

New growth type industries of Japanese Economy

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Abstract

This paper's purpose aims to survey and sketch a characteristic of new industrial change of Japanese Economy.

The Japanese Economy shifted to export dependence type economy at 1980's because rationalization after an oil crisis at the beginning of 70's had been done. Processing structure industries of export oriented type and new service industries led Japanese Economy from that time to bubble economy period.

Firstly, Japanese Economy made a recovery from about 1993 after the collapse of the bubble economy, but it seems that the cultivation of new investment opportunity has not yet been successful until today.

Secondly, international dependence of the Japanese Economy has been increasing little by little over 40 years. It is evident that this is a trend of the contribution rate of exports and imports.

Thirdly, we can see clearly that the relative importance of tertiary industry employee steadily increased, absorbing the primary industry workers whose number dropped dramatically. In addition, the share of the service industry increased, making it the new growth industry by multi-sectoral macro economic data (divided into 23 sectors).

Forthly, today's characteristic of economy and society of Japan brought by a fundamental change of industry structure, but the change in the industry structure becomes unclear and difficult to see.

1. Introduction

This paper's purpose is to survey a characteristic of new growth type industry of Japanese Economy by the macro economic data which can obtain easily. And this paper also aims to sketch today's various characteristics and problems of Japanese Economy and society.

The Japanese Economy shifted to export dependence type economy at 1980's because rationalization after an oil crisis at the beginning of 70's had been done.

Processing structure industries of export oriented type and new service industries led Japanese Economy at that time. It is a current characteristic furthermore that a big change is not found yet in this fundamental industry structure after bubble economy.

Firstly, in the following, we survey a characteristic of a business cycle of Japanese Economy after World War II and position bubble business and scale of the collapse specially in Section 1.

We analyze a change of the demand structure of Japanese Economy by the contribution degree decomposition successively.

In Section 2, we prove a law of Petty = Clark in Japanese work force structure. We analyze charac-

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teristics of Japanese industry structure by macro economic data divided into 23 sectors and classify new growth type industry.

Finally, we enlarge a point of view a little and consider a today's characteristic of economy and society of Japan brought by a fundamental change of industry structure.

2. The path of Japanese Economy after World War II

2.1 Features of the business cycle of Japanese Economy after World War II

This section will outline the major features of Japanese Economy after world war II. Firstly, figure 1 shows changes of gross national product of Japanese post-war economy¹⁾. The bold line graph represents the amount of gross national product (in units of one billion yen), while the solid line graph shows the growth rate.

As you can see, the Japanese Economy has been hit by several business fluctuations over the past 40 years.

Roughly speaking, it can be said that Japanese post-war economy has experienced about 6 business fluctuations.

1. Firstly, there is a period of rapid economic growth from the time of Korean War in 1950 until the beginning of 1970s²⁾.

During this period, the Japanese Economy experienced a boom known as the "Toku-ju boom"

1) A data in the main text which does not have an explanatory note is taken from the "Nikkei NEEDS synthesis economy file" and "NEEDS Nikkei financial affairs data" provided Nihon Keizai Shimbun company. Processing of the data was done using the software XCAMPUS Ver.6 developed of Professor Kiyoshi Saitoh of Kobe University of Commerce. For the details of XCAMPUS, refer to Saito [3] [4] or visit the XCAMPUS Homepage at (URL) <http://xcsv.kobeuc.ac.jp/xcampus/>.

2) Of course, it is possible to class these past 20 years more finely, however in this case, they will be collectively referred to as the period of rapid economic growth.

resulting from the Korea War³⁾. Immediately after that, the economy experienced four big business cycles known as Jinmu, Iwato, Olympics, and Izanagi, and realized high growth of 5-13%⁴⁾.

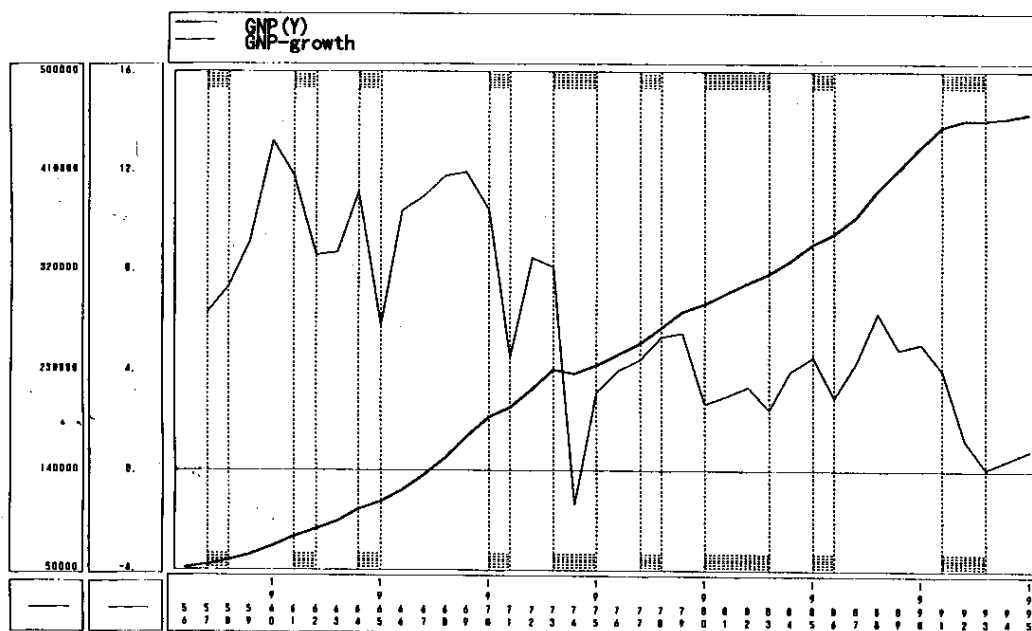
This period in the Japanese Economy is generally referred to as the period of high economic growth, and it is commonly agreed that it ran from about 1955 until 1970 (that is, from the beginning of Jinmu to the end of Izanagi business cycle). Furthermore, another well-known phenomenon of this period is the young man who left the so-called Japanese farm village districts and supported this high economic growth by working long hours for low wages.

2. Next is the period known as the oil crisis. The rise in the price of oil by OPEC due to the fourth Middle East War, had a serious effect on the Japanese Economy because of the importation of oil from American Major. The majority of oil was supplied by the Middle East, however, at that time the international oil company of Major handled the development, production, circulation and sales. In 1960, in an effort to gain control for oil, the oil-producing countries formed the Organization of Petroleum Exporting Countries (OPEC). Their aim was to increase their oil income and to break away from under the rule of Major. Using the fourth Middle East, which broke out in October 1973, as an opportunity, various Arab countries used reductions in production and export embargoes as strategies of dispute resolution with Israel. OPEC raised the price of oil by 21% in October and 200% in December. In Japan, the price of crude oil quadrupled, which in turn accelerated

3) In Japanese, "Toku-ju" is an abbreviation of special demand. Of importance was the supply of resources from Japan by American force for Korean War in 1950. Made specifically, these resources included individual consumption of the stationed soldier and army civilians, and the American defense allotment.

