal so that they offset each other, (2) Other factors dominantly affect the savings rate regardless of the real rate of interest.

The positive real deposit rates in Taiwan are explained by the relatively stable inflation. The low inflation rate is rooted in the following factors. First, the central bank vigorously manipulated the interest rates in order to restrain inflation.¹³ This is very obvious if we look at the relatively high interest rates in the middle of the 1970s and around the year 1980. Until 1989 when the New Banking Law was established, the interest rate in Taiwan was somewhat

Table 3.4 Correlation between Savings Per Capita and Real Deposit Rates

Period	1961-70	1971-80	1981-90
Correlation Number	0.136289	-0.021049	0.461251

controlled by the CBC.¹⁴

Secondly, the government actively practiced a sterilization policy. The CBC issued a large number of Certificate of Deposits (CDs) and savings bonds during the 1980s in order to absorb the excess money supply caused by the huge increase in export earnings. In 1989, the CBC shifted the method of sterilization from the selling side of open market operation to a change in reserve ratio. The required reserve ratio was raised by the CBC to restrain inflation.

The third reason for the low inflation rates is attributed to a high income elasticity of money demand. Even when the increased rate of the money supply greatly exceeded the growth rate of the GNP, the inflation remained very low due to the high elasticity which was estimated to be 1.3 to 1.5.

Fourth, the government in Taiwan is trusted by the people. Because of its stable politics and severe rules imposed to public officers, Taiwanese rely on the authorities and trust the policies they implement.¹⁵ This positive attitude toward the government reduces the expectation of future external shocks and subsequently restrains inflation.

The Taiwan government encouraged people to save by giving tax incentives. In 1960, the authorities exempted tax on the earning from the interest of time deposits which lasted two years or more. In 1971 and 1981, the government passed the same kind of legislation which exempted tax on interest earnings. These laws provided a wider variety of deposits and savings which allowed people to avoid more taxes form interest.¹⁶

E. Capital Flows

Table 3.5 shows the transfer payment and capital account. Due to the unavailability of the data, these figures started from 1976. Even though there are many missing data, it is predictable that at least these values during the 1960s and the first half of the 1970s are positive. The transfer payments turned negative in 1978 and the capital account recorded minus in 1984 for the first time.

The values of the transfer payment after 1978 were negative because the foreign aid which Taiwan

received had been decreasing as its economy developed. Taiwan has had a large amount of excess savings since the beginning of the 1980s. This excess capital was loaned to foreign countries, leading to a negative capital account. The lower nominal interest rate during the 1980s also stimulated the outflow of capital.

When there is a tremendous amount of capital flight, a country usually faces a shortage of capital for investment. However, the capital outflow during the 1980s was not because of capital flight but only due to the excess supply of capital and the robust economic conditions in Taiwan. There has been no such political instability to cause capital flight in Taiwan. In this sense, the capital outflow during the 1980s had no negative influence on capital formation in Taiwan. Because there has been no harmful capital outflow in Taiwan, it has been able to avoid reducing savings.

On the other hand, capital inflow contributed to the increase in the amount of capital available to the country. However, whether it increased savings or not is a somewhat complicated discussion. According to Chen's study, private capital inflow increases savings but official capital inflow reduces savings.¹⁷ Since official capital inflow consists of grants, aids, and direct investment, it just squeezes the need for domestic savings.

F. Other Factors

There are several important factors which affect savings rates in Taiwan. The first is an increasing portion of bonus to salary. When people receive a large amount of money at one time rather than small money over periods of time, they tend to save for future consumption. This is the critical reason why the savings rate in Taiwan is so high. The average amount of bonus the Taiwanese receive is about the same as two months of their salary. This is not a large amount compared with Japan where people receive an average of six months of their monthly salary as a bonus. However, the two months of bonus payment is large enough to influence their savings and the numbers of workers who receive bonuses are increasing as the economy in Taiwan grows.¹⁸

Table 3.5 Transfer Payment and Capital Account (US Million \$)

Year	Transfer Payment	Capital Account	Excess Savings as Percentage to GNP	Savings Per Capita (Million NTS)	Interest Rate of Time Deposit
1961			-1.60	1,308	7.20
1962			-2.60	1,332	6.48
1963			0.80	1,564	6.00
1964			1.60	1,774	6.00
1965			-2.00	1,969	6.00
1966			1.00	2,392	6.00
1967			-1.60	2,843	5.40
1968			-2.70	3,285	6.48
1969			-0.70	3,871	6.48
1970			0.01	4,351	6.24
1971			2.60	5,198	6.50
1972			6.50	6,919	6.25
1973			5.30	9,100	8.00
1974			-7.70	10,750	10.00
1975			-3.80	13,471	8.50
1976	20	884	1.60	16,509	7.25
1977	5	351	4.30	19,982	6.00
1978	-28	437	6.10	25,688	6.00
1979	-222	62	0.50	27,117	9.50
1980	-95	957	-1.60	31,464	10.25
1981	-92	995	1.30	34,928	10.75
1982	-135	739	4.80	40,126	7.50
1983	-43	646	8.70	48,531	7.00
1984	-170	-828	11.90	56,570	6.50
1985	-249	-493	14.80	69,439	5.25
1986	-297	13	21.40	84,334	4.00
1987	-696	1,627	18.40	103,826	4.00
1988	-1,924	-7,512	11.70	126,095	4.50
1989	-2,125	-8,249	8.50	151,629	8.25
1990	-735	-10,725	7.30	159,260	7.75

