

RAPID ECONOMIC GROWTH IN POST-WAR JAPAN

—With Special Reference to “Excessive Competition”
and the Formation of “*Keiretsu*”—

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This article intends to analyse the “miraculous” economic growth of post-war Japan from three points of view: the acquisition of investment funds by enterprises, the investment behaviour of enterprises, and the role of the government. It is revealed that the economy, after the dissolution of the pre-war *zaibatsu*, has passed through a unique reorganization process, i. e., the formation of *keiretsu*. In this process there has been excessive competition among enterprises, and the competition has played the role of the driving force realizing the rapid economic growth.

I. THREE ASPECTS TO THE POST-WAR JAPANESE ECONOMY

In the ten years from 1954 to 1963 Japan's real national product rose by more than 2.2 times, showing an annual average growth rate of 9.4%. In the light of the fact that during this period the annual average growth rate of real national product was 7.4% in West Germany, 6.5% in Austria, 6.1% in Norway, 6% in Italy, 4.9% in France and, in particular, 2.8% in the United States and 2.5% in England, we see that Japan's growth rate was of remarkable order.

The economic bodies which actually attained this high economic growth are, of course, the individual enterprises. The growth of Japanese enterprises in the post-war period has been such as to fit the word ‘miraculous’ exactly. For example, the sales and sales profits of Matsushita Electric Industrial, a representative manufacturer of domestic electrical appliances in Japan, increased by as much as thirteen times in the ten years from 1954 to 1963. Even in its most flourishing ten-year period (during the 1920's) the Ford Motors, famous for its mass-production ‘Ford system,’ proved incapable of exceeding an increase of the order of ten times. In post-war Japan, however, not only Matsushita but also such manufacturers of domestic electrical appliances as Sanyo Electric, Sony, and Hayakawa Electric have all realized sales increases of from ten to twenty times in the last ten years, while Toyota Motor and Nissan Motor are also no exceptions to this phenomenon.

Nevertheless it is well known that behind the splendid spectacle afforded by this rapid growth there has developed a fierce market-sharing competition among the various enterprises. The large enterprises of Japan have been

ying desperately with one another, competing fiercely in the introduction of foreign technology, in investments in equipment in their factories, and in advertising and sales. The term 'excessive competition' secured immediate acceptance throughout the country as an expression of this state of affairs. The situation is exemplified by the following facts: 64 Japanese trading companies are engaged in business in New York and 38 in Hong Kong; 53 Japanese manufacturers have been importing electronic technology from Radio Corporation of America, and 17 Japanese companies have been paying patent fees for the Sanforizing process to the Peabody Company.

Thus, because the Japanese economy grew at a high rate it provoked 'excessive competition' among enterprises, and 'high economic growth rate' and 'excessive competition,' being, as it were, the two sides of a coin, have been the driving force of the post-war economy, with 'excessive competition' acting as the driving force for the attainment of high growth rate. From the point of view of the relations between various enterprises this economic situation has tended to strengthen large-scale enterprises. As is well known, there used to be the Mitsui, Mitsubishi, Sumitomo, and other *zaibatsu*, the enterprise groups which ruled pre-war Japan, but these *zaibatsu* were dissolved under the post-war Occupation policy. Recently, however, the companies formerly affiliated to the *zaibatsu* have come to be reintegrated anew as enterprise groups known by the name of '*keiretsu*' (a word signifying a closely tied complex of industrial and financial corporations).

Viewing this development from '*zaibatsu*' to '*keiretsu*' as a whole, the following two points seem characteristic. First, in the pre-war *zaibatsu* the links in the enterprise groups were centred on the commercial sector of their businesses. (Consider, for example, the influence wielded by Mitsui & Company in the pre-war Mitsui *zaibatsu* and by Mitsubishi Shoji in the Mitsubishi *zaibatsu*.) But in the post-war '*keiretsu*' the enterprise groups are centred on the heavy and chemical industry sector. Second, the pre-war *zaibatsu* took the form of 'family konzerns' linked vertically and topped by a holding company for the whole group. On the other hand, the post-war '*keiretsu*' are centred on financial institutions, and take the form of konzerns in which the enterprises are linked horizontally.

The post-war '*keiretsu*' include not only enterprise groups formerly affiliated to the Mitsui, Mitsubishi, Sumitomo and other *zaibatsu*, but also newly formed enterprise groups such as the Toyota Group, the Hitachi Group, the Toshiba Group, and the Yawata Group. All of these are making unceasing efforts to strengthen their own groups, and at the frontiers of the new industries which have been developed in Japan since the war, they have been competing against one another without quarter in equipment investment. When, for example, the Mitsubishi Group built an oil and chemicals refinery at Yokkaichi, competitive construction of a similar plant was pressed forward by the Mitsui Group at Iwakuni, and the Sumitomo Group at Niihama, then by the Nippon Oil Group at Kawasaki, and lastly by the Idemitsu Kosan at Tokuyama. At present no less than nine oil and chemicals refineries

are producing within the narrow confines of Japan. This is so not only in the case of the oil-chemicals industry. In the field of motor vehicles, too, nine manufacturers in addition to Toyota and Nissan are competing to increase their shares in the market. Similar competition is being carried on by all other industries from iron and steel to food processing. As a result, Japan's productive potential has risen rapidly and she has realized a degree of high growth which is literally the highest in the world.

In the above account we have likened 'high economic growth rate' and 'excessive competition' to the two sides of a coin, but in fact there is another aspect to the Japanese economy. It would be more accurate to say that 'high economic growth rate,' 'excessive competition,' and 'the *keiretsu* form of organization' are the three aspects which built up three-dimensionally the reality of the Japanese economy in the 1950's. Thus, in order to reveal the secret of rapid economic growth in post-war Japan it is necessary to reveal the process by which 'excessive competition' developed among the large enterprises of Japan, i. e., to explain the method of capital accumulation in the various '*keiretsu*' and the process by which the enterprises were organized in the form of '*keiretsu*'.

The key to the secret of the rapid economic growth in the post-war period, particularly since 1955, is to be found in the following four questions: First, how did the large enterprises get the necessary funds? Second, how did they get the necessary labour? Third, what instigated the enterprises to invest so furiously? And fourth, to what extent were the policies adopted by the government effective? The labour question can be answered quite simply. Until quite recently (or at least up to 1956), a continual supply of superior labour, both of good quality and readily adaptable to modern technology, was available, and the enterprises' propensity to invest was never subject to restriction from this aspect. Consequently, in the following sections we shall consider the remaining three questions in some detail.

