

PUBLIC POLICIES AND CAPITAL ACCUMULATION: JAPAN AT THE DAWN OF ECONOMIC GROWTH

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Abstract

The purpose of this paper is to shed light on Japan at the dawn of its high growth era, i.e., from 1946 to the early 1960s, and to show how public policies had guided capital accumulation. Two facts will be stressed in this regard. First, the price stabilization policy taken immediately after the World War Two had the nature of more for supporting producers than for protecting consumers; and accompanying direct allocation of investment funds to certain key industries triggered three-digit inflation. In the 1950s public policies were transformed much toward indirect methods, like taxation. The second fact we underscore is that preferential tax policies mattered in this period; and this was not so much from reducing tax liabilities of firms, but from increasing cash flows to liquidity-constrained firms.

1. *Introduction*

The purpose of this paper is to find a linkage between public policies and capital accumulation in postwar Japan. With respect to this linkage, much has been studied during the high-growth-era (the period from the late 1950s to the beginning of the 1970s). However, the studies covering the period immediately after the second world war have been mostly done from historic point of view (Aihara, 1961, Miwa, 1989) and such issues as the nature and the effectiveness of public policies have still been unsettled. Here, one may say that many anecdotes have been told about the difficulties (both political as well as economic), but the role played by the government for putting the economy on the track of high growth has still been very vague.

This is due mostly to a lack of systematically collected data: on the corporate tax statistics, it was only in the middle of the 1960s that results of annual sample surveys started to be released. This has relegated most quantitative research to much later periods than the one after the war.

In one of our papers (Tajika and Yui, 1990) we have tried to find out the effects of public policies, especially tax policies, on the cost of capital and on the availability of investible funds of manufacturing industry. Our estimation of the cost of capital was restricted over the years after 1963. The estimation of investible funds was based on macro statistics with support of highly aggregated tax statistics and covered the period after 1954, which still failed to capture the early 1950s.

The results we have obtained are as follows: first, preferential tax policies such as accelerated depreciation and tax-free reserves have not been significant in bringing down the cost of capital; second, public provisions of investible funds were only noticeable in the 1950s and their allocations have not been restricted to capital investment of industrial sectors.

In comparison with the rest of postwar periods, the years in the late 1940s and probably the entire decade of the 1950s seem to have witnessed more straightforward public interventions in markets. We would like to shed light on these policies and to detect how they have been linked with restoration and accumulation of capital. In what follows we will treat the period from 1946 to 1960, and divide it into two subperiods: the first ranges from 1946 to 1949 and the second the rest of the period after 1950.

The first half will be called the period of *direct control* and the second half, the period of *preferential tax policies*. We will show how capital accumulation proceeded in the two periods. The government tried to guide investments and to provide investible funds, and its policies were successful to some extent. However, we will indicate certain drawbacks of the policies. In the first half they were very vulnerable to inflation, and in the second, tax policies became too complicated without serious examination of proper tax base for corporate tax.

The next section will deal with the period of direct control. The third section will pick up the steel industry and presents some statistics showing how capital accumulation proceeded in the industry. In the fourth section, we describe the period of special tax provisions and claim that they helped increase corporate cash flows. The final section will conclude the paper, and summarize the successes and failures of the policies over the two periods.

2. *Period of Direct Control: 1946–1949*

The purpose of this section is to describe the public policy immediately after the end of the War. How to cope with the severe shortages of goods and to control an unprecedented inflation were the problems the government had to face. However, without strengthening the productive capacity these problems would never have been solved. Hence, while seeking to stabilize price increases, the government planned to allocate whatever the resources available to the most productive industries. This section describes how these two issues were dealt with. And we will show the way the government handled them was, from our present perspective, very straightforward in intervening markets. Ironically, the policies of increasing the productivity capacity made inflation even more severe, and an austere policy package was ultimately introduced in a way imposed by the GHQ (the ruling organization of Japan till 1951).

With an overall picture of reconstruction drawn, we go on to showing how capital formation started in steel-producing firms, one of the most important industries in postwar Japan. Here we will see clearly how direct and distortive the measures were that were taken by the government to increase the supply of the basic staple of various other industries.

2.1 Price-Stabilization Programs

One of the causes which accelerated the rate of inflation was the government's liabilities to the people and the firms: the losses of lives and many other human costs that the war forced the people to pay had to be compensated; and the various commitments the government made

over the war to firms had also to be fulfilled. However, the government had nowhere to find the funds for these compensations, but the Bank of Japan which could only finance the government spending by printing more money. This made the already bad inflating worse, and drastic measures were called for stabilizing prices.

A policy of such nature was to freeze deposits. In February 1946, the government issued a decree which made the exchange of 'old' yen to the 'new' yen mandatory. The more intrinsic purpose of this new-yen-exchange policy was to freeze the new yen after the exchange; when the old yen was changed to the new one, the new notes were put into banks and the depositors were permitted to withdraw from the accounts only up to a ceiling which the government set relevant for sustaining reasonable lives for the general people. This, therefore, did not literally depreciate the value of yen, but since deposits were not permitted to be withdrawn at the time of hyper inflation, the value of wealth was decayed very rapidly.

While imposing deposit freezing, the government failed to control budget deficits. Money did not stop its role of government's financier. In fact, the price stabilization plan that the government proposed a month after the yen-exchange policy (March, 1946) became not enforceable very shortly. The government did not abandon the program, but tried to stabilize prices by even more directly controlling prices.