4) The Jinmu business era was from 1954-58, Iwato was from 58-62, Olympic was 62-65 and Izanagi ran from 65-71.

Figure 1 The Japanese GNP and its growth rate



the situation of domestic inflation.

Figure 1 clearly shows that the first oil crisis of 1973 reduced the Japanese Economy, which until then had continued to be in a high growth period, to negative growth. The first oil crisis was the most serious blow to Japanese Economy after World War II.

In accordance with the political situation instability in Iran in November 1978, OPEC announced a phased-price increase of crude oil in December of the same year. This resulted in the second oil crisis in 1979⁵⁾. However, this influence does not appear to be very big in the graph above.

During the period from the first oil crisis in 1973 to the second oil crisis in 1979, the Japanese industry structure changed and even in individual companies labour-saving moves such as personnel reduction and rationalisation were introduced (As will be explained later, this was the breakaway from heavy and chemical indus-

try manufacturing, and the development of a post-industrial society).

It is thought that as a result of this, the Japanese Economy somehow managed to cope with phased-price increase in oil. However, for the 2 or 3 years following 1980, the Japanese Economy recorded a low growth rate of 2-3% and moved from high growth to a period of low growth.

3. The third business cycle is the period of the change from the high yen in 1985 to the bubble economy.

In the 1970s, America with the influence of the Vietnam War was in a state of stagflation with low economic growth and inflation, and the economy's performance worsened. In 1981 Reagan was elected president and in February of that year he announced a plan to revive the economy. Known as Reaganomics, his policy consisted of monetary restraint, a large reduction in taxes, small government realization and the reinforcement of national defense. From 1982 America began to focus on business enlargement of domestic demand, but the delay in

5) Confusion in the Middle East countries developed after that due to the 1979 Iranian Revolution and Iran/Iraq War in September 1980.

the reduction of finance in spite of the tax reductions led to a financial deficit. Moreover, the decrease in the saving rate due to the increase in property value, along with the investment excess, led to a rise interest and high dollar resulting in a large current deficit. This American financial deficit and the trade deficit were referred to as the 'twin deficit'.

In particular, the strong American dollar and high interest made it difficult for developing countries to pay off their debts. On the other hand, after February 1983 Japanese Economy made a recovery, but trade friction worsened due to the increasingly large current surplus resulting from export drive⁶⁾.

It was under such circumstances, that the Advanced Five Nations Minister for Finance Conference (G5) was held in September 1985, and a mutual agreement regarding the correction of high dollar was reached. This was known as the Plaza Agreement. As a result of the agreement, the Japanese yen jumped from 1 dollar = 230 yen in September 1985 to 1 dollar = 160 yen the next year. However, since the current surplus in Japan was not corrected, Japan entered the Heisei business era as it was creating debate over domestic demand expansion.

4. Fourth is the Heisei business era. As Japan was in a recession due to the high yen, the bank rate was reduced five times following the Plaza Agreement. Because of this, the economy made a recovery from the end of 1986 which continued in the Heisei period.

The real economy of this period saw a consumption expansion by an inflow of cheap products from NIE countries, an increase in overseas travel, consumption of high quality consumer goods such as large color televisions, high quality car, home facsimile, personal computers and cordless phones. There was also

an increase in housing construction and work stated on 1,730,000 houses, the third largest number in history. Direct overseas investment due to the high yen, new field advancement according to diversification management increased and an investment also made a recovery from 1987 (refer to figure 2). Business expansion of this time was equal in length to that of the high growth period's Izanagi era.

However, in this period, financial assets and land prices rose greatly. Then self-increasing phenomenon of price had left largely from usual assets value. This led to the bubble economy.

5. Fifth is the Japanese Economy after the bubble collapsed. Due to speculative situation of the bubble period, stock and land prices rose dramatically. This, combined with the strong yen, led to the price of land in Tokyo becoming the highest in the world. However, after recording 38,916 yen in on the Tokyo stock market on December 29 in 1989, due to the sudden fall of the yen and the rise of interest rate, from January to October 1990 stock prices fell by 48%, the largest recorded drop in history⁷⁾.

In addition, regarding land transactions, in accordance with the fundamental land law which came into effect in December 1989, there was a land tax reform. Due to this, tax revision occurred in April 1991, and a land tax in accordance with land possession was introduced. Furthermore, both income taxes for the land transfer of an individual and corporation, and the rate of corporation tax were raised.

In this way, due to the sudden fall in the yen, the interest rate rise, tax reform and so on the bubble economy burst away.

The situation in Japan's overall profit and loss

6) From this time, the closed practices of the Japanese market became an object of strong criticism.

7) The mark rose suddenly after the collapse of the Berlin Wall at the end of 1989. It is assumed that a feeling of isolation of yen appeared and dropped suddenly. In addition, it is thought that an increase in the bank rate from the end of 1989 influenced the interest rate.