II. THE ESTABLISHMENT OF INDIRECT FINANCING

First, we must consider the method of obtaining funds for an enterprise. The following three main methods are normally employed: Under direct financing when an enterprise is about to embark on an undertaking it issues debentures or shares and obtains funds directly from the public. Under indirect financing it does not obtain funds directly from the public but obtains the funds indirectly in the form of a loan from some financial institutions which have collected funds from the general public in the form of deposits. This method is characterized by the existence of a financial institution standing between the public, the providers of the funds, and the enterprise, the source of demand for funds. Lastly, under self-financing the funds needed by the enterprise are provided out of the internal funds of the enterprise itself, for example, out of depreciation funds or profits held over.

Table 1 shows the percentages of funds obtained by enterprises in Japan,

the United States, England, and West Germany in the last five years. As we see from the table, the advanced countries were practically wholly dependent on self-financing, and Japan alone is conspicuous as having adopted indirect financing. We would expect there to be some relation between this method of obtaining funds and the highest growth rate in the world.

In what way, then, did this indirect financing come into being? That it was not, of course, of natural origin will be apparent from the fact that West Germany, which, like Japan, made a recovery after defeat in war, adopted a method of obtaining funds which differed from that adopted by Japan. To state our conclusion in advance, an important factor is that in the post-war measures for currency reform—the ending of war subsidies, the dissolution of the *zaibatsu*, and the dispersal of concentrations of economic power—more care was taken in Japan than in West Germany to see that the city banks would always be in an advantageous position.

First, in the change to the new yen currency in Japan carried out in February, 1946 (the Emergency Financial Measures) new yen was given in exchange for old yen at par only up to a sum which was insufficient even for living expenses for one month. All remaining yen assets were compulsorily paid into savings accounts, which, furthermore, were blocked, and free disbursements from the banks were stopped. For the city banks, which had on their books vast sums in bad debts owed by armaments firms which were bankrupt due to the defeat, this blocking of deposits was, needless to say, a welcome measure promising recovery from a desperate situation. In contrast to this, the currency reform effected in West Germany in June, 1948, was a measure extremely unfavourable to the creditor banks, since it provided for the exchange of old Reichsmarks for new Deutsche Marks at the rate of 10 to 1, and debts in the old Reichsmarks were in principle also scaled down to one-tenth. Conversely, this may be said to have been a measure very much in favour of borrower enterprises. Nor was this all, for in West Germany

**Table 1. PERCENTAGES OF FUNDS OBTAINED BY ENTERPRISES
IN VARIOUS COUNTRIES (%)**

Source of Funds	Japan Average 1958-62	United States Average 1958-62	England Average 1958-60	West Germany Average 1958-62	
Internal Funds	Depreciation	20	39	28	50
	Held Over	4	26	34	5
Shares	13	14	15	11	
Debentures	7	} 11	6	} 34	
Bank Borrowings	34		4		
Other	22	10	13		
Principal Method Employed	Indirect Financing	Self- financing	Self- financing	Self- financing	

Source: Statistics Department, Bank of Japan, *Nippon keizai wo chūshin to suru kokusai hikaku tōkei* (Japan and the World: A Comparison by Economic and Financial Statistics), March, 1964.

measures were also taken to evaluate firms' assets at market prices and to grant temporary exemption from taxation for appreciation resulting from this evaluation, so that extraordinarily convenient conditions were provided for manufacturers directly participating in industrial production. In Japan the ground was made firm for the banks, but on the other hand, in the course of the subsequent inflation the manufacturers were obliged to suffer inroads made in their capital through lack of redemption funds, because the revaluation of their assets was delayed. Here we find the earliest instance of the banks being given preferential treatment over industry.

Second, we must consider the ending of war-time subsidies. In West Germany no particular problem arose regarding war-time subsidies, since all debts were reduced to one-tenth. In Japan problems arose over the bad debts owed to the banks and the disposal of the rights on them. In this matter, too, the banks enjoyed favourable treatment. The "special losses" of the armaments firms resulting from the ending of war-time subsidies were not charged to the account of the banks, the former creditors, but a fair proportion of them were charged to the account of the shareholders of the armaments firms. In particular it is worthy of note that before anything was charged to the account of the creditors (chiefly the banks) an amount of up to 90% of capital funds chargeable to the account of the shareholders was first calculated, and only if this were insufficient was anything ever charged to the account of the creditors. Thus the banks who in the previous instance found themselves in a favourable position at the time of the change to the new yen currency as *debtors* of their depositors now received preferential treatment as *creditors* of the armaments firms.

Third, it is a well-known fact that, as a part of the measures for the dissolution of the *zaibatsu*, private enterprises or combinations of such enterprises which either (a) had large assets, (b) had many employees, (c) were engaged in branches of activity unrelated to one another, (d) exercised managerial control over other enterprises, or (e) supplied the greater part of important products, were designated enterprises in which "an excessive concentration of economic power in private hands" was present, and measures for deconcentration were taken in respect to them. While there was a fair number of companies in the manufacturing and mining, and the commerce and services sectors which were designated as subject to deconcentration under these measures and which were actually split up and their factories disposed of (257 companies were designated in the manufacturing and mining sector and 68 in the commerce and services sectors, but only 18 companies were made subject to action), the main banks, headed by the city banks, were not designated either as holding companies or as companies subject to deconcentration, and they survived unscathed.

Finally, the point that the banks were consistently afforded preferential treatment due to the success of some measures and the failure of others was a great factor in the development of the Japanese indirect financing method. These measures included such things as the collapse of the movement for the

democratization of securities holdings which aimed at the promotion of direct financing, the collapse of the Shoup Recommendations (measures for preferential treatment of dividends as opposed to interest on deposits in tax policy), and the revival of the debenture-issuing banks which had been prohibited by GHQ.

The term 'indirect financing,' however, does not adequately describe the methods for obtaining funds employed in the post-war Japanese economy. This is because, though we speak of 'indirect financing,' it is not true that all enterprises of all their variety of size are equally being financed from financial institutions.

Next, let us go further into the matter and see what concrete form indirect financing took after 1955.

First, in Table 2 we can see, within the funds supplied for the purposes of industry, the breakdown of the funds obtained from sources outside the enterprise and the relative importance of each source. The most conspicuous fact would seem to be that, after 1955, the importance of government financial institutions declined greatly while the proportion of funds supplied by private financial institutions, in particular by the city banks, rose.

A closer examination of the content of this advance on the part of the city banks throws into relief the fierce competition in loans among the city banks, and the consequent competition for deposits to be used for this purpose. Table 3 lists the banks in order of their balances on loans at the end of each year from March, 1955.