The basic idea of price stabilization policy of March, 1946, was to fix the wage rate of a representative working person (say, a civil servant) and to control the prices of other goods so that the wage could afford the daily life of the person. Since wages were one of the most important factors to determine the prices of goods, controlling wages came as the first goal to achieve. The mechanics of this program was as follows: the (official) prices of goods were raised about fifty to sixty percent; and a special arrangement was made with the two basic goods considered to be fundamental to the living standard, i.e., rice and coal. For the two goods, dual official prices were set for both producers and consumers, and the consumer's price was set less than the producer's. And the government assumed the responsibility of granting subsidies to producers to sustain the consumer's prices.

What emerged from this was just what we would imagine from the outset; since price-stabilization subsidies was financed by the government budget, more money was necessary to support the budget. According to the 1946 budget, the proportion of this price-stabilization subsidy to the total (central government) expenditure was about 10 percent. This might already seem to be high enough to make the inflation even higher. However, far from restructuring it, the government aimed at fortifying its policy by extending the list of basic price-stabilizing commodities.

A more drastic price-stabilization program, in fact, started from July, 1947. This program was more of price-support nature than of price-stabilization. The basic idea behind this program was to extend the dual price control mechanism (of the preceding program) to a wider group of producer's goods. As such a group of goods, the government chose coal, steel, non-iron metals, fertilizer and soda. It then set their maximum allowable prices, and if their market prices exceeded these ceilings, the government was again supposed to grant subsidies to relevant producers.

The aim of the program was not restricted to stabilizing prices, but was to giving support to the production of certain key industries. Huge amounts of subsidies were paid by the government to the industries that were designated by this program. In 1947 about twenty percent of public expenditure was used for this purpose. In June, 1948, the ceilings of the prices

TABLE 1. THE RATE OF INFLATION, %: WHOLESALE PRICES

YEAR	Overall	Foods	Textiles	Metal and Machinery	Chemical Products
1947	195.9	243.9	204.8	119.1	96.7
1948	165.6	190.3	192.1	135.4	122.8
1949	63.3	70.9	114.8	42.9	38.1
1950	18.2	6.7	22.1	50.1	30.7
1951	38.8	18.4	38.7	98.8	38.3
1952	2.0	7.6	-20.2	-2.6	7.7
1953	0.7	0.3	-0.8	-5.5	-7.9
1954	-0.7	7.9	-8.0	-6.1	-6.7
1955	-1.8	-1.7	-5.1	2.6	-2.3

Source: *Showa-Zaiseishi (Fiscal History of Showa-era)*, vol. 19, 1978.

of the goods produced by those industries were adjusted upward, but the government's subsidies did not stop increasing: in 1948 the share of public expenditure spent for the subsidies reached twenty three percent, and in 1949 twenty seven.

There also was a suspicion that the producer's prices were never known to price regulators. Therefore, chances were that the producers of the key industries overcharged their production costs and that they might have earned excessive profits. Political scandals relating to this price control program could be circumstantial evidence of this suspect.

While the government was busy with controlling prices, prices continued to go up. Table 1 shows the rates of increases of wholesale-price indexes. Price indexes are available only after 1946, and the table presents the oldest available numbers. We can read from it clearly that prices did not subside at all in 1947 and 1948 when the government initiated extensive programs for controlling prices. As we have indicated above, the subsidies granted for controlling prices became a big burden for the budget. This, in turn, led the government into debt from the central bank, and from this the road to accelerated inflation was straight. The almost sudden drop in the rate of inflation in 1949 was due to a very austere policy mandated by the GHQ on the basis of the stabilization policy laid out by Mr. Dodge, a banker and special envoy of the U.S. government. Price subsidies were banned by the Dodge Plan, and the government stopped them entirely in July, 1950.

2.2 Allocation of funds for reconstruction

Along with price stabilization the government planned to reconstruct productive capabilities. One of the most vulnerable parts of Japanese industrial development has been the procurement of adequate supply of energy. At no time of its history this was more acute than after the war. Coal was almost Japan's only domestically available energy, but the shortages of materials and coal miners dropped its supply very sharply. The government proposed a reconstruction plan which put its first priority on increasing the supply of coal. For this, some supportive intermediate goods for supplying coal were indispensable, and among them steel was considered most important.

The government, thus, set up a plan which concentrated investible funds in the key industries consisting of coal, steel, fertilizer and a few others. This plan was proposed by the government in November, 1946, almost at the time it was planning to strengthen its price

TABLE 2. THE SHARES OF THE FUKKIN IN FINANCING INVESTMENT AND WORKING CAPITAL

Industry	Investment Financing (Fukkin's Share) %	Working Capital Financing (Fukkin's share) %
Mining	98.1	39.9
Coal	98.7	41.7
Manufacturing	54.9	3.4
Steel	73.4	8.4
Chemicals	65.4	4.2
Textiles	44.9	0.03
Public Utilities	81.5	20.1
Overall	74.1	8.6

Source: Miyashita Takehei, *Kokkashikin (National Funds)*, pp.275-76, 1955.

stabilization programs. It was called "Keisha Seisan" (in Japanese), implying "Key-industries-concentrated" plan.

Now, in implementing this plan the core organization which administered the allocation of funds was Fukkou Kinyuu Kinko (Reconstruction Bank), abbreviated hereinafter as the Fukkin. The Fukkin started its operation in January, 1947. Thus, price-stabilization programs and the fund allocation of Fukkin were the two tiers that supported the fragile economy of Japan still sank under the wreckage of the ruins of the war. The operation of the bank, though, did not last long. The severe contraction policy formed on the basis of the Dodge Plan regarded the bank as the main culprit of the triple-digit inflation and ordered its liquidation. It stopped its operation in March, 1949; it thus operated only for two full years.

