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**Growth, Distribution and Institutional Changes in the Japanese Economy:  
Faced by Increasing International Interdependence with Asian Countries.**

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**Hiroyasu Uemura<sup>1</sup>**

**Abstract**

The Japanese economy experienced institutional changes after the long-lasting recession in the 1990s and started to show a new growth pattern in the early 2000s, faced by increasing international interdependence with the other Asian economies. Especially, investment behaviours have been constrained by liberalisation in the financial market, the export of manufactured goods and increasing foreign direct investment in Asian countries, and the co-ordinating mechanism of wages has shifted to more market-oriented one. The spill over mechanism of trade surplus and productivity gain has been weekend due to these institutional changes. Furthermore, industrial structures are shifting to the high-tech sector and the service sector, influenced by the development of international division of labour and increasing interdependence with the other Asian economies. This paper is to conduct the structuralist macroeconomic analysis which is closely linked to the mode of régulation, or the institutional co-ordinating mechanisms of investment, labour productivity, wages and foreign trade and to investigate changes in the income distribution and growth pattern of the Japanese economy. The characteristics of the emerging accumulation regime, which is faced by increasing interdependence with the Asian economies, are considered from several important aspects.

**Keywords:** the Japanese economy, growth and distribution, institutional co-ordinating mechanism, international interdependence, de-industrialization

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## **1. Introduction**

The Japanese economy experienced institutional changes after the long-lasting recession in the 1990s and started to show a new growth pattern in the 2000s, faced by increasing international interdependence with the other Asian economies. Especially, investment behaviours have changed due to liberalisation in the financial system and increasing Japanese foreign direct investment in Asian countries, and the co-ordinating mechanism of wages has shifted to more market-oriented one with some major institutional changes. Furthermore, industrial structures have been shifting to the high-tech sector and the service sector, influenced by the development of international division of labour and interdependence with the other Asian economies.

The aim of the paper is to conduct a structuralist macroeconomic analysis which is closely linked to the institutional co-ordinating mechanisms of investment, labour productivity, wages and foreign trade and to investigate changes in the income distribution and growth pattern of the Japanese economy which is faced by increasing interdependence with Asian countries. In particular, we conduct a long-term economic analysis in the Japanese economy, focusing on structural shifts in income distribution and growth pattern. Furthermore, the data of the profit rate, labour productivity and wages at the industrial level as well as the firm level are used to investigate changes in institutional co-ordinating mechanisms to determine income distribution.

The Japanese economy has experienced several shifts in its growth pattern for recent thirty years. In the first half of the 1980s, heavy investment coupled with an undervalued yen led to the creation of excess capacity, and even more excess capacity was created in the Bubble boom in the second half of the 1980s. The rapid depreciation and scrapping of capital stock in the 1990s occurred as the prolonged adjustment of excess capital accumulated over the 1980s. In the long-lasting recession in the 1990s, investment was very stagnant, influenced by excess capital stock and a bad debt problem in the uncertain financial system. After excess capital stock was scrapped and the bad debt problem was solved, investment started to recover in the early 2000s, and the Japanese economy shows a new growth pattern. In this situation, there has been more pressure to make corporate finance market-based under the condition of liberalisation in the financial market. The employment system has also evolved in the Japanese economy since the mid 1990s. In fact, in order to cope with labour hoarding in large Japanese firms, the number of non-regular workers increased dramatically and nominal wage growth was depressed with the weakening bargaining position of unions. Wage share, which increased due to labour hoarding in the 1990s, fell very sharply in the early 2000s, and the profit rates of large firms recovered considerably. Export came to

play an important role in demand formation again in the Japanese economy. At the same time, fierce international competition with the other Asian countries and the increasing foreign direct investment of Japanese multinational firms have imposed a strong structural constraint on Japan's international economic relations.

There are different approaches to the study of the long-lasting recession in the 1990s and the recovery in the early 2000s. The Neo-classical approach explains that the low growth rate was caused by a decrease in total factor productivity and labour input (Hayashi and Prescott(2002)). According to this understanding, the way to realise higher economic growth is to strengthen the market mechanism to eliminate low-productivity firms by de-regulation policies. However, although productivity slowdown is one of the major problems in the Japanese economy, competitive pressure in the market is not the only way to promote innovative activities, and the social system of innovation is more important. On the contrary, the Keynesian approach explains that the long-lasting recession was caused by overinvestment in the second half of the 1980s and insufficient demand at the early 1990s (Yoshikawa(1998), Motonishi, T. and Yoshikawa, H. (1999) ) as well as the sharp fall in stock prices after the collapse of the Bubble boom (Miyazaki(1992)). The bad debt problem and debt deflation in the uncertain financial system also exacerbated the recession. In this approach, it is often said that new investment opportunities and the well-organized financial system should be created to realise stable economic growth. In this regard, appropriate institutional arrangements are needed to establish favourable investment conditions.

Institutional economics has a different perspective. Especially, régulation approach emphasizes the importance of institutional conditions to establish a stable growth regime, and analyses that the structural crisis of Japanese capitalism in the 1990s was caused by co-ordination failures in the financial system and industrial dynamics (Boyer and Yamada(2000), Uemura(2000), Boyer(2004), Lechevalier (2007)). From this perspective, the dynamic co-ordination of conflicting claims by various socio-economic agents should be established with the structural compatibility of institutions to realise a stable growth regime. In Japanese case, the appropriate co-ordinating mechanisms of innovation, industrial structures, income distribution and trade pattern should be established in a systematic way, faced by increasing interdependence with the Asian economies.