All the banks show spectacular increases of up to five times in the last ten years, but we can see from the figures how fierce the competition for loans was among the city banks, as was exemplified in the struggle for first place between the Fuji Bank and the Mitsubishi Bank, and the Tokai Bank's ascent to a higher place in the table. The figures for March, 1964, show that the balances on loan from the four great A-class banks, Mitsubishi, Fuji, Sanwa, and Sumitomo, were all over ¥600,000 million, with the B-class banks,

Table 2. SOURCES OF FUNDS SUPPLIED TO INDUSTRY (%)

Year	Total External Funds Supplied	Securities Market		Private Financial Institutions			Government Financial Institutions	Finance Special Account	
		Shares	Debentures	Total	City Banks	Long-term Credit Banks			Others
1954	100.0	23.23	3.01	66.21	14.96	9.79	41.45	16.35	2.67
1955	100.0	14.12	3.92	68.91	17.68	7.47	43.76	11.07	3.32
1956	100.0	12.53	4.06	76.78	40.87	3.94	31.97	4.98	2.33
1957	100.0	15.89	2.91	73.36	33.90	4.87	34.59	6.08	1.94
1958	100.0	14.28	3.54	72.44	24.82	8.30	39.32	7.29	2.46
1959	100.0	11.17	6.88	73.06	24.78	6.94	41.34	6.42	2.48
1960	100.0	16.12	5.22	71.19	24.83	6.34	40.02	5.46	2.01

Source: Compiled from Statistics Department, the Bank of Japan, *Hompō keizai tōkei* (Economic Statistics of Japan), 1962.

Tokai, Kangyo, Mitsui, and Dai-Ichi, in ¥400,000 million, and the remainder below ¥300,000 million.

Fierce lending competition among the city banks is thus one of the characteristics of recent times, but this is not all. It is an important point that over two-thirds of the amount on loan from the city banks has been lent to large enterprises, as is clear from Table 4. If we add to these loans

Table 3. CITY BANKS IN ORDER OF BALANCES ON LOAN IN THE LAST TEN YEARS (in March of Each Year)

Banks	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Fuji	1	1	1	1	2	2	1	1	1	2
Mitsubishi	2	2	2	2	1	1	2	2	2	1
Sanwa	3	3	4	3	3	3	3	3	3	3
Sumitomo	4	4	3	4	4	4	4	4	4	4
Kangyo	5	5	5	6	5	7	6	5	7	6
Mitsui	6	6	6	5	6	6	5	6	6	7
Tokai	7	7	7	8	8	5	7	8	5	5
Dai-Ichi	8	8	8	7	7	8	8	7	8	8
Kyowa	9	9	9	9	9	10	10	11	11	11
Daiwa	10	11	12	11	11	11	11	10	9	9
Kobe	11	12	11	12	12	12	12	12	12	12
Tokyo	12	10	10	10	10	9	9	9	10	10
Hokkaido Takushoku	13	13	13	13	13	13	13	13	13	13

Source: Compiled from an analysis of financial statements published by the Japanese banks.

Table 4. BORROWINGS BY LARGE ENTERPRISES IN MANUFACTURING INDUSTRY (Enterprises with more than 1,000 Employees) (%)

Private Financial Institutions	City Banks	68.68
	Local Banks	36.61
	Long-term Loan and Trust Banks	86.39
	Financial Institutions for Medium and Smaller Enterprises	10.31
	Total	70.75
Government Financial Institutions	Development Bank	34.31
	Small Business Finance Corporation	0.12
	People's Finance Corporation	12.20
	Total	37.64
Business Associates		16.39
Professional Moneylenders		—
Relatives and Acquaintances		0.78
Others		59.44
Grand Total		58.04

Source: *Chūshōkigyō chōsa saishūkei shiryō* (Recompiled Data from Surveys of Medium and Smaller Enterprises), balances on loan on 31st December, 1957.

those made by the long-term credit banks, the trust banks, and the development banks, we see that an immense sum in capital funds is being supplied entirely for the purpose of financing large enterprises.

What is more, carrying our analysis of the loans from the city banks to the large enterprises one step further, we can draw attention to a most singular tendency. This is the fact that these loans are supplied as concentrated finance to enterprises belonging to the same *keiretsu*. This is shown statistically in Table 5.

In the table $\frac{b}{a}$ indicates the percentage of loans made by city banks which are made to enterprises belonging to the same *keiretsu*, and $\frac{b}{c}$ indicates, from the point of view of the enterprises belonging to the same *keiretsu*, the percentage of the funds required by the enterprises borrowed from banks belonging to their own *keiretsu*. Generally speaking, $\frac{b}{c}$ is greater than $\frac{b}{a}$. This shows that the lending power of the city banks is the greater, and that they easily have more than enough funds with which to meet the requirements of the *keiretsu* enterprises. An exception is the Mitsui Bank. In spite of the fact that 24% of the loans made by the bank are to enterprises in the Mitsui *keiretsu*, the bank is not supplying to the full the funds demanded by the *keiretsu* enterprises because such an extremely large sum in funds is required by the Mitsui *keiretsu*. We may say that this reveals most strikingly one of the weaknesses of the post-war Mitsui *keiretsu*.

To summarize, we have made clear: (1) that after 1956 the importance of government financial institutions declined and the indirect financing centred on private financial institutions, particularly the city banks, was established; 2) that fierce competition in loans occurred among the city banks; 3) that the greater part of the loans made by the city banks went to finance large enterprises, and 4) that *keiretsu* financing was particularly conspicuous. These are the characteristics of indirect financing peculiar to the economy of post-war Japan.

Table 5. PROPORTION OF *KEIRETSU* FINANCING IN LOANS MADE BY THE PRINCIPAL BANKS (Average of 1956-60)

Banks	$\frac{b}{a}$	$\frac{b}{c}$	Banks	$\frac{b}{a}$	$\frac{b}{c}$
Fuji	13.27	24.21	Sumitomo	9.73	19.33
Mitsubishi	19.23	21.97	Mitsui	24.27	17.16
Sanwa	10.05	25.08	Dai-Ichi	16.65	18.11

Note: (a) denotes total loans, (b) loans made to enterprises in the *keiretsu*, and (c) total borrowings by the enterprises in the *keiretsu*.

Source: Compiled from Negotiable Securities Reports.

III. THE PRINCIPLE OF 'SET CONTROL' OF THE NEW ENTERPRISES

What raised the enterprises' propensity to invest? In a word we may say that it was "investment behaviour aiming at control by the *keiretsu*" of a complete set of all industries related to one another.

While he was still president of the Mitsubishi Bank, Makoto Usami, the President of the Bank of Japan, spoke as follows regarding the principle of set control:

"We are not doing it under any definite principle of aiming at set control. Within our group alone there are a large number of undertakings and if, for example, it happens that we have to go into business in, say, the oil-chemicals industry, Mitsubishi Rayon has connexions with oil-chemicals, and so does Mitsubishi Chemical Industries. As a result it appears as though we had a general principle of getting set control of industries. I think the truth is not that we have the idea of getting a complete set of everything there is, but that these things happen out of the necessities of business."¹

This may indeed be so. When we speak of set control, we, too, do not mean a mere unreasoning "getting a complete set of everything there is." It is no doubt natural that these events should have taken place under the pressure of necessity, but what were these necessities? Why did they result in the principle of set control? This is what I wish to analyse.