Notwithstanding its short life time, the bank played a central role for allocating funds for investment in the very chaotic period after the war. Here we should mention two things as its main characteristics: the first is its magnitudes as suppliers of investible funds, and the second how it procured its funds.

Table 2 shows the bank's position as a supplier of investible funds as of the end of March in 1949, the year it stopped its operation. The bank did also the lending operation of working capital, and the table depicts the bank's operation in this activity. Although they were not shown in the table, major destinations of the bank's investment lending were to mining (35%), manufacturing industries (21%), public utilities (34%). The shares of the outstandings of the bank's lending to the total of private banks are shown in the table: they are so large as to indicate that investment financing in reconstructing period was mainly offered by the bank. The table also shows the bank's lending was in fact slanted toward the industries marked by the government as the key ones. As for the bank's working-capital lending its position was not so significant as in its operation of investment financing. However, we can still find its decisive presence in mining industry and to a lesser degree in public utilities.

The second characteristic of the bank is the sources of funds which made the operation of the bank possible. Of the total sources of the funds of the bank during its two years of operation, about twelve percent came from the government (as paid-in capital), eighty five

percent from issuing the Fukkin bonds and the rest of the negligible portion from the net operational surplus of the bank. And what is really characteristic of its financing is that the main purchaser of its bonds was the central Bank of Japan (of the total bonds, 70% was bought by the Bank of Japan).

Now a little arithmetic shows how heavily the bank depended on the government and the central bank. The twelve percent of the government capital infusion and the seventy percent of bonds issuance adds up to more than seventy percent of the total amounts of funds. There is no way of tracing the ultimate sources of the government paid-in capital, but it could have been passed to the debt from the central bank. If this was a case, the bulk of the Fukkin's money was essentially newly printed money of the Bank of Japan. Continuing this back-of-the-envelope calculation with the aid of the balance sheet of the Bank of Japan, we can claim that more than a tenth of the currency circulated in 1948 was issued for financing Fukkin. If we concentrate only on the financial side of Fukkin operation, we cannot but conclude that it aggravated the already serious inflation.

We are thus left with two rather conflicting natures of the bank: the bank as an allocator of investible funds and as a source of hyper-inflation. In the following section we will focus our attention on the steel industry and continue asking ourselves how price-stabilization programs and the Fukkin lending worked their way toward the capital formation of the industry.

3. *The Steel Industry in the Period of Direct Control*

The purpose of this section is to give a clear illustration of the direct interventionary policies of the late 1940s. We will choose steel industry as our case and show the following two statistics: the role of state banks for its investment financing and the magnitudes of price subsidies granted to it. The numbers given here will convince us how straightforward the policies were.

A question we will pose then is whether these policies were effective enough to make the industry competitive in world markets. An international comparison of steel prices will be shown, and a conclusion will be drawn that the industry was not competitive even until the middle of the 1950s. It was the industry's struggle for enhancing productivity in the 1950s and after that made it an internationally leading industry. We may not claim that the key-industries-concentrated policies of the late 1940s which heavily depended on price supports were a medicine for all; they might have helped rebuild the industry, but might not be so successful as to make it internationally competitive.

Table 3 shows the sources of finance for investment. For the two years during which the Fukkin was an active supplier of investment funds (1946–48), the steel industry financed its investment entirely from it. In 1948 it still collected a bulk of investment from the Fukkin. 'Mikaeri' refers to the special account in the government's budget which took care of the aids from the U.S. We will give a fuller account of it in the next section, but here it would suffice to recognize it as another source of funds from the government. A point to be mentioned is that in 1949 Mikaeri took the part of the Fukkin, and still the industry relied more than a quarter of its investment funds from the government.

Thus, the steel industry financed its investment in the late 1940s basically from governmental sources. In the early 1950s Japan Development Bank (JDB, hereafter) was con-

TABLE 3. SOURCES OF FINANCE OF THE STEEL INDUSTRY %

Year	Equity	Bonds	Borrowing		
			Total	Fukkin	Mikaeri
1946	0.00	0.00	100.00	100.00	0.00
1947	0.00	0.00	100.00	100.00	0.00
1948	2.07	0.00	97.93	77.64	0.00
1949	22.38	12.75	64.87	0.00	27.33

Year	Equity	Bonds	Borrowing Total	Retained earnings	Borrowing JDB
1952	14.08	18.00	51.18	16.74	15.06
1953	12.84	15.98	49.60	21.88	7.93
1954	8.22	16.31	25.87	49.60	-8.65
1955	23.60	20.26	-27.23	83.37	-13.48
1956	32.45	-1.25	-5.29	74.09	-4.78
1957	14.85	0.91	37.56	46.68	1.67
1958	14.34	3.89	55.97	25.54	-0.44

Source: Japan Federation of Steel Firms, *Sengo Tekkoushi (History of Postwar Steel Industry)*, 1959.

TABLE 4. PRICE-STABILIZATION PROGRAMS: STEEL INDUSTRY

Year Month	Iron-pig	Iron-bars
	Subsidy/ Producer Price	Subsidy/ Producer Price
	%	%
1947.7	54.8	43.0
1948.7	76.1	52.4
1949.9	72.7	40.1
1950.7	25.1	0.0
1951.2	16.4	0.0

Source: The same as in Table 3.

structed, another state investment bank. Based upon the lesson of the Fukkin, the JDB was not allowed to issue bonds, and the source of its funds was mostly from postal savings. Now, it was not the Bank of Japan which supported the state investment bank, but the public savings. In this way financing from the JDB itself was not inflationary.