Figure 2 Changes in items of demand

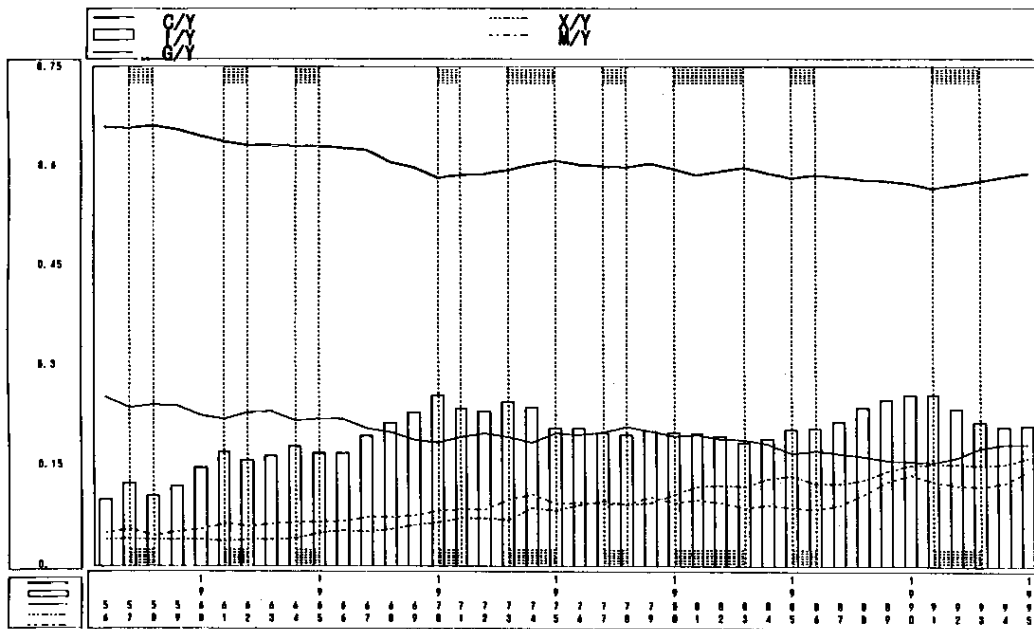
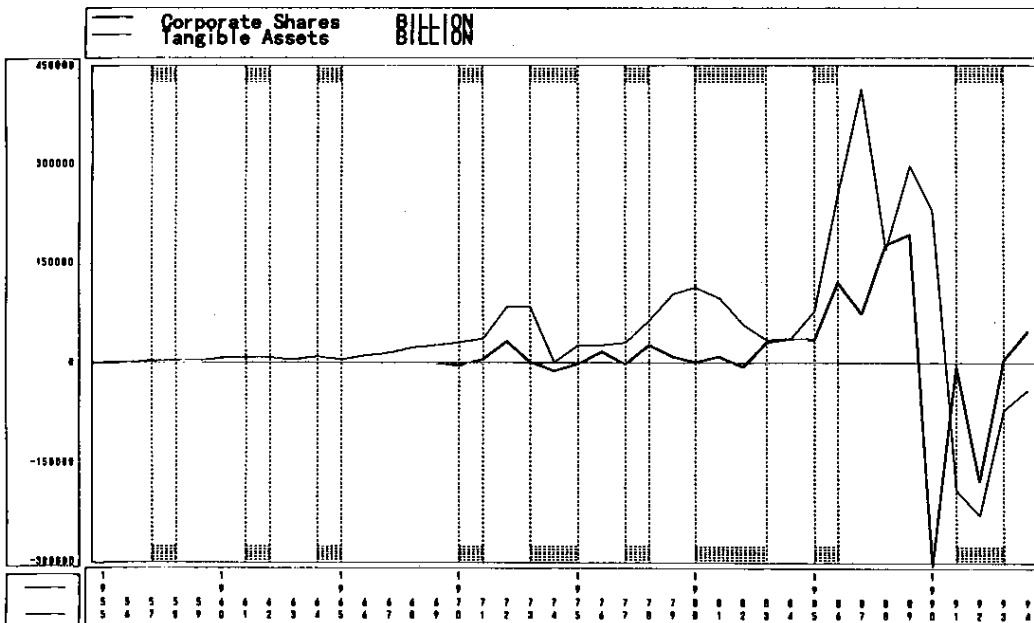


Figure 3 Changes in profit and loss from stock and land transactions



due to stock and land transaction at that time is shown in figure 3. It can be seen that in 1990 a loss due to stock transactions, and in 1991 a loss from land transactions suffered huge losses. The loss from land was approximately 200 trillion yen, while the loss from stock transactions amounted to 300 trillion yen. This amount was equal to over 65% of Japan's GNP.

After that, a look at the Japanese Economy shows that loss filling by brokerage firm and dishonest financing by banks was a reality and one would have to say that the scratch left on the Japanese Economy from the bubble period is very deep.

That completes a rough outline of the history of the Japanese Economy since World War II. After the collapse of the bubble economy, Japanese Economy made a recovery from about 1993 and the investment environment also improved from about 1995.

2.2 Changes in the demand constitution and the distribution rate of Japanese Economy

Next we will examine the changes in the demand constitution of Japanese Economy, which we looked at in the previous section, in a little more detail. Earlier in figure 2, we saw graphs of the GNP constitution ratio versus consumption, investment, government expenditure, exports and imports, and the features are as follows.

Firstly, the constitution ratio of consumption and government expenditure either falls slowly or does not change over these past 40 years⁸⁾.

In contrast to this, there is a tendency for the percentage of imports and exports to increase⁹⁾.

However, it seems that only the constitution ratio

8) The ratio of each is stable with the ratio of consumption at around 60%, and that of government expenditure around 20%.

9) Exports were about 4% in 1956, but grew to about 16% in 1995 coming close to the constitution ratio of government expenditure.

of investment is largely controlled by changes in the business climate.

According to these from figure 2 we can assume that, relatively speaking, the influence of government expenditure on the Japanese Economy decreased, while the influence of trade items such as exports and imports increased. Next, in figure 4, we will examine what kind of demand item have an influence on GNP growth and analyze the *degree* to which the primary factor contribute to that growth¹⁰⁾.

By simply looking at this figure alone, it is difficult to tell for certain which demand item have changed during the 40 years. Therefore, the data has been changed into a *contribution rate* which is shown in table 1. From this table, it is clear that, as expected, consumption and government expenditure have only a relatively small influence. The contribution rate of consumption was about 66% in 1957, but it declined to about 59% or 7-point in 1995. Regarding government expenditure, the contribution rate that was 25% in 1975 fell to 18% in 1995. On the other hand, the contribution rate of exports increased from 4% to 15% and the contribution rate of imports increased from 5% to 12%. It is evident that this is a trend over 40 years¹¹⁾. In other words, you can see that international dependence of the Japanese Economy has been increasing little by little.

Finally, let's examine the national distribution rate of the two items of wages (labour distribution rate) and corporation profit (capital distribution rate). These changes are shown in figure 5¹²⁾.

10) The contribution *degree* resolution formula is as follows;

$$\hat{Y} \equiv \frac{C}{Y} \hat{Y} + \frac{I}{Y} \hat{Y} + \frac{G}{Y} \hat{Y} + \frac{X}{Y} \hat{Y} - \frac{M}{Y} \hat{Y}$$

Here, $\hat{Y}$ stands for the GNP growth rate, C is consumption, I is an investment, G is government expenditure, X is exports and M is imports. To calculate the contribution *rate* decomposition, both sides are divided by the left side of the formula.

11) Because imports are a deduction item, the value here becomes negative.