As we have seen above, indirect financing has been prevalent in post-war Japan. What is more, through the pipelines of the giant pre-war *zaibatsu* banks and the other city banks have passed the post-war recovery funds and modernization investment funds. The companies which were in an advantageous position for obtaining funds were those backed by the powerful banks, headed by the companies formerly affiliated to the *zaibatsu* and connected with these pipelines. That is to say, in the natural course of events funds were supplied in the form of long- or short-term loans by the Mitsui Bank to the Mitsui *keiretsu*, by the Mitsubishi Bank to the Mitsubishi *keiretsu*, by the Sumitomo Bank to the Sumitomo *keiretsu*, by the Fuji Bank to the Yasuda *keiretsu* and the former Asano *keiretsu*, and by the Dai-Ichi Bank to the Kawasaki Dockyard, Kobe Steel, etc. It is nevertheless true that investment in coal and mining, shipbuilding, marine transport, and other industries which have had difficulty in paying their way since the war, as well as in electricity, roads, railways, airways, telecommunications, and other branches of the basic industrial sector, has been increasingly dependent on state capital financed by the Development Bank or direct investment out of government funds.

Thus the companies backed by powerful banks, such as those formerly

¹ "Zaibatsu kaitai no kōzai" (The Merits and Demerits of the Dissolution of the *Zaibatsu*), *Ekonomisuto*, August 18, 1964.

affiliated to the *zaibatsu* and in possession of advantageous positions for obtaining funds, took steps to rebuild and expand themselves. It was not merely the rebuilding, rehabilitation, and expansion of enterprises which had existed from the war years that took place. All of the *keiretsu*, backed by funds from the banks, eagerly entered new fields, including some with which they had no connexion before the war. For example, up to 1952 the Integrated Steel Manufacturers were confined to the so-called "three integrated companies"—Yawata Iron & Steel and Fuji Iron & Steel (the two companies which were formerly Nippon Iron & Steel) and Nippon Kokan. Recently Kawasaki Steel, Sumitomo Metal Industries, Amagasaki Iron & Steel, Kobe Steel, Nakayama Steel, Nisshin Steel, and Osaka Iron & Steel have been added to the number of steel manufacturers, making a total of ten large producers.

In the automobile industry the situation is the same. In 1949 small four-wheeled vehicles were all produced by the three firms Toyota, Nissan, and Ota Motors. Since that date Prince (formerly Fuji Precision Machinery), Hino, Isuzu, Shin Mitsubishi, Toyo Kogyo, Daihatsu Kogyo, Honda Motors, Fuji Heavy Industries and others have joined the field and by 1964 had expanded their production by as much as forty times in their efforts to overtake Toyota and Nissan. On the other hand, Ota Motors and Tokyu Kurogane became entirely eclipsed by the rise of these new companies. In the paper industry, Oji Paper, which before the war produced 72% of all the paper (excluding *Japanese paper*) in Japan, was not only divided up into three companies (Jujo Paper Mfg., Oji Paper, and Honshu Paper Mfg.) but also came into competition with Daishowa Paper Mfg., Kokusaku Pulp, Tohoku Pulp, Kanzaki Paper Mfg., Chuetsu Pulp, Mitsubishi Paper, etc.

In addition to these, similar relations are to be found both in synthetic fibres and in electric refrigerators, the typical durable consumer's goods products. This will be clear from the degree of concentration of production in industries conspicuous for the number of new enterprises, as shown in Table 6.

What we can read from this table, however, is not merely the large numbers of new enterprises entering these fields but that practically all these new enterprises, as closer inspection will show, had the backing of such powerful banks as the following:

- (1) Mitsui Bank : Hino Motors, Kanegafuchi Spinning
- (2) Mitsubishi Bank : Honda Motors, Shin Mitsubishi Heavy Industries
- (3) Sumitomo Bank : Nippon Electric, Daishowa Paper Mfg., Sumitomo Metal Industries, Toyo Kogyo, Kanzaki Paper Mfg., Sanyo Electric
- (4) Fuji Bank : Hayakawa Electric
- (5) Sanwa Bank : Teikoku Rayon, Amagasaki Iron & Steel, Nisshin Steel, Nakayama Steel, Nippon Rayon, Osaka Iron & Steel, Daihatsu Kogyo
- (6) Dai-Ichi Bank : Isuzu Motors, Fuji Electric, Kobe Steel
- (7) Nippon Kangyo Bank : Tohoku Pulp.

Table 6. DEGREE OF CONCENTRATION OF PRODUCTION IN INDUSTRIES CONSPICUOUS FOR THEIR NUMBER OF NEW ENTERPRISES (%)

(A) Iron & Steel Manufacturing					
Name of Company	1937	1949	1958	1960	1963
Former Nippon Iron & Steel	83.9	65.9	29.8	33.2	25.8
{ Yawata Iron & Steel			28.2	26.6	23.7
Nippon Kokan	10.1	22.6	13.8	13.4	13.8
	{ Nippon Kokan				
{ Tsurumi Iron & Steel	3.8				
Kawasaki Steel			7.9	8.0	11.0
Sumitomo Metal Industries (3)			4.8	4.9	9.1
Kobe Steel (6)				3.2	4.8
Amagasaki Iron & Steel (5)			4.7	4.4	3.2
Nakayama Steel (5)			5.0	4.0	2.3
Nisshin Steel (5)				—	2.3
Osaka Iron & Steel (5)				0.8	1.0
Others	2.2	11.5	5.8	1.5	3.0
(B) Small Four-wheeled Vehicles					
Name of Company	1949	1954	1958	1960	1963
Toyota Motor	34.5	47.7	45.7	33.3	39.6
Nissan Motor	52.7	28.9	33.5	41.9	34.8
Prince Motors		13.7	9.4	8.4	8.7
Isuzu Motors (6)			2.3	5.9	7.4
Hino Motors (1)			2.9	5.2	4.7
Shin Mitsubishi Heavy Industries (2)				4.8	2.6
Toyo Kogyo (3)			3.1		1.4
Daihatsu Kogyo (5)			0.6		0.4
Honda Motor (2)					0.2
Fuji Heavy Industries				0.4	0.1
Ota Motors	12.8	9.3			
Tokyu Kurogane			0.9		
Others	0	0.4	1.6	0.1	0.1
(C) Paper Manufacturing					
Name of Company	1937	1949	1958	1960	1962
Oji Paper	71.7	25.0	19.1	15.5	15.8
		{ Jujo Paper Mfg.	8.4	13.0	15.3
		{ Oji Paper	10.7	6.1	4.2
{ Honshu Paper Mfg.		2.9	7.4	8.0	8.8
Daishowa Paper Mfg. (3)				2.6	5.0
Kokusaku Pulp Industry				3.7	4.6
Tohoku Pulp (7)			2.9		
Kanzaki Paper (3)			3.5	4.7	3.9
Chuetsu Pulp Industry			4.6	3.9	2.9
Mitsubishi Paper	6.0	4.8	3.1	3.1	2.8
Hokuetsu Paper	5.4	6.9	3.6	3.2	2.6
Daio Paper			3.3		
Others	16.9	22.7	35.6	36.2	34.1