A characteristic of investment financing of the steel industry in the 1950s is that retained earnings became a major source of finance. In the very early years of the 1950s the industry depended on the funds from the state investment bank, but its reliance on it decreased very sharply thereafter. Thus, the direct interventionary period ended in the early 1950s.

The same story as above applies to price-support programs. Table 4 shows the rates of subsidies of the two iron products: pig-iron and bars. We divided the subsidies by producer prices, and the results are shown in the table. As was alluded to in the preceding section, a major price support program was initiated in July, 1947. And the program continued till the

TABLE 5. INTERNATIONAL COMPARISON OF PRICES

		U.S. dollars/ton			
<u>Iron-bars</u>					
Year	Month	Japan	U.S.	U.K.	Germany
1950.6		59.9	76.2	58.4	55.0
1951.1		136.0	81.5	77.0	71.0
1952.6		136.0	81.5	88.0	91.0
1953.6		111.1	87.0	89.3	92.3
1954.6		111.1	91.7	89.1	91.2
1955.2		105.5	94.8	88.1	91.2
<u>Iron-plates</u>					
1950.6		60.0	76.8	.	.
1951.1		152.0	81.5	71.5	74.0
1952.6		153.0	81.5	83.0	94.0
1953.6		122.2	86.0	84.9	103.7
1954.6		123.6	90.4	85.6	99.7
1955.2		119.4	93.1	85.6	100.5
<u>Iron-sheets</u>					
1950.6		72.0	74.8	94.0	.
1951.1		175.0	79.3	100.0	.
1952.6		175.0	79.3	114.0	113.0
1953.6		166.6	82.0	115.6	125.7
1954.6		155.5	86.5	115.8	118.5
1955.2		144.4	89.3	120.3	118.5

Source: *Zaiseikinyu-tokeigepou* (Monthly Fiscal and Financial Statistical Review), Ministry of Finance, vol 53, 1955.

very early years of the 1950s. Taking the case of pig-iron, the subsidy amounted more than 70% in 1948 and 1949. Iron bars were also subsidized almost half of its producer's price in 1948, the year interventionary policies were most visible. However, just as it was the case in investment financing, these straightforward interventions came to an end at the beginning of the 1950s.

From these two tables we can conclude the following: in the steel industry, the interventions by ways of investment financing and price support were very significant in the late 1940s; however, they did not linger on for years and almost stopped at the beginning of the 1950s. We will discuss in the next section what policy changes occurred at that time and why their effects were so sharp. In what follows, we would like to touch on the international competitiveness of the industry.

Table 5 gives us the prices of the three iron products: iron-bars, plates and sheets. There were some differences in international competitiveness of the three products, and the iron-sheets was the most difficult product Japanese steel companies caught up with the productive efficiency of their international counterparts. However, the overall picture we can draw from the table is that even in the 1950s Japanese steel companies suffered from "high prices". The direct control policies of the late 1940s supported the industry by allocating investible funds

favorably to the industry and by granting price subsidies. But, these policies alone did not make the industry internationally competitive; they revived the industry from the ruins of the war, but not to the extent of pushing the industry to the edge of world markets.

4. *Period of Preferential Tax Policies: 1950 to the early 1960s*

The purpose of this section is to examine the period after the stage of direct government interventions in markets. As was mentioned in the second section, the first period after the war was plagued throughout by high rates of inflation, and the very policies introduced by the government to reduce price increases brought about even more accelerated inflation. This vicious circle of public interventions and ever-increasing prices had to be terminated in one way or another for the Japanese economy to be set on a more stable long-run growth path. A relevant question, then, was how to do it; were there gradual safe landing scenarios available, or were there only “shock-therapy-kind” remedies?

We will briefly touch on the policy change in the 1950s and will characterize the coming period as the phase strongly skewed toward preferential tax policies. The outline of tax policies on corporate activities will next be presented. The questions we will pose thereafter are their effects on corporate capital accumulation and how to measure them. We will focus on the cash flows of corporations and show that tax policies in the 1950s were very effective to increase corporate cash flows, though not much effective in reducing corporate tax liabilities.

4.1 **Background of Policy Change**

The turning point of economic policy came in the middle of 1948 when inflation became chronic and seemed to have been built firmly in Japanese economy. This recognition was the same on the Japanese government side and on the GHQ, then a ruling organization of Japan. What, however, was not the same was the recognition of the degree of seriousness of the matter. Japanese government took the issue in a longer perspective and considered gradual price stabilization policies more appropriate than immediate ones. This was not the case on the GHQ: it insisted on more prompt and sweeping policy responses. In December, 1948, the GHQ issued the basic guideline on combating the inflation.

The guideline, which was called “the nine principles for economic stabilization”, clearly recognized the budget deficits as the most important cause of inflation. And it called for cutting public expenditure, raising tax revenues, more selective and careful screening of investment financing, and more effective control of prices and wages. It was, thus, a typical belt-tightening contraction policy. What made this guideline very important for postwar management of Japanese economy was that it was transformed into actual policies and many fundamental, almost bleeding, changes were made of the policies that had been undertaken in the preceding more interventionary period.

The architect of the conservative policies was Joseph M. Dodge, president of Detroit Bank. Balancing the budget was his top priority, and several painful reforms were proposed (and eventually carried out). Price-stabilization by way of filling the gap between producer's and consumer's prices was abolished. Investment financing of the Fukkin was terminated. And a new and special account, Mikaeri-account (U.S. aid account), was set up in the budget that

solely administered the aids from the U.S. The proceeds coming from the sales of the goods supplied by the government of the U.S. were accumulated in the account (in yen-denominated value), and the uses of this fund were put under the direct control of the GHQ. Even subsidies granted to the sales of the goods were claimed to be paid into the account (no discounts allowed to the sales of the U.S. aids), and the government transferred the subsidy-equivalent amounts to the account.