12) The labour distribution rate and capital distribution

Figure 4 Decomposition of the growth rate of GNP by contribution *degree*

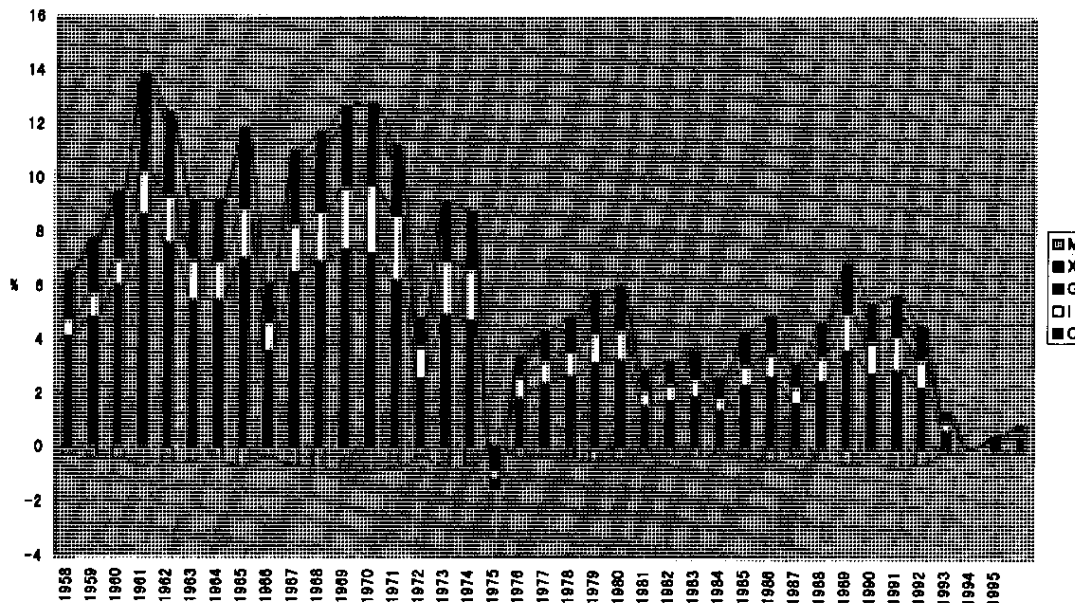


Table 1 The contribution rate decomposition of GNP growth

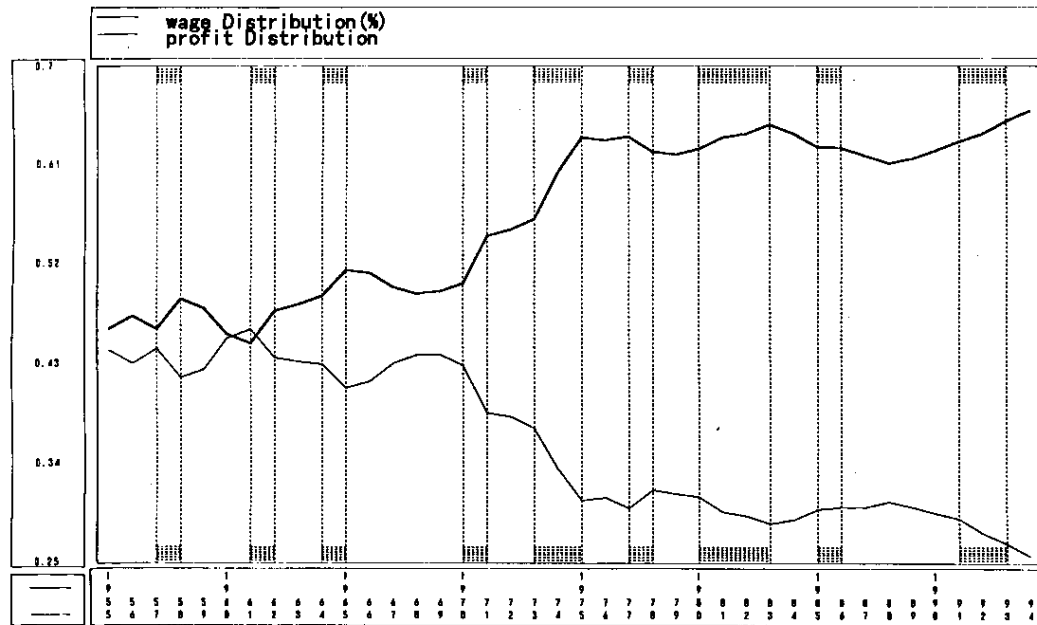
	%	C	I	G	X	M
1957	100	65.88	9.85	25.13	4.03	-4.89
1958	100	65.72	12.11	23.65	4.12	-5.60
1959	100	66.16	10.50	23.98	3.91	-4.55
1960	100	65.64	11.75	23.74	3.98	-5.11
1961	100	64.56	14.61	22.45	3.97	-5.59
1962	100	63.78	16.95	21.85	3.74	-6.32
1963	100	63.17	15.84	22.80	3.99	-5.80
1964	100	63.21	16.26	22.99	3.92	-6.38
1965	100	63.04	17.68	21.63	4.22	-6.57
1966	100	63.01	16.80	21.80	4.95	-6.56
1967	100	62.79	16.74	21.87	5.23	-6.63
1968	100	62.48	19.26	20.46	5.04	-7.24
1969	100	60.61	21.20	19.98	5.53	-7.32
1970	100	59.78	22.90	18.78	6.02	-7.48
1971	100	58.19	25.39	18.22	6.43	-8.23
1972	100	58.74	23.46	19.05	7.17	-8.42
1973	100	58.95	22.97	19.59	7.00	-8.51
1974	100	59.37	24.32	19.14	6.94	-9.77
1975	100	60.16	23.55	18.32	8.60	-10.63
1976	100	60.88	20.50	19.61	8.29	-9.28
1977	100	60.24	20.56	19.50	9.08	-9.38
1978	100	60.02	19.72	19.89	9.59	-9.22
1979	100	59.92	19.46	20.76	9.12	-9.26
1980	100	60.50	20.12	20.16	9.35	-10.13
1981	100	59.59	19.95	19.29	10.67	-9.50
1982	100	58.68	19.72	19.52	11.85	-9.77
1983	100	59.25	19.21	19.00	12.01	-9.47

1984	100	59.80	18.31	18.64	11.85	-8.60
1985	100	59.04	18.97	18.05	13.08	-9.14
1986	100	58.32	20.21	16.80	13.34	-8.67
1987	100	58.63	20.48	17.10	12.17	-8.38
1988	100	58.56	21.45	16.83	12.26	-9.10
1989	100	58.01	23.54	16.33	12.75	-10.63
1990	100	57.93	24.83	15.73	14.16	-12.65
1991	100	57.55	25.59	15.47	14.93	-13.54
1992	100	56.72	25.64	15.27	15.07	-12.70
1993	100	57.20	23.42	16.20	15.18	-12.00
1994	100	57.78	21.50	17.54	14.92	-11.74
1995	100	58.56	20.59	18.07	15.23	-12.45

It is obvious from this that, with the exception of 1961, the labor distribution rate is consistently larger than the capital distribution rate. Besides this, after 1970 the difference in the distribution rates becomes larger and in 1994 the labor distribution rate is 66% and the capital distribution rate 26%. In 1955 the labor distribution rate was 46% and that of capital 44%, and so it is clear that labor costs have become a heavy burden for the manage-

rate shown here take into account the receipt of income from overseas, but do not include indirect tax part and current transfer from overseas. Therefore the total of each constitution ratio does not equal 100%.