(D) Synthetic Fibres Manufacturing

Name of Company	1950	1955	1958
Toyo Rayon	22.0	1.3	45.6
Kurashiki Rayon	57.4	3.8	21.9
Nippon Rayon (5)			8.9
Dai Nippon Spinning	3.4	5.2	5.6
Teikoku Rayon (5)			4.9
Asahi-Dow		7.0	3.9
Kanegafuchi Spinning	16.9	0.1	2.2
Japan Exlan			2.9
Others	0.3	2.6	4.1

(E) Electric Refrigerator Manufacturing

Name of Company	1956	1957	1958
Hitachi	27.3	25.7	28.8
Tokyo Shibaura Electric	28.2	28.4	22.2
Matsushita Electric Industrial	24.2	28.5	20.4
Mitsubishi Electric	17.1	14.0	15.8
Nippon Electric (3)		0.4	2.5
Sanyo Electric (3)		0.8	5.2
Fuji Electric (6)			1.2
Hayakawa Electric (4)		1.1	0.5
Yaou Electric		1.1	0.4
Others	3.2		3.0

Note: The numbers in parentheses following the names of companies refer to the *keiretsu* listed in the text, p. 338.

Sources: Up to 1958, Fair Trade Commission (ed.), *Shuyō sangyō ni okeru seisan shūchūdo* (Concentration of Production in Principal Industries), 1960. For 1960, 1962, and 1963, *Tōyō keizai tōkei geppō*.

Large business organizations in competition against one another in entering new industries and connected in *keiretsu* on the finance side were also seen in pre-war Japan. These were the *zaibatsu*. The differences between the pre-war *zaibatsu* and these *keiretsu* do not consist merely in the fact that the pre-war *zaibatsu* had holding companies as their nuclei while the post-war *keiretsu* have certain principal banks at their centres. Each of the pre-war *zaibatsu* had its own sphere of activity, the Mitsui *zaibatsu* in paper, synthetic dyes, coal and foreign trade, the Mitsubishi *zaibatsu* in heavy industry centred on shipbuilding, in marine transportation and plate glass, and the Sumitomo *zaibatsu* in metal manufacturing industries centred on rolled copper and aluminium. They made their principal investments in these fields, each adopting a system which secured for it fairly stable markets, and each sought monopolistic control of the industries in which it was concerned.

The post-war situation, however, differs from this. A good example of this fact is provided by the moves made by large enterprises in relation to the

oil-chemicals industry and the atomic energy industry. From the very first the giant financial *keiretsu*—Mitsui, Mitsubishi, Sumitomo, Fuji, and Dai-Ichi—lined up in competition in equipment investment.

Thus the immense sums of capital funds supplied through the city banks since the war were not invested selectively, as in the pre-war period, in the principal industries in which the various *zaibatsu* had their interests. Investment has been carried out in such a way that each of the *keiretsu*, accepting the fact that it will come into rivalry with its fellows, contrives to get under its own control a complete set of all the new industries. This being so, why has investment behaviour aiming at set control by each *keiretsu* appeared in the post-war Japanese economy? In this regard we can think of the following four circumstances.

(1) It goes without saying that one important factor was the subdivision of undertakings occurring as a result of the application of the Economic Deconcentration Law, as in the cases of the Integrated Steel Manufacturers and the paper industry. The ability to maintain control over markets which until then had been more or less stable collapsed, and entry into new industries in the form of new enterprises was facilitated.

(2) If *keiretsu* were not to fall behind in taking advantage of the recent wave of technical innovation they could not afford to stand pat, each holding on to its own field of activity and relying only on its traditional "stable" markets. They were obliged to get under their control as many of the new industries as they could, enlarging the scope of their field, and strengthening the links between their industries in a multilateral and comprehensive manner.

(3) The above two circumstances may be said to be typical of Japanese business in general, whether organized as a part of a *keiretsu* or not. Why, then, is it that, in spite of this, practically all the new enterprises which we have listed above are connected with the financial *keiretsu* of some powerful bank? In the modern heavy and chemical industries, where sweeping technical innovation has occurred, enlargement of the scale of operations through the integration and diversification of production (as in the case of the oil-chemical refinery) is required, if only for technical reasons, and there is a strong tendency for the needed capital funds to assume immense proportions. Because of this it is only large enterprises which can accumulate or obtain elsewhere large sums of capital and which have the backing of big financing banks that can enter these industries. In sum, entry to these industries by new enterprises did in fact occur, but there was a great difference between this and the "free entry" spoken of in economics textbooks. The firms which entered these industries were no more than a very limited élite of large enterprises backed by powerful banks which could easily supply the immense sums needed for investment in equipment.

(4) We cannot ignore what is known to the economics textbooks as "the internalization of the external economy." The term refers to those benefits accruing which are given to the enterprise in a fortuitous manner by changes in the whole body of the industry of which the enterprise is a part and in

the national economy as a whole, as opposed to benefits accruing as a result of efforts made within the enterprise itself. For example :

“Let us consider the case in which a new underground line is opened and a new underground station built at an intersection in a city. There is no doubt that, thanks to this, the intersection will be twice as busy a place as before and the shops already established at the four corners of the street can be expected to receive a windfall in the form of a great increase in the number of customers. This is clearly thanks to the ‘external economy’.”²

Similarly, as the motor industry is established and developed in the Japanese economy, the manufacturers of thin steel plate, tyres, piston rings, ball-bearings, electrical fittings and other automobile parts will naturally benefit from it. The establishment of the motor industry has just the same effect as the “underground station at the intersection.” By its essential nature this kind of “external economy” produces effects on the generality of industries through the intermediacy of the element of complementary production, through the relations existing among the goods produced.