In order further to control government spending Dodge proposed a comprehensive budget; various, general as well as special, accounts of the government and the budgets of state-owned enterprises were ordered to be consolidated. He asserted surpluses in this comprehensive budget. The essential consequence of the Dodge Plan was to reduce the government's debt from the Bank of Japan. This, in fact, happened in a very drastic manner: the total amount of the central bank's holding of the government and the Fukkin bonds were cut by twenty-four percent in 1949, twenty-eight percent in 1950 and eight percent in 1951 (Flows of funds of the Bank of Japan). Accordingly, the money supply dropped very sharply: the rates of growth of M1 and M2 in 1948 were respectively about eighty and a hundred percent, but the corresponding rates dropped to twenty-five and twenty-seven percent in 1949. Even sharper declines of money supply followed in 1950.

Thus, the remedy of high inflation advocated by Dodge was a shock-therapy medicine. A contraction policy of this magnitude would never have been possible, had Japan not been under the control of foreign power. Evaluation of the policy aside, a big change that occurred was that now the government became much slimmer. This, however, did not imply that the government stopped intervening markets. Although it became more conscious about flooding markets with the base money, it changed the mode of market intervention from a direct to an indirect one. How did it change the policy? We will shift our attention to the new policy undertaken in the 1950s and the early 1960s.

4.2 The Outline of Preferential Tax Policies

A major reform of Japanese tax system was made in 1950 following the recommendations of the Shoup Mission, which was dispatched to Japan under the request of the Supreme Commander for the Allied Powers to "draw up a plan of a permanent tax system for Japan" (Shoup Mission (1949)). The basic reform made in the corporate income tax was that firms were conceived as a collection of individuals and that tax laws were deemed not to interfere in individual choice between corporate and non-corporate firms. As a natural consequence of this view the mission recommended the abolition of the excess profits tax which had hitherto been levied on corporations.

Since the primal objective of the mission was to introduce an income-based "permanent tax system", it did not deliberately deal with fiscal incentives for investment. However, some of the recommendations played important roles for capital accumulation. Among them the most noteworthy would be the recommendation for capital revaluation. After the second world war the Japanese economy was plagued with chronic inflation and the corporate capital was eroded significantly. Following the recommendation, capital revaluation was indeed carried into execution during 1950 and 1955 and helped the firms to increase their net worth [Hayashi (1958), Mitsubishi Kenkyusho (1961)].

As for the fiscal incentive policies, they were introduced soon after the basic reform of the

corporate tax law in 1950. Actually it was only a year after the reform that fiscal incentives were initiated with the introduction of accelerated depreciation for special equipments and tax-free reserves dealing with price fluctuations of inventory.

The history of postwar Japanese fiscal incentives thereafter may be characterized as a series of enactments of special measures to achieve specific policy objectives. Since the incentives were intended to meet the stated objectives of the government, their effective periods were limited, and they were not included in the Corporation Tax Law, but in the Special Taxation Measures Law, a collection of temporary special measures. However, the fact is that either the effective periods of special measures were prolonged or old measures were replaced by new ones, which in fact played the same role as the old. As a result, postwar Japanese fiscal incentive policies became unduly complicated. By 1976 the number of measures listed in Special Taxation Measures Law for fiscal incentives for corporations had reached ninety-eight, and it was only after 1976 that a substantial reduction of ad hoc measures for special purposes was begun.

Here it will be appropriate to present the construction of postwar Japanese fiscal incentives. Table 6 shows some examples, where fiscal incentives are classified into two categories: one in which tax savings are immediate, and another in which they are inter-temporal. The two types of incentives will be referred to respectively as exemption- and deferral-type. Exemption-type fiscal incentives are prevalent in most countries, especially in developing countries. Japan was no exception at least until the early 1960s (see Table 6 for some exemption-type incentives adopted in Japan). A fact to be noted here is that exemption has not been granted to corporations across the board, but only to those in keeping with the objectives of the government, e.g., corporations belonging to infant and export-oriented industries.

Deferral-type incentive policies consist of the allowance for tax-free reserves and accelerated depreciation. Accelerated depreciation writes off the value of fixed assets faster than their economic value diminishes and thus lessens the taxes levied in the early phase of asset lives. This method has been one of the most widely adopted measures for promoting investment in postwar Japan. However, it has not been the only deferral-type incentive in the period.

Actually, the most significant characteristic of postwar Japanese fiscal incentive policies is to be observed in the provisions of tax-free reserves. Corporations have been allowed to accumulate as reserves a part of their income for a certain period, the reserves being added back to income and taxed only when the period expires. In other words, corporations can delay the payment of taxes levied on a portion of their income. The rate of tax savings, accordingly, becomes larger as the tax-free reserve period is prolonged.