Figure 5 Changes in the national distribution rate



ment of corporations today.

It is natural that corporation profit is influenced by business fluctuations, but it is generally known that wages are comparatively sticky towards the lower side. Accordingly, the labor distribution rate rises at times of economic recession and does not fall that much when business picks up. In figure 5, the result of this theory is not shown precisely, but it can be said that there is a trend that wages are sticky towards the lower side.

In addition, it can be seen that, the rising trend of the recent labor distribution rate, which began at the time of the 1988 bubble economy, continued until after the bubble collapsed. The high labor distribution rate, due to the increased wages supported by the prosperity of the bubble economy, was maintained even during the Heisei recession. This certainly suppresses management of corporations and was an indirect cause of the 3% unemployment rate at the time of the Heisei era recession¹³⁾.

13) It was well-known internationally that the Japanese average unemployment rate was very low at around 2%. Accordingly, the unemployment rate of 3% is considered high for Japan.

3. Industry Structure in Japan

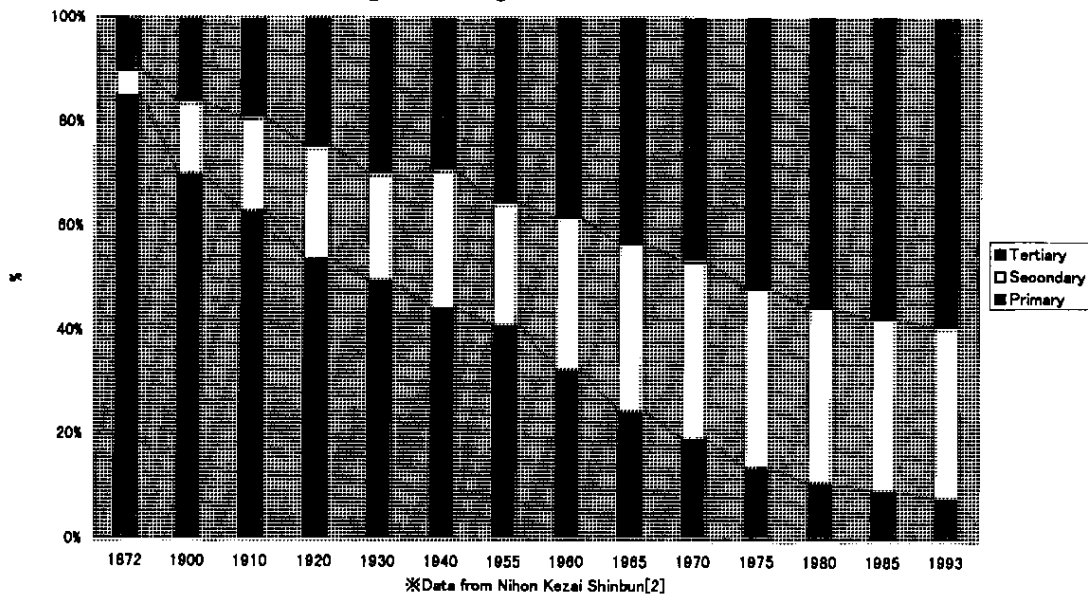
In the previous section we surveyed the changes in Japanese economic growth and business cycles. This section will briefly examine the characteristic of industry structure.

3.1 Features of the work force structure

Figure 6 shows the Japanese work force structure for the past 30 years.

In this case, primary industry means agriculture, forestry and fisheries, while secondary industry includes the mining, construction and manufacturing industries. The tertiary or service industry includes trade, transport, finance and public administration. The well-known law of Petty = Clerk states that with the development of industry, employee constitution changes in relative ratio moving from primary sector to the secondary sector and then to tertiary industries. This is also true in the case of Japan over these 100 years. If we look at the 40 years following the war, we can see that straight after the war the relative importance of tertiary industry employee steadily increased, absorb-

Figure 6 Changes in work force structure



ing the primary industry workers whose number dropped dramatically. The number of secondary industry employee stopped rising and leveled off¹⁴⁾.

If we compare the amount of individual production (real) from 1970, it looks like figure 7¹⁵⁾.

Unlike the work force structure it is evident that real production per capita (labour productivity) of secondary industry is bigger than the other industry.

14) In addition to law of Petty = Clerk there are other similar economy theories concerning changes in industry structure. For example, the classification of Kuznets, Hoffman's law concerning the ratio of consumer and investment goods industries, Rostow's developing stage theory which was formed when economy accomplished advance by new industrial production by leaps and bounds, development of expansion and urbanization, Barro's product cycle theory which says that economic development makes through three stages (introduction of new industry → enlargement of domestic market → export expansion) are all well-known.

Apart from this there is also Machlup's knowledge information theory, the third wave of Toffler and the post-industrial society/knowledge industry theories of Daniel Bell of which attached great importance to the development of information industry.

15) Indication from 1970 depends mainly on the limitation of real value data.

This indicates the productivity and high value-added nature of secondary industry. Figure 8 shows the growth rate of this real production per capita. The figure also indicates changes in the growth rate of the industry as a whole.

It is clear from this figure that the change in the growth rate of the primary sector is very dramatic. Moreover, it appears that this change is not related to a change in business. Primary industry is probably influenced by natural factors such as weather conditions. In contrast, it seems that changes in the secondary and tertiary sectors create changes in the business environment. In particular, the change in the secondary industry is always larger in amplitude than the change in industry overall and there is no doubt that it has a big influence on the business situation of all industries. Another feature of the change of tertiary industry is close to the change of the whole industry.

This concludes the outline of the work force structure in Japan and the changes in this structure.