In the post-war Japanese economy, however, investment plans have been drawn up with the intention of blocking, as far as possible, the general effects produced by the “external economy” and of confining such effects within the bounds of one’s own *keiretsu*; in other words, of aiming at the “internalization of the external economy.” Good examples of this are the establishment of Mitsubishi Monsanto Chemicals as a market for the carbide produced by Mitsubishi Chemicals, the establishment of Aichi Steel for the purposes of manufacturing special steel for Toyota Motor, the establishment of Nippon Denso as an independent company for the specialized production of electrical parts for Toyota Motor, and the establishment of Toyota Motor Sales for the purposes of integrating the sales branch of Toyota Motor. Such plans to “internalize the external economy” are also one of the factors leading to the adoption of investment behaviour aiming at set control of new industries by each of the *keiretsu*.

Once this principle of aiming at set control is adopted by all the *keiretsu* the result is that all *keiretsu* become rivals in each of the industries in which they are concerned. Competition is intensified. According to the usual economics textbooks, competition among the enterprises is developed in accordance with “the principle of the maximization of profits.” But when we consider the competition among the *keiretsu* in post-war Japan we find it more appropriate to regard it as having been carried on in accordance with “the principle of maximizing sales” with the aim of enlarging the *keiretsu*’s share of the market, rather than in accordance with “the principle of maximizing profits.” That is to say, in order not to be left behind by the others, each *keiretsu* has taken steps to enlarge its share of markets in each industry.

² Shigeto Tsuru, “Nippon no toshi wo dō suru?” (What Is to Be Done about Japan’s Cities?), *Asahi Jānaru* (Asahi Journal), Vol. 4, No. 2.

whenever it can, and has frantically competed with its rivals in equipment investment. This kind of investment behaviour aiming at set control has also been a driving force in the spectacular economic growth in Japan since the war. On the other hand, it has also been a cause of "excessive competition."

William J. Baumol gives the following six reasons for behaviour aiming at maximization of sales on the part of enterprises in recent times:³

- (a) There is reason to fear that consumers will shun a product if they feel it is declining in popularity, though their information on these matters is doubtless often spotty.
- (b) Banks and the money market will tend to be less receptive to the desires of a firm whose absolute or relative sales volume is declining.
- (c) Perhaps even more important in this connexion is the very real danger that firms whose sales are declining will lose distributors—a major marketing setback.
- (d) Management also is not unmoved by the fact that in a declining firm personnel relations are made much more difficult when firing rather than hiring is the order of the day.
- (e) The firm which declines (or which remains small when others expand) can lose monopoly power and the power to adopt an effective competitive counter-strategy when it is called for.
- (f) Executive salaries appear to be far more closely correlated with the scale of operations of the firm than with its profitability. And in the modern corporation, which is characterized so often by separation of ownership from management, many executives find it politic to avoid an absolute or relative decline in their operations. Here, management's concern with the volume of sales is compounded of its very conscientious concern with the responsibilities of its trusteeship and a desire to play good stockholder politics. In any event the effects are the same—volume of sales achieves the status of a prime business objective.

Among these, (e) and (f) would seem to be particularly important. In Japan's economy since the dissolution of the *zaibatsu* the principle of the maximization of sales has predominated, partly because of a general separation of ownership and management. The consistent application of this principle is also a characteristic of decision-making regarding equipment investment.

IV. THE ECONOMIC POLICIES AND ECONOMIC INSTITUTIONS WHICH SUSTAINED THE RAPID GROWTH

Let us look into the policies adopted by the governments of post-war Japan. In the preceding sections we have directed our attention at the

³ William J. Baumol, *Business Behavior, Value and Growth*, New York, Macmillan Company, 1959, pp. 46-47.

investment behaviour aiming at set control adopted by the *keiretsu* as one thing in particular which sustained the type of growth pattern led by investment in private equipment and which produced the "excessive competition." However, such decisions to invest on the part of large enterprises were not the sole cause of the rapid economic growth led by investment in private equipment. Institutional mechanisms making possible such decisions already existed in law or in government policy. It was for this reason that subjective decisions to invest on the part of large enterprises were able to be translated into objective investment behaviour. This being so, what were the institutional and policy elements which sustained the investment behaviour aiming at set control adopted by the *keiretsu*?

As we have stated already, if we set aside the question of the labour force we are left with the questions of the conditions for the supply of capital funds and the conditions governing imports of technology, capital equipment, and raw materials.

1. *Overloans Dependent on the Bank of Japan*

First, on the capital funds side the pillar for capital funds which sustained investment behaviour aiming at set control by the *keiretsu* was the special indirect financing known as '*keiretsu* financing.' Without the support of immense sums in credit from the powerful banks we could never expect this type of investment behaviour to have been possible. Again, without the investment behaviour aiming at set control by the *keiretsu*, and without inter-*keiretsu* competition for the enlargement of shares of markets, there would probably have been no such immense equipment investment as there is at present, nor would the overloans by the city banks have been so great.

Table 7. MOVEMENTS OF DEPOSITS RATES BEFORE AND SINCE THE WAR

	Year-end	All Banks	City Banks	Local Banks
Pre-war	1930	77.8	63.0	86.6
	1935	62.4	52.2	73.8
Post-war	1951	105.6	116.9	85.2
	1952	103.4	113.1	85.4
	1953	102.8	110.7	86.2
	1954	99.1	106.0	84.6
	1955	89.3	90.6	82.4
	1956	92.0	94.4	82.5
	1957	100.1	107.4	84.0
	1958	95.7	101.0	82.2
	1959	93.7	98.3	81.9
	1960	93.2	97.8	82.6
	1961	96.4	103.3	84.1
	1962	96.4	105.1	83.5

Source: Calculated from *Hompō keizai tōkei*.

The fact, however, was the opposite of this. The city banks did not shrink from making overloans in supplying funds to the enterprises in their *keiretsu* and thus seeming to promote investment behaviour aiming at set control by the *keiretsu*. To make up the sums which they could not supply, the city banks got loans from the Bank of Japan. Table 7 shows the fluctuation of deposits rates (the proportion of loans to deposits, including debentures) of all banks, city banks, and local banks.

From the table we see that overloans (an abnormally large volume of loans in comparison with deposits) are a special phenomenon of the post-war period. These appear principally in the city banks. In particular it should be noted that the deposits rates of the city banks, which maintained very healthy levels before the war, worsened sharply after the war. This was the result of the tendency of aiming at set control by the *keiretsu*, pushed forward with the financial backing from the powerful banks. For this reason the city banks' degree of dependence on the Bank of Japan (the ratio of loans from the Bank of Japan to deposits, including debentures) rose markedly. Table 8 shows this.

Table 8. CITY BANKS' DEGREE OF DEPENDENCE ON THE BANK OF JAPAN

Year-end	Degree of Dependence on the Bank of Japan (%)
1930	0
1935	0
1953	16.9
1954	12.9
1955	1.4
1956	4.5
1957	18.3
1958	9.8
1959	7.2
1960	9.0
1961	22.7
1962	19.2

Source: Calculated from *Hompō keizai tōkei*.