The stated rationale for this method is to let corporations prepare for unexpected losses. However, it needs be said that tax-free reserves in postwar Japan have been granted more for increasing corporate retained earnings than for letting corporations reserve decent sums for unexpected eventualities (see II-A in Table 6). A clear illustration of this is the reserve for price fluctuations, whereby corporations are allowed to retain a portion of income to offset losses due to the fluctuation of inventory values. However, the 1950 reform enabled corporations to select their inventory accounting method from among several approaches, including FIFO and LIFO. Hence, they are in a position to cope with fluctuations in inventory prices by choosing an appropriate accounting method. We may, therefore, conclude that this particular

TABLE 6. FISCAL INCENTIVES IN POSTWAR JAPAN: SOME EXAMPLES

Measures	Purpose and conditions of application	Effective Period
I. Exemption-type measures		
1. Exemption from corporate tax of income raised by producing certain goods	Applied mostly to petrochemical products	1966
2. Exemption from corporate tax of income raised by exports	Promotion of export-oriented industries	1953-63
3. Exemption from corporate tax of income spent for dividends for increased shares	To enhance corporate savings	1954-57
II. Deferral-type measures		
A. Tax-free reserves		
1. Reserves for bad debts	For expected losses in the collection of receivables	1950-
2. Reserves for retirement allowances	To let corporations prepare for payments for employees' retirement	1952-
3. Reserves for loss on returned goods	Applicable to publishers, pharmaceutical producers, etc.	1965-
4. Reserves for special repairs	Repairs of vessels, blast furnaces, etc.	1951-
5. Reserves for repairs and guaranteeing of certain products	Applicable to completed construction works, vessels, cars, television sets, etc.	1971-
6. Reserves for price fluctuations	For losses due to the fluctuation of prices of inventories	1951-
7. Overseas market development reserves for small and medium-sized enterprises	For export-oriented small and medium-sized firms	1964-
8. Reserves for drought	To allow power companies to prepare for seasonal fluctuations in output	1952-
B. Accelerated depreciation		
9. Accelerated depreciation for special equipment		1951-61 (revised)
10. Accelerated depreciation for equipment designated under the Modernization Promotion Act		1952-61 (revised)
11. Accelerated depreciation for equipment suitable for modernization	This unified accelerated depreciation measures 9 and 10	1961-

Source: Tajika and Yui (1990), p.39.

reserve has worked more as a device for reducing taxable income than for preparing for unexpected losses.

4.3 Taxation and Investment: an Interlinkage

Do tax policies matter for corporations contemplating investment? Of course they do, because tax cuts increase corporate income. There is no denial about this.

But, in Japan the rates of corporate-income tax were not set very low: it was set at thirty-five percent in 1950, the same rate recommended by the Shoup mission; it was raised to forty-two percent in 1952 after the Korean war, which helped improve the corporate profits; and it again was reduced to forty percent in 1960. The tax rates ranging from thirty-five to forty-two percent are certainly not very low. Another distinctive feature of Japanese corporate-income tax is that the portions of income exempted from tax base has been limited: the incomes yielded from certain sources such as exports and the productions of special goods designated important by the government may be exempted from tax. But, these exemptions are restricted only to the corporations satisfying certain qualifications.

What instead made Japanese corporate income tax distinguished from the rest of countries is that the deferral-type tax concessions have been widely granted. Accelerate depreciation, which is called "special depreciation" in Japan, was initiated in 1951, right after the sweeping tax reform of 1950. And it even writes off fifty-percent of the investment in some machineries in the first year, if they are classified as productivity enhancing. Tax-free reserves are the measures which also reduce corporate tax liabilities by postponing the time at which tax payments become due. We have seen how wide-ranging they are in the table showing the overall construction of Japanese corporate income tax.

Here we should notice the difference between income-exemption type measures and tax-deferral type measures. Suppose 100 yen is deducted from the taxable income and that the rate of corporate income tax is 50 percent. If the deduction is the exemption type, the firm can simply save 50 yen. This, however, does not apply when the amount deducted is of the deferral type. Suppose further the 100 yen deducted is added back to the taxable income of the next year. How much is the saving? Since the 100 yen sits untaxed for only a year, the net interest earned from this should be the proper saving from this deduction, i.e., the tax saving far smaller than the one realized by the exemption-type. The two types of deductions can be identical if the length of tax-free deferral extends to infinity, but that is exactly what tax exemption means.

Calculations are more complicated for tax-deferral measures actually employed. However, most of tax-free reserves in Japan defer tax payment for a year (with the important exception of the reserve for retirement allowance). Hence in terms of tax savings their effects should not be very big. As for accelerated depreciation, the degree of tax savings depends on the rate of depreciation that otherwise would have been applied. However, when tax savings are calculated as the present value at which the capital investment is made, tax savings again might not come out very big.

Now, the question posed at the beginning of this sub-section becomes slightly more difficult to answer. Let us pose the question in a clearer way. Why do taxes matter even when the rate of corporate income tax is not low and tax preferential measures are predominantly of the deferral type? Saving tax would not be the answer to this question by the reason offered above. It would be more natural to consider that the availability of investible funds matters as

much as the disposal income at the hands of corporations. It would be worthwhile in this context to note that corporate cash flows are determined at a point in time, say a year. They do not extend over years, whereas current investment and reserves will affect the corporate income of succeeding years.

Let us recall the story of 100 yen deduction. Incomes of succeeding years will be different how the 100 yen is deducted, i.e. as an exemption or as a deferral. And when it is a deferral, it further matters how it will be recouped in future. But, all these complications disappear as far as the cash flows are concerned. The cash flow is determined solely by the transactions of a year and, therefore, whether the deduction is of the exemption-type or of the deferral-type has nothing to do with it. All that matters is how much money remains at the end of a year's business activity.