3.2 An overview of the industrial structure

In the previous section we discussed changes in the industry structure on an overall level, here we

Figure 7 Real products per capita

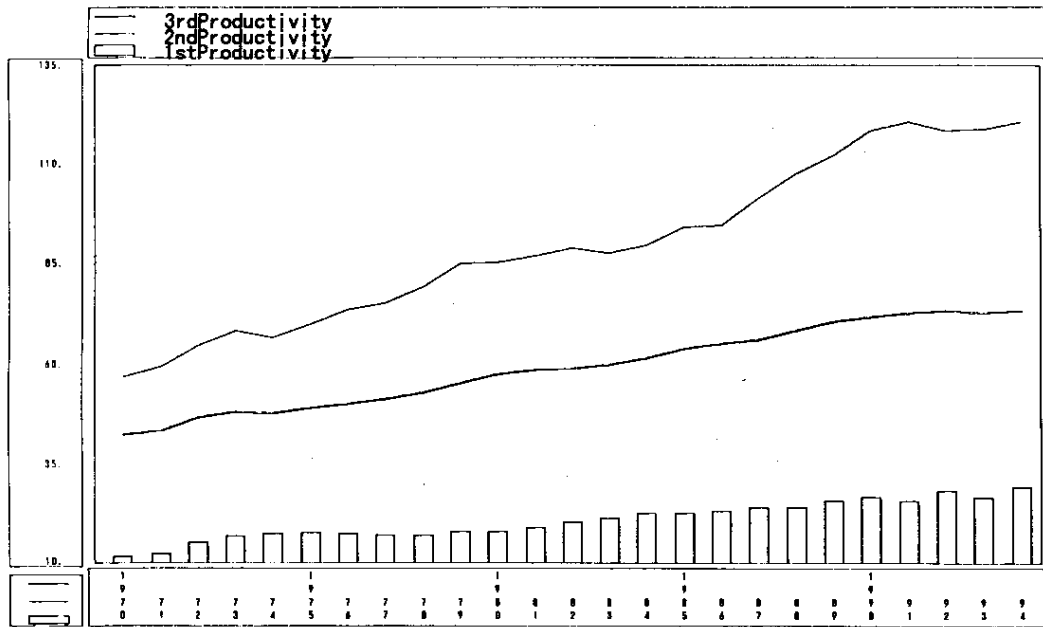


Figure 8 Growth rate of amount of real production per capita

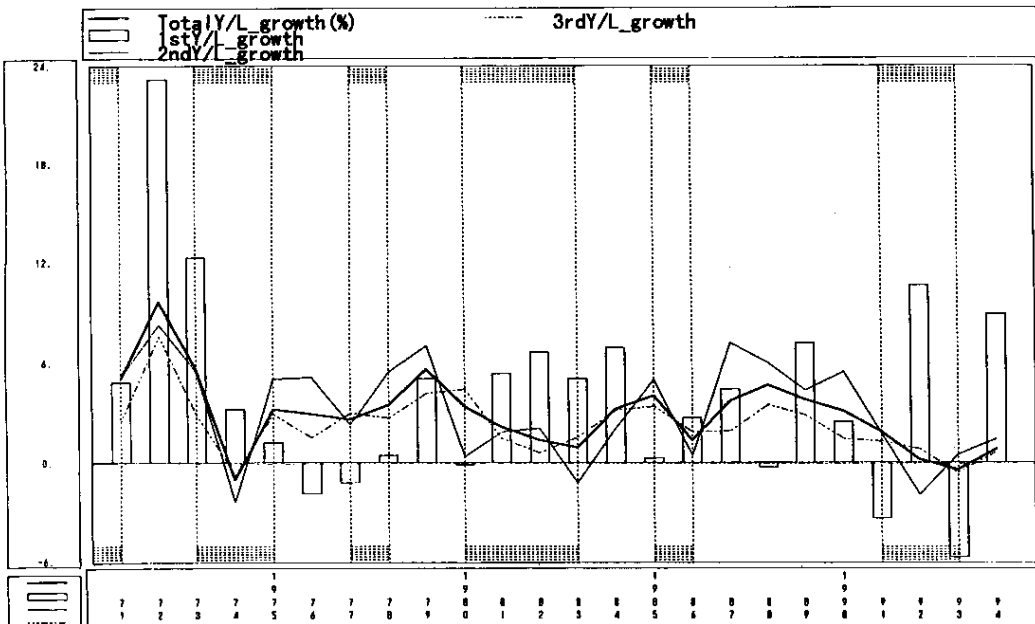


Table 2 Changes of constitution ratio according to industry of GDP

%	ARI	MIN	FOO	TEX	FUL	CHE	PET	CER	BME	MET	MAC	ELE	TRN	PRE	MIS	CON	GAS	TRA	FTN	REA	TRP	PRI	PUB	
1970	5.09	0.62	4.14	1.18	0.67	0.66	3.41	1.48	2.68	1.64	2.20	0.02	2.11	0.14	5.39	12.29	2.55	8.69	2.33	9.15	7.81	14.42	11.34	
1971	4.63	0.60	4.10	1.09	0.70	0.90	3.47	1.48	2.69	1.60	2.17	0.12	1.93	0.14	5.27	12.43	2.69	8.88	2.78	9.44	7.54	14.33	11.04	
1972	4.80	0.56	3.82	0.98	0.75	1.06	3.39	1.53	2.85	1.67	1.97	0.33	1.78	0.13	5.34	12.29	2.55	9.54	3.54	9.30	6.88	14.49	10.47	ARI: agriculture
1973	4.64	0.53	4.27	0.97	0.78	1.03	3.47	1.61	3.14	1.93	1.92	0.49	1.98	0.23	4.88	12.12	2.48	9.63	3.31	9.69	6.82	13.86	10.22	MIN: mining
1974	4.66	0.48	4.31	1.16	0.69	1.06	3.33	1.50	2.80	1.55	2.02	0.65	2.43	0.30	4.56	11.51	2.56	9.84	2.84	10.25	7.33	13.85	10.31	FOO: foods
1975	4.51	0.44	4.39	1.14	0.69	0.54	3.46	1.21	2.50	1.28	1.86	0.44	2.21	0.21	4.47	12.04	2.69	10.12	3.28	10.22	7.56	13.48	11.29	TEX: textiles
1976	4.15	0.51	4.19	1.00	0.76	0.90	3.56	1.19	2.62	1.21	1.94	0.55	2.50	0.23	4.87	11.34	2.71	10.47	3.28	10.41	7.24	13.04	11.36	PUL: pulp
1977	3.87	0.53	4.42	0.93	0.69	1.02	3.43	1.12	2.30	1.27	2.04	0.71	2.42	0.28	4.72	10.79	2.65	10.87	3.65	10.71	6.83	13.42	11.37	CHE: chemicals
1978	3.71	0.49	3.94	0.85	0.68	1.27	3.23	1.09	2.50	1.33	1.96	0.81	2.26	0.29	4.69	11.10	2.69	11.24	4.06	10.77	6.43	13.21	11.38	PET: petroleum
1979	3.52	0.42	4.02	0.85	0.71	1.22	2.83	1.05	2.97	1.35	2.18	1.03	2.22	0.34	4.57	10.94	2.76	11.61	3.90	10.63	5.00	13.80	11.09	CER: ceramic
1980	3.15	0.47	3.88	0.94	0.69	1.27	1.53	1.03	3.06	1.32	2.65	1.32	2.67	0.40	4.34	10.31	3.02	12.53	3.74	10.65	6.20	13.87	10.95	BME: basic metal
1981	3.09	0.43	3.90	0.92	0.76	1.39	1.70	1.03	2.46	1.37	2.87	1.43	2.62	0.42	4.32	10.32	2.97	12.46	3.72	10.59	6.16	14.13	10.95	MET: fabricated metal
1982	3.16	0.43	3.99	0.87	0.75	1.53	1.71	0.99	2.31	1.43	2.94	1.63	2.41	0.41	4.42	9.81	3.02	12.59	3.67	10.46	6.04	14.44	11.02	MAC: machinery
1983	3.12	0.38	4.03	0.86	0.76	1.60	1.53	1.01	2.02	1.44	2.90	1.91	2.46	0.45	4.49	8.91	3.07	12.63	4.00	10.42	6.21	14.85	10.95	ELE: electrical machinery
1984	3.09	0.34	3.72	0.78	0.74	1.74	1.52	0.99	2.41	1.40	3.06	2.31	2.48	0.45	4.41	8.52	3.01	12.15	4.31	10.51	6.38	14.94	10.75	TRN: transport equipment
1985	2.94	0.29	3.58	0.76	0.71	1.80	1.51	1.06	2.29	1.52	3.40	2.73	2.58	0.51	4.36	8.30	2.95	11.74	4.35	10.76	6.28	15.23	10.33	PRE: precision instrument
1986	2.86	0.29	3.36	0.71	0.68	1.95	1.00	0.99	2.00	1.59	3.20	2.93	2.53	0.49	4.39	8.47	2.87	12.05	4.89	10.93	6.29	15.17	10.37	MIS: miscellaneous
1987	2.82	0.25	3.06	0.71	0.69	1.95	1.19	0.99	2.09	1.54	2.99	3.10	2.64	0.43	4.39	8.97	2.80	12.42	5.33	10.93	6.22	14.43	10.05	CON: construction
1988	2.59	0.24	2.92	0.65	0.70	1.97	0.98	1.01	2.16	1.55	3.27	3.58	2.60	0.46	4.36	9.33	2.77	12.58	5.64	10.81	6.25	13.93	9.64	GAS: gas
1989	2.53	0.21	2.75	0.53	0.76	2.07	1.00	1.00	2.15	1.51	3.40	3.96	2.59	0.49	4.22	9.46	2.74	12.54	5.99	10.57	6.45	13.83	9.24	TRA: trade
1990	2.42	0.25	2.73	0.56	0.74	2.07	0.92	0.97	2.09	1.58	3.52	4.29	2.62	0.49	4.24	9.61	2.79	12.91	5.65	10.35	6.30	14.08	8.81	FIN: finance
1991	2.14	0.23	2.69	0.51	0.69	2.08	0.91	0.91	2.02	1.58	3.64	4.85	2.58	0.50	4.23	9.60	2.86	13.19	5.46	10.32	6.24	14.32	8.45	REA: real estate
1992	2.25	0.23	2.68	0.53	0.67	2.27	0.97	0.92	1.98	1.55	3.32	4.70	2.52	0.44	3.96	9.56	2.85	13.21	5.31	10.62	6.14	14.85	8.49	TRP: transportation
1993	1.99	0.22	2.64	0.53	0.65	2.32	0.86	0.88	1.86	1.61	2.86	4.68	2.52	0.39	3.77	9.90	2.87	12.96	5.03	11.14	6.19	15.43	8.71	PRI: private services
1994	2.12	0.18	2.59	0.50	0.61	2.29	0.88	0.91	1.88	1.52	2.66	4.96	2.39	0.36	3.51	9.81	2.93	12.82	5.28	11.32	6.25	15.45	8.78	PUB: public services