The overloans by the city banks accompanying this rise in their degree of dependence on the Bank of Japan produced notable characteristics in the formula for the supply of funds by the central bank in Japan.

There are three formulae for the supply of currency by a central bank. First, the central bank buys up gold or foreign exchange within the country and issues central bank notes at a certain rate in relation to this, and only insofar as is covered by it. Under this formula no increase in note issues occurs except under conditions of a favourable international balance

of payments. Second, the government issues bonds or securities and the central bank buys these up by means of a 'buying operation' (on the open market) and supplies currency to the amount covered by them. Third, the central bank issues its notes by making loans to the city banks.

From Table 9, Breakdown of Principal Assets of Central Banks (for a central bank the issue of central bank notes represents an increase in debits, and the significance of the table is that of showing by what assets these are sustained) we see that West Germany has adopted the first formula, the United States, England, and Italy the second formula, and France and Japan

the third formula. It is true, however, that as an accompaniment to a favourable turn in her international balance of payments France has recently been making a fair increase in the proportion of funds supplied under the formula which depends on purchases of gold and foreign exchange. In Japan, in contrast to this, the proportion of loans to private credit has been extremely large. This is due to the increased loans to the city banks by the Bank of Japan.

Table 9. BREAKDOWN OF PRINCIPAL ASSETS OF CENTRAL BANKS (End of 1962) (%)

	United States	England	West Germany	France	Italy	Japan
Gold and Foreign Exchange	29.1	0.01	64.6	34.2	21.2	13.8
To Government Credit	56.5	97.8	26.3	25.8	59.8	18.3
To Private Credit	0.3	2.1	8.0	36.0	17.7	62.2
Others	14.1	0	1.1	4.0	1.3	5.7
Formula	No. 2	No. 2	No. 1	No. 3	No. 2	No. 3

Source: *Nippon keizai wo chūshin to suru kokusai hikaku tōkei.*

Thus the formula under which funds are at present supplied by loans made by the Bank of Japan is a characteristic one, examples of which are not often found in other countries. There is some tendency to hold "that a high growth rate is accompanied by a corresponding withdrawal of deposits, that the city banks borrow cash reserves for this purpose, and that this result is inevitable in a growing economy." What the statistics show, however, is quite the opposite. In fact the loans made by the Bank of Japan vary with the increases and decreases in the loans made by the city banks. If these loans were made as cash reserves to meet the necessities of deposits withdrawals we would expect the loans made by the Bank of Japan to vary with the increases and decreases in deposits.

In sum, the formula under which funds are supplied by loans made by the Bank of Japan is a mechanism by which investment funds are supplied at comparatively low rates of interest, principally to the city banks. Because of this mechanism the Japanese productive potential has been correspondingly nurtured and strengthened. The Bank of Japan usually gives the impression that it is critical of the policy of rapid economic growth, but the actual state of its business must be said to be a good deal at variance with this impression.

The lending of immense sums at low rates of interest by the Bank of Japan may, in itself, be a factor provoking over-investment. Along with the size of these loans from the Bank of Japan, what is important is the formula for the allocation of these loans among the city banks. What is at issue is the actual state of selective loans of the Bank of Japan. The selective loans of the Bank of Japan are one of the measures for financial control taken by the Bank of Japan as a result of a low-interest policy having been in effect consistently since the war, regardless of the demand for funds, and

the fact that the demand-adjusting functions of interest rates have not been in operation. Practically nothing is known, however, about the actual state of the loans, and in particular about standards laid down by the Bank of Japan itself. For this reason, in the present study we are left no alternative but to infer the practices and standards of selection from the figures for loans from the Bank of Japan by the principal city banks as given in the Negotiable Securities Reports.

From Table 10 it is clear (1) that there has recently been a sharp rise in the degree of dependence on the Bank of Japan by the principal banks; (2) that on the whole these banks seem to receive loans from the Bank of Japan in proportion to their deposits, but that the Mitsui Bank and the Dai-Ichi Bank are exceptional throughout, and show a distinctly higher degree of dependence on the Bank of Japan; and (3) that if anything, at least as far as the six great banks listed in the table are concerned, the absolute sums borrowed from the Bank of Japan by these banks, including those with comparatively few deposits, such as the Mitsui Bank and the Dai-Ichi Bank, are roughly of the same order in all cases, being balanced at around ¥30,000 million in September, 1960, around ¥50,000 million in March, 1961, and roughly ¥90,000 million in September, 1961.

Table 10. BORROWINGS FROM THE BANK OF JAPAN
BY PRINCIPAL CITY BANKS

Banks	September, 1960		March, 1961		September, 1961	
	Borrowings from the Bank of Japan (million yen)	Degree of Dependence on the Bank of Japan (%)	Borrowings from the Bank of Japan (million yen)	Degree of Dependence on the Bank of Japan (%)	Borrowings from the Bank of Japan (million yen)	Degree of Dependence on the Bank of Japan (%)
Fuji	32,791	4.86	48,424	6.32	97,657	12.39
Mitsubishi	30,882	4.78	53,524	7.31	84,570	11.05
Sanwa	34,993	5.62	57,235	8.11	97,488	13.48
Sumitomo	32,095	5.26	54,956	7.97	93,813	13.03
Mitsui	39,528	10.32	58,994	13.00	101,510	21.42
Dai-Ichi	34,646	8.59	50,762	11.08	86,277	18.44
All City Banks	392,176	7.51	573,049	9.64	965,218	15.69

Note: The degree of dependence on the Bank of Japan here means borrowings from the Bank of Japan over deposits.

Source: Compiled from Negotiable Securities Reports and *Hompō keizai tōkei*.

Thus, the standards of the selective loans of the Bank of Japan would appear to have been governed to a marked degree by a formula providing for fixed sum loans distributed on an equal basis among the principal banks, rather than providing for fixed levels proportionate to the ability of each of the city banks to comply with requests for funds. We may call this the principle of equality among the *keiretsu* as revealed in the loans made by the Bank of Japan.

In this way this principle of equality, linked with the pipelines of the

powerful banks, has become "built-in" as one of the principal institutional factors in investment behaviour aiming at set control by the *keiretsu*.

2. *The Formula for Foreign Exchange Control*

It is not only the Bank of Japan formula for the supply of funds that has been operating under the principle of equality among the *keiretsu*, a special policy aiming at nurturing Japan's productive potential. This has also been the case as regards the formula for foreign exchange control in Japan since the war.