For one reason or another, if firms tend to take their cash flows into consideration when deciding their capital investment (probably as the information strengthening the viability of a project along with its rate of return), then we may claim that there is a case that taxes do matter. Why then cash flows are important for Japanese firms planning investment? We can answer this question in a rather straightforward way. If capital markets are perfect and the firms can borrow from them the necessary amounts for investment, cash flows can be freely adjusted and there should be no reason that they matter. But, this hardly is the case in reality; much less so in Japan of the 1950s when the shortage of investible funds was the nation's one of the most crucial problems to overcome. Cash flows, or the availability of funds, did matter and to it tax policies were very deeply related.

4.4 The effects of tax policies on corporate cash flows

An exercise which must be undertaken is how, then corporate cash flows have been affected by tax policies. Although this exercise does not require us the cumbersome job of calculating the present value of depreciation as in calculating the cost of capital, it still needs such corporate tax statistics as income, various deductions, depreciations and so forth.

The corporate tax statistics in the 1950 and before are very scarce in Japan, and doing this exercise systematically for individual industries is impossible. However, a report of Tax Council (1960) presents tables containing the data necessary for our study. We have supplemented these tables with the numbers from other tax statistics and are able to reach some estimates on the effects of tax policies on corporate cash flows. Since two different statistics have been combined and some assumptions were made on the shares of accelerated depreciation of the total depreciation, the results below could not be accurate. However, they seem to unveil some of the effects of tax policies that hitherto have not been shown.

Definitions of three kinds of cash flows are now in order. We have started from the taxable income and tried to recover corporate cash flows. Let the taxable income be denoted by INC, the amount of depreciation (net of accelerated part) by DEP, the amount of tax-free reserves deducted by Δ RES, the amount of accelerated depreciation by SDEP, and the amount of exempted income deducted by EXINC. We define the gross cash flow (GCF, hereinafter) as the cash flow before tax and before the subtraction of capital investment. Then, GCF may be expressed by:

$$\text{GCF} = \text{INC} + \text{DEP} + \Delta\text{RES} + \text{SDEP} + \text{EXINC}.$$

The net cash flow (NCF) is the cash flow after tax. Hence,

$$\text{NCF} = \text{GCF} - \text{TAX},$$

where TAX is the amount of tax paid. Now, since we are interested in the effects of various preferential tax policies on cash flows, we want to have a cash flow that firms would have had, if no special tax concessions had not been granted, i.e. the after-tax cash flow without special measures. Denoting this cash flow by NCF₀ and the rate of corporate income tax by *t*, we can express it as follows:

$$\text{NCF}_0 = \text{NCF} - t \cdot [\Delta\text{RES} + \text{SDEP} + \text{EXINC}],$$

where the second term of the right hand side represents the increase of cash flow due to the application of special measures to relevant firms

With the three cash flows available, we would like to obtain several indexes which measure the effects of tax policies. First, we calculate TAX/GCF, which is the portion of GCF leaked by taxation. Second, we will calculate

$$[\text{NCF} - \text{NCF}_0] / \text{GCF} = t[\Delta\text{RES} + \text{SDEP} + \text{EXINC}] / \text{GCF},$$

which is the cash flow saved by the preferential tax policies. Third, we calculate

$$[\text{NCF} - \text{NCF}_0] / \text{NCF}_0 = t[\Delta\text{RES} + \text{SDEP} + \text{EXINC}] / \text{NCF}_0,$$

which represents the effects of tax policies on the net cash flow. This index is decomposed into three effects, corresponding respectively to tax-free reserves, accelerated depreciation and exempted income. We will show these decompositions shortly in our tables.

Table 7 summarizes our results. Estimation was done for the overall total (the aggregation of all corporations with and without tax liabilities). Since we did not have statistics of DEP, we have set it equal to SDEP_x (95/5), that is DEP was considered to be 95% of total depreciation (this estimate of 1959 was presented in the aforementioned Tax Council's report). Two caveats are due here. First, since all corporations are added, GCF includes the cash flows of the firms with deficits. However, since tax is paid only by the firms of positive income, dividing tax by our GCF will give us underestimated tax burden. Similarly, the rest of estimations will also be biased downward. Second, our estimation of DEP is very rough, and this might have caused unexpected biases to our estimates.

With these cautions in mind, we can find out from the table that the share of tax to the GCF was declining over the 1950s and it was about 20% at the end of the decade. The rate of increase of the cash flow due to preferential tax policies varied from year to year and the highest one was 8% in 1955. These estimates seem to be rather conservative, and this is due to our biased estimates of the GCF. Of the three preferential taxes affecting the tax burden, tax-free reserves were the most powerful scheme that reduced the burden. Exempted income came as a second, but this is just an estimate of aggregate firms and different results may very well emerge when tax burden of specific industries of firms were estimated.

TABLE 7. THE EFFECTS OF PREFERENTIAL TAX POLICIES ON CASH FLOWS, %

YEAR	Tax GCF	Tax Saved GCF	Effects of Special Tax	Reserves	Special Depreciation	Exempted Income
1951	37.1	1.2	2.0	1.4	0.0	0.6
1952	34.5	6.2	10.5	9.2	0.4	1.0
1953	31.1	7.3	11.8	10.2	0.5	1.2
1954	29.6	7.4	11.8	9.6	0.5	1.6
1955	28.7	8.0	12.6	9.0	0.5	3.0
1956	24.7	6.4	9.3	6.1	0.7	2.6
1957	20.1	5.1	6.8	3.2	0.8	2.7
1958	19.6	4.6	6.0	3.3	0.7	1.9
1959	19.9	4.0	5.3	3.4	0.8	1.1
1960	21.9	3.3	4.4	2.8	0.8	0.9

Source: Calculated by the authors using Tax Council's Report in 1960.