will look at these changes in a little more detail. Table 2 shows gross domestic product divided into 23 sectors and changes in the constitution ratio¹⁶⁾ (the numbers in the table indicate percentages).

The significant features of the table are as follows.

Firstly, beginning with agriculture, forestry and fisheries, and then the mining, oil and other manufacturing industries, the share of traditional industries decreased over these 20 years¹⁷⁾. Furthermore, the share of Japan's representative industries such as construction also fell.

Secondly, in contrast to this, the share of the service industry increased, making it the new growth industry. To be more specific, the service related industries include trade, finance, real estate, private services¹⁸⁾.

After 70, it can be seen that post-industrialization progresses in the Japanese Economy progresses steadily.

Thirdly, in the manufacturing industry the trend was for the share of electrical machinery and general machinery to expand. It can be said that this was due to the influence of increased consumption of household items such as computer-related machinery, large televisions, cellular phones and facsimiles. Figures 9 and 10 show the production of these growth-type industries by manufacturing related and service related.

Fourthly, in the previous table it was shown that the construction industry share fell, but as can be seen figure 9, after the Heisei business era in 1986 production increases. This is proof of the intensity

on building investment of the bubble period.

Moreover, from this figure we can see that production in the electrical machinery industries increased more than production in other industries. In particular, after the Heisei business era, it overtook the production scale of transportation and general machinery. The share to overall production is not so large, but in the present Japanese Economy there is no doubt that electrical machinery is an important manufacturing related industry.

Next, in figure 10, we can see that the private service industry shows consistent growth. Even looking at the total it is ahead of the other industries. You can also see that from its share of production and also from production growth the service industry can be considered a key industry.

In addition, trade production increases according to a similar trend. In particular, after the 1970s small stores which, until then had been the nucleus of department stores, changed dramatically with the opening of large supermarkets and convenience stores. This features is also reflected in the economic statistics.

Apart from this, total sales of real estate consistently revealed a rising trend. In the Heisei era, sales in the finance industry increased, but in late years leveled off.

Finally, after 1980s the transport industry experienced a remarkable spread in home delivery, but in table 2 its share is more or less steady. With regard to sales, after the Heisei era they remained relatively unchanged.

That is the end of the outline of the changes according to industry¹⁹⁾.

4. Today's position and some problems with the Japanese Economy

The current situation of the Japanese Economy may be summarize as follows.

19) In order to examine to closely analyse the volume of production between industries, it is appropriate to use data from Input-Output table. However, due to a lack of space this table is not included here.

16) GDP data from related statistics is used here.

17) The steel industry is included in other manufacturing industries.

18) The service industry is divided into private services, general government (mainly education and medical care), public administration and private non-profit institutions serving households. However, in this case, apart from private services, all of the services have been combined under the heading of public services.

In addition, private service is usually divided into business services and personal services, however this distinction will not be used here.