In accordance with the Dodge Line, a policy arrived at in 1949 with the aim of arresting inflation, the multiple exchange rates hitherto in use were unified in a single rate of \$1=¥360. Many people cried out that this was a revival of the laws of value. In fact, however, a revival of the laws of value in their complete form was not envisaged. The domestic price-system was not directly tied up to the international price-system. This was because at the end of 1949, the year in which the Dodge Line came into effect, a Foreign Exchange and Foreign Trade Control Law was passed, and under it powerful controls over trade and exchange were imposed.

(1) As a general principle exports were free, but the foreign exchange obtained from exports had to be sold to a foreign exchange bank within 10 days. This restriction of foreign exchange holding was an indispensable condition for the implementation of the trade and exchange controls set out below.

(2) In order to use effectively the limited ability to import, the foreign exchange budgeting system and the foreign exchange quota system were instituted and every effort was made to repress imports of finished goods, particularly imports of products which would threaten domestic production. On the other hand, an exchange control system based on the assumption that only indispensables should be imported was put into effect with a view to nurturing domestic productive capacity. As a result of these measures the principal articles imported were technology, machines, and raw materials.

There is no doubt that this exchange control system was clearly devised and operated with a view to protecting and nurturing domestic productive potential. Speaking generally, when work is to begin on a new undertaking reliance on technical research the outcome of which is uncertain involves many dangers for the success of the enterprise. Rather than doing this, the more use that can be made of technology which is already in a completed state and which also provides ample prospects from the point of view of paying its way, the more profitable it will be. Further, this new technology will be all the more profitable if the importation of finished goods from abroad is stopped until the technology is fully introduced in enterprises at home.

The post-war exchange control system had the target of catching up with international levels of technology at the earliest possible date, and, as we have seen above, was operated from the point of view of nurturing

domestic productive potential. But a closer examination reveals that it was not merely a policy for nurturing domestic productive potential. Just as the Bank of Japan's formula for the supply of funds was a special policy aiming at nurturing domestic productive potential and strongly coloured by the principle of equality among the *keiretsu*, so, too, did the exchange control system have its own special colouring.

As an example, let us consider the strip-mill revolution in Japan. In 1950, as a result of the First Rationalization and the Second Rationalization Plan which followed it, Japan became the second-largest owner of strip mills (rolling mills) in the world, following only the United States. The firms to which licences were issued by the Ministry of International Trade and Industry when the technology was introduced included Yawata Iron & Steel, Fuji Iron & Steel, Nippon Kokan (Fuji Bank *keiretsu*), Kawasaki Steel (Dai-Ichi Bank *keiretsu*), Nakayama Steel (Sanwa Bank *keiretsu*), Nisshin Steel (former Nippon Iron & Steel *keiretsu*), as well as Tokai Iron & Steel (Fuji Iron & Steel *keiretsu*), Sumitomo Metal Industries (Sumitomo Bank *keiretsu*), Kobe Steel (Dai-Ichi Bank *keiretsu*), etc.—a large number of enterprises belonging to the various principal *keiretsu*.

Thus, in the case of the exchange control system operated from the point of view of nurturing domestic productive potential, too, we have strong evidence of the influence of the principle of equality among the *keiretsu*. This is found not only in the case of the strip mill. We can point out clear evidence of this "principle of equality among the *keiretsu*" in all the cases of the introduction of technology from abroad in the process of technical innovation which has taken place since the war.

If the policy of nurturing domestic productive potential in the capital technological aspects had not taken the form of "the principle of equality among the *keiretsu*" in this way and if funds had been manipulated so that investment was made selectively, synthetic fibre manufacture being attached mainly to the Mitsui *keiretsu*, the electronic industries mainly to the Mitsubishi *keiretsu*, thermo-electricity mainly to the Hitachi *keiretsu*, the ammonia industry mainly to the Sumitomo *keiretsu*, and the oil-chemicals and atomic energy industries being carried on under government management, the investment behaviour aiming at set control by the *keiretsu* to which we have drawn attention above would, of course, not have taken place. Through this exchange control system, which was operated so that profitable investment opportunities were given to all the *keiretsu* indiscriminately, the system of set control by the *keiretsu* was strengthened still further.

What emerges from the above analysis would seem to be that the Bank of Japan's formula for the supply of funds and the Ministry of International Trade and Industry's exchange control formula were both operated with the target of nurturing domestic productive potential from the point of view of capital funds and technology, but that in substance they formed an integral part of the system for the strengthening of *keiretsu* control, deeply coloured by "the principle of equality among the *keiretsu*."

The principal enjoyers of this equality of opportunity were the enterprises belonging to the *keiretsu*, and it need scarcely be noted that a fairly clearly defined difference could be observed between the enterprises which were members of *keiretsu* and those which were not. The fact that the Bank of Japan loans in particular were, on the whole, limited to the city banks would also seem to demonstrate this. Herein we may find the third characteristic of the post-war Japanese economy.

V. THE KEY TO THE SECRET OF THE RAPID ECONOMIC GROWTH

Let us now summarize the argument which we have developed at some length above. We have made clear the following three points as constituting the key to the secret of the high growth rate of the Japanese economy since the war, particularly from 1955 to about 1960:

(1) The establishment of special indirect financing possessing the attributes of 'keiretsu financing' to a high degree.

(2) The investment behaviour by which each *keiretsu* sought to gain control of a complete set of the new industries.

(3) The Bank of Japan's formula for the supply of funds and the formula for foreign exchange control which operated in such manner as to give profitable investment opportunities to all the *keiretsu* indiscriminately.

We cannot, of course, provide an all-embracing explanation of post-war Japan's economic growth with the help of these three characteristics alone. Nevertheless, we may say that at least insofar as we focus our attention on entrepreneurial behaviour in post-war Japan these three characteristics constitute an important key to the secret of the high economic growth rate. As we have already made clear, what particularly excites our attention is the fact that these three characteristics are not discrete and unrelated factors but have mutually promoted the organization of enterprises in the *keiretsu* form in the post-war Japanese economy. We may describe the situation by saying that the process of rapid growth itself was nothing other than this organization in *keiretsu*, the form in which new groups of enterprises were organized.

Assuredly these groups of enterprises made frenzied efforts in equipment investment, intending to get practically all the principal new industries into their hands on the basis of funds collected from the pipelines of the powerful financial *keiretsu*, so that they might strengthen their control. However, since this kind of investment activity was carried on simultaneously and in parallel form in a fair number of *keiretsu* it produced "excessive competition" with regard to the structure of the market in each industry, although it occasioned immense accumulations of capital in each of the *keiretsu*. If anything, the result produced was that the more capital concentration by the *keiretsu* advanced the more the concentration of production declined. In this three-dimensional structure of the rapid economic growth, organization in *keiretsu*, and excessive competition, we may find the important characteristics of the post-war Japanese economy.