Table 8. The Effects of Preferential Tax Policies On Cash Flows: sample firms, %

Firm	Tax GCF	Tax Saved GCF	Effects of Special Tax	Reserves	Special Depreciation	Exempted Income
Mining	25.1	6.8	10.0	7.2	2.2	0.5
Spinning	23.9	6.0	8.6	-1.9	2.9	7.6
Syn Fib	15.5	12.0	16.6	1.3	3.6	11.7
Paper	23.6	8.4	12.3	6.7	2.2	3.4
Fert	13.9	14.6	20.4	1.8	3.3	15.2
Steel	9.2	8.2	10.0	1.1	6.2	2.7
Elect	22.7	6.0	8.4	3.6	3.2	1.5
Trade	20.9	12.2	18.3	8.1	0.1	10.0
Bank	16.6	8.7	11.6	10.6	0.3	0.6

Notes:

(1) The abbreviations of firms are the following:

Mining: a mining firm,

Spinning: a spinning firm,

Syn Fib: a textile firm producing synthetic fibers as one of its main products,

Paper: a paper producing firm,

Fert: a fertilizer firm,

Steel: a steel firm,

Elect: a electric power firm,

Trade: a trading firm,

Bank: a bank.

(2) Depreciation / Special Depreciation = 8/2.

Source: The same as in Table 7.

Table 8 corrects some defects encountered in the aggregate estimates. Here, we used the individual data of sample firms presented again in the Tax Council's report (averaged over 1957 to 1959). Since these samples were given as examples of the firms enjoying concessionary taxes, we cannot infer from Table 8 a general picture of the effects of taxes. But, the results

here seem to be much more accurate than those shown in Table 7.

Table 8 reports higher shares of taxes to the GCF than Table 7 (in corresponding years of estimates). This would be due to our overestimating the GCF in Table 7. The numbers in Table 8 seem to convey more accurate tax burden. The tax burden varies quite widely among individual firms, and this reflects the facts that some of tax concessions were granted to specific industries. The table shows that some of the sample firms were able to slash more than ten percent of their cash flow off by special tax provisions. A quite different feature in Table 8 from Table 7 is that the effects of special tax measures were very different from one firm to another: for the firms producing synthetic fiber and fertilizer and a trading company, income exemptions were most influential measures that reduced their tax liabilities; the steel producing firm realized the most significant tax reduction from accelerated depreciation; and the bank from tax-free reserves (probably those for bad debts and for retirement allowances).

Combining the results of the two tables and correcting our biased numbers in Table 7, we can claim that preferential tax policies were indeed playing a major role for increasing firms' cash flows, though the effects of the policies on tax saving might not have been that much significant. And preferential taxes were not granted across the board, but some of them were provided to very specific classes of firms.

5. *Conclusions*

We have drawn Japanese economy at the dawn of its high growth era. The dawn did not break easily, and the government continued to struggle to find the ways to allocate investible funds more efficiently. We would now like to summarize how capital was accumulated in the very difficult time after the war. Some lessons will follow the summary with respect to the role of the government for capital formation. Stories about failures proceed first, and an important role of government for capital allocation will be presented.

We stressed the two facts with regard to the process of capital investment. The first fact was that the price-stabilization policy of 1947 was more for supporting producers than for protecting consumers and that it helped the industry accumulate internal funds for investment. This financial support was supplemented by the loan from the Fukkin, the state investment bank.

The second fact we emphasized was that tax policies mattered very much in the 1950s, not solely for reducing tax liabilities, but probably more from securing internal funds for investment. We tried to describe the two notions of income and cash flows as two very distinctive ones and to show that tax policies affected cash flows more straightforwardly than income.

These are the main findings of this paper. Policies of direct control and those of more indirect nature, taking the form of taxation, played their respective roles to some extent. However, whether they were necessary instruments for successful development is difficult to settle, for counterfactual (what-if-otherwise-the-case) experiments could never be tried. Instead of staying on this impossible task, we would like to discuss some of the failures of the governmental policies.

The first failure was that the ultimate underwriter of price subsidies and investible funds was the central bank of Japan. This made the decisions of public expenditure and of project

screening loose, and the budget deficits continued to increase. The second failure, or rather a problem, was that price support did not make the key industries competitive. The steel industry recovered from the ruins of the war, but it only became internationally competitive much after the repeal of price support. In other words, the industry became competitive mostly for itself, not by the lucrative profits made available by liberal price supports.

The third failure was to do with tax policies. The government did not even study, much less make a decision on, the possibilities of shifting corporate tax base from income to cash flows. However, what it did by introducing preferential measures was nothing but increasing cash flows. Since almost all of them were closely related to specific industries, they were granted in very ad-hoc manners, and Japanese tax system became unduly complicated.

These were the policy failures or the sources of failures in the long run. We now turn to the contributions of the government to capital formation at the time of impoverishment. In this respect, we consider concentrating resources in strategically important industries was important and effective for setting a stage for further economic growth. To put it in a more broader perspective, speculative demands were strong after the war when money was chasing scarce supplies. If markets had completely decided the allocation of investible funds, it could have happened that most of the resources had been used for housing and for other uses which enabled quick return to investors. Investment under these circumstances could be very speculative and of myopic nature.

Thus, at the time of shortage, or at the very early phase of development, the government has to assume a role of transferring certain amounts of resources to productive ventures that more often than not are long-run investments. In this sense the key-industries-concentrated investment policy was effective.

However, which institutions should evaluate investment projects and give loans is another matter. There seems to be no a priori rationale to set up a state investment bank and to let it administer investment financing. The government may have to procure funds for investment, but it does not have to be a major player in the field of banking.

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