Source: Taiwan Statistical Data Book

Secondly, the fact that small and medium firms dominate Taiwan's economy has a big impact on the savings rate. Because the companies are so small, they are less reliable and therefore have less access to capital through financial markets and institutions than large enterprises. They are more likely to rely on either informal sectors as mentioned before or their own savings in order to invest and enlarge their firms. Many people in Taiwan try to start their own business and save for it.

The third element that explains the high savings in Taiwan is the insufficiency of the social security system. Taiwanese try to save as much as possible in order to have a better and independent life when they become old. Confucianism also helps people think that savings is a virtue and guides them to save more.

4. Conclusions

The Taiwan government played an important role in developing financial sectors. The policies which the authorities took were neither entire liberalization nor restriction, but a combination of both. Although the authorities implemented liberalization policies in order to attract the entry of private financial sectors, they were able to turn over the policy direction toward restriction whenever it was necessary. They were capable enough to change policy promptly depending on the situations the country faced.

The increase in financial institutions during the 1960s and 70s was crucial to accumulate a large amount of capital and satisfy the need for investment. If we look at the percentage of excess savings to the GNP, the balance between savings and investment in

the 1960s and 1970s stayed mostly in equilibrium, reflecting the financial development in Taiwan.

The financial market was also developed under the direction of the authorities. They were aware that the establishment of the financial market was necessary to meet the further demand for financial resources and give firms easier access to capital. The financial market contributed largely to the financing of the 1980s and the excess savings during this period.

The informal sectors have occupied an important position in the financial system in Taiwan. The Taiwan economy is sustained by many medium and small enterprises and these firms heavily relied on the informal sectors for their financing. Even though some of the activities were unlawful, the government did not suppress them.

The successful capital formation in Taiwan lay not only in the development of the financial sectors, but also in several other factors. The growth of income positively affected the amount of savings. The increase in income was caused by the growing private sectors, the government interventions through its spending, and the improvement of the trade balance. Especially the huge trade surplus in the 1980s had a tremendous impact on the growth of income and the rise in national savings.

The positive real deposit rate encouraged the people to save. The positive rate was sustained by the low inflation which the government sought vigorously to maintain. The restriction on lands speculation and tax free interest earnings certainly influenced the savings rate. Stable political conditions, salary structure, the number of medium and small firms, social security system, and traditional philosophy and culture, all are considered to affect savings in Taiwan.

Without the large amount of savings and the development of the financial system, Taiwan could not have succeeded in accumulating enough capital for investment to achieve hyper-economic growth. Economic growth in Taiwan is often said to be led by the private sectors.¹⁹ However, if we focus only on the financial development, the role of the government is considered to be dominant.

In this regard, it is very likely that the Taiwan

authorities created the fundamental circumstances where by the private firms could act vigorously without suffering from a lack of capital. The financial deepening driven by the government was very successful in its economic growth, activating the private sectors' economic performance in Taiwan.

Note

- 1 See Shea, p. 226.
- 2 See Fry (1985), p. 283.
- 3 See Lee and Chen, p. 18.
- 4 See Dessus, Shes, and Shi, p. 94.
- 5 A detailed discussion on the relations between income growth and savings in Taiwan is seen in Deaton and Paxson, pp. 22-27.
- 6 See Chowdhury and Islam, p. 129, and The World Bank (1989), p. 31.
- 7 See Chowdhury and Islam 130.
- 8 See The World Bank (1993) pp. 204, 242-45.
- 9 Several studies have done to show the relationships between exports and savings. See Mikesell and Zinser, pp. 18-19, and Chen, pp. 144-151.
- 10 See Fry (1984), p. 87.
- 11 See Kinji, p. 22.
- 12 See Fry (1984), p. 86.
- 13 See Emeery, p. 14.
- 14 See Yang, p. 294.
- 15 See Kinji 24.
- 16 See Myers, p. 48.
- 17 See Chen, pp. 148-50.
- 18 See Scitovsky, p. 172.
- 19 See Sato, pp. 87-118.

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