Figure 9 Manufacture related industry with growth tendency

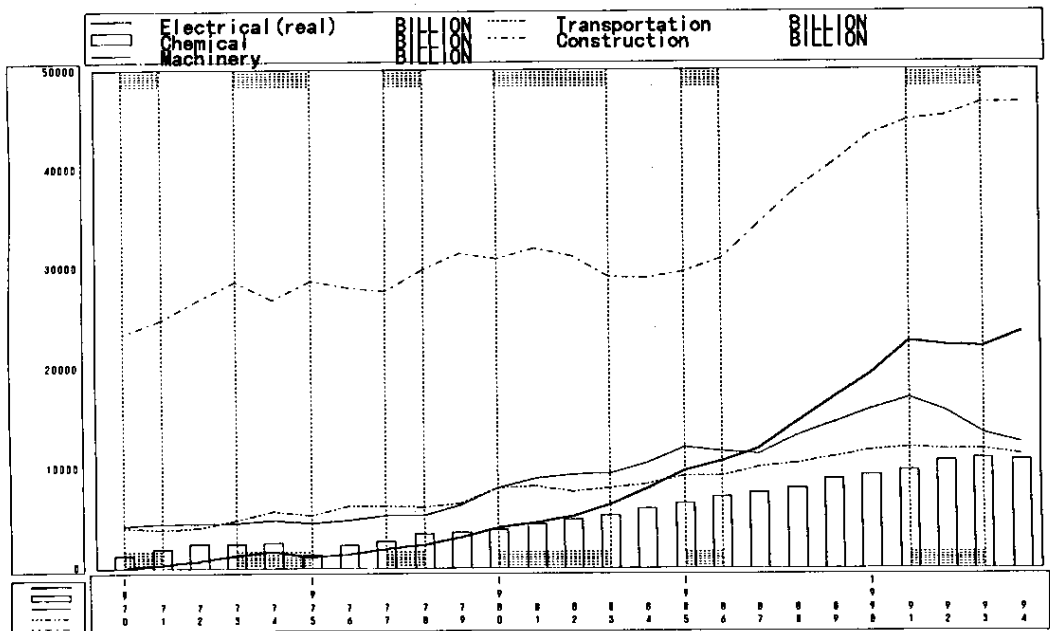
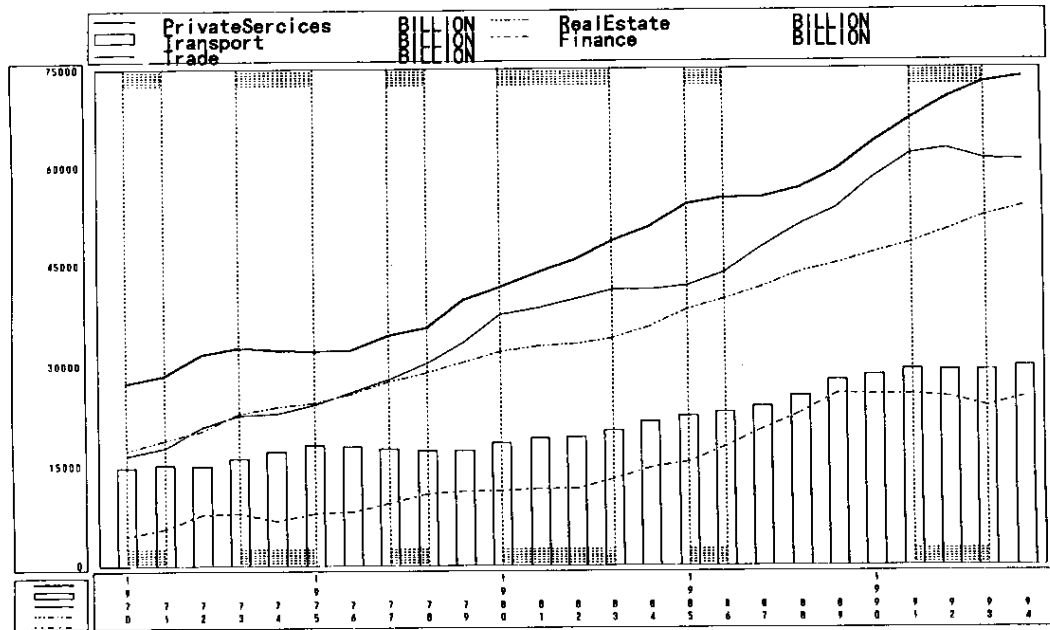


Figure 10 Service related industry with growth tendency



Firstly, the feeling of distrust among the people with regard to finance and land assets created by the bubble economy has not yet been wiped out. This feeling is promoted by loss filling and dishonest financing problems.

Secondly, since the time of the bubble, the cultivation of new investment opportunity in Japanese Economy has not yet been successful. It is continually said that the information service industry has been the new leading industry in Japan since 1980s, however, as discussed before, economy statistics indicate that this phenomenon is only beginning. Moreover, the leading industries in Japan are still processing structures-type industries such as cars and electric machinery which are export-oriented²⁰⁾.

Thirdly, the change in the industry structure becomes unclear and difficult to see. One of the new industry fields is the information service industry. A significant characteristic of this industry is its advanced knowledge-intensive nature. Therefore, it is difficult to measure the investment effect. In addition, because of this possibility that the industry itself caused fundamental reform in other traditional industries, these long-established industries experience growth once again. Due to these things, it is difficult to understand the change in the industry structure by looking at the economic statistics.

Fourth, there is a possibility that mastery of the skills of traditional labor is lost with the development of such knowledge intensive industry. Therefore, the number of so-called traditional-type craftsmen decreases, while in contrast, knowledge intensive skills are required²¹⁾.

On the other hand, these mean that primary and secondary industries decrease relatively and there is a move to a full state²²⁾. We can see that this

"rich" state is breaking down the balance between the nation's producer and life-style people/consumers.

Fifth, it is possible that this change in industry structure promoted the breakdown of the traditional Japanese community. For example, with distribution revolution there was nation-wide development of convenience store and large supermarkets. This led to the disappearance of local-type small shops and the urban-like situation appeared in many regions. The breakdown of close-knit regional communities meant that a new self-conscious type of relationship forming was required among citizens. Furthermore, the traditional organization and individual contractual relationships needed re-examined. However, these points were dealt only by people individual efforts now.

Sixth, with the results above, presently in Japan the spirit of the times is to devote oneself to searching for Japanese originality and establishing a Japanese identity. Until now the Japanese economic system looked toward America as an ideal model, but eventually Japan arrived at a stage where realized what it had lost and what should be protected. It is likely that this identity search will continue to strengthen in the future.

As discussed above, structural reform of the Japanese Economy cannot be undertaken without problems. Now the important thing is to establish without delay a certain outlook which is very conscious of Japanese economic and social characteristics.

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20) Of course, it is not possible to ignore the influence of the new industries, because computers and other information-related machinery are included in the electric machine industry.

21) For example, ever now software industry engineers are in short supply.

22) The Increase of the moratorium temperament of young people, known as "freetor" phenomenon suggests a full state.

"Freetor" is an English word coined in Japan and used to refer to a free-lance who does paid work others except a permanent full-time job.

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