Taking into account these understandings of the recession and the recovery, we try to consider following problems in the paper. First, the major characteristics of the emerging growth regime are considered by investigating such macroeconomic variables as the profit rate, the accumulation rate, wage share and output-capital ratio, etc.

Furthermore, the profit rate, the accumulation rate and labour productivity by industry and by different firm size are also analysed in detail. Then, we consider how institutional changes in the employment system and the financial system are influencing the new growth regime. Second, we consider whether the increasing international interdependence with the other Asian economies accelerate de-industrialization in terms of employment in the Japanese economy. In this regard, the development of the new knowledge-based industries and the efficient service industry is crucial to revitalise the Japanese economy without falling into the hollowing-out of the industries. Third, in order to realise the sustainable growth regime with stable demand formation, faced by Asian economic integration, we investigate appropriate institutional rules, co-ordinating mechanisms and macroeconomic regulations from the institutionalist, above all, régulationist, point of view.

## 2. Profit Rate and Capital Accumulation

### 2.1 Basic Framework of the Profit Rate

First of all, we propose the structuralist macroeconomic framework to investigate major macroeconomic variables. The structuralist macroeconomic theory usually seeks to synthesise Kalecki and Kaldor based on the analysis of the long-term evolution of institutional arrangements. Especially, there is a common perspective of attempting to build a framework of macroeconomic dynamics by synthesising the logic of effective demand and the logic of distributional conflict under certain historical and institutional conditions. We also attempt to integrate the analysis of institutional evolution in “the wage-labour nexus”. From this perspective, we will consider the determinants of the profit rate, capital accumulation and income distribution.

We will begin by considering the components of the profit rate, because the pursuit of profit is the driving force in the capitalist economy and the profit rate is a key category in analysing the accumulation of capital. The basic formula for determining the profit rate is given by the national account, as follows.

$$\begin{aligned}
 r &= \frac{p_x \Pi}{p_k K} \\
 &= \frac{\Pi}{Y} \cdot \frac{Y}{X} \cdot \frac{X}{\bar{X}} \cdot \frac{\bar{X}}{K} \cdot \frac{P_x}{p_k} \\
 &= \pi \cdot \beta \cdot u \cdot \sigma \cdot p \\
 &= (1 - w_s) \cdot \beta \cdot u \cdot \sigma \cdot p \\
 &= [1 - (w/p_x) / \lambda_n] \cdot \beta \cdot u \cdot \sigma \cdot p \tag{1}
 \end{aligned}$$

The basic notations are as follows.  $r$  : the profit rate,  $\Pi$  : real profit,  $\pi$  : profit share,

$X$  : real output (= real GDP),  $\bar{X}$  : potential real output,  $Y$  : real national income (= real GDP – depreciation),  $K$  : real capital stock,  $\beta$  : the national income-GDP ratio ,  $u$  : capacity utilisation,  $\sigma$  : the potential output-capital ratio,  $p_x$  : the prices of output (= GDP deflator),  $p_k$  : the prices of capital,  $p$  : the ratio of output prices to capital prices,  $w_s$  : wage share,  $w$  : nominal wages,  $\lambda_n$  : net labour productivity ( $\lambda_n = Y/N$  ;  $N$  : employment ).

Equation (1) is an identical equation at a macroeconomic level, but we can see several causal chains behind it. As Kalecki pointed out, investment is induced by the expected rate of profit, and, in turn, profit is realised by investment expenditure. Therefore, there is a dynamic interaction between investment and profit, and this determines the level of capacity utilisation. As Bowles and Boyer pointed out, wages play a triple role, that is, “ a source of consumption demand, a component of unit labour costs and hence a deduction from profits, and as an instrument in capital’s labour-disciplining strategies” (Bowles and Boyer, 1990). Therefore, the level of wages indirectly influences capacity utilisation and labour productivity. The labour-disciplining effect is sometimes institutionalised in various forms, when the wage-labour nexus is highly institutionalised. Furthermore, the potential output–capital ratio is influenced by technological and organisational conditions in the production process and industrial structures. All of these factors decide a specific pattern of capital accumulation, depending on institutional arrangements (Uemura(2000)).

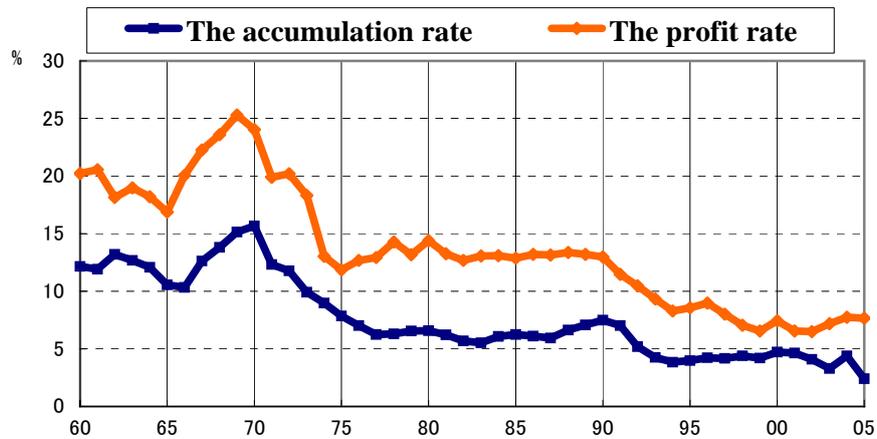
## 2.2 Capital Accumulation and the Profit Rate in the Japanese Economy

First of all, we will see long-term changes in the profit rate and the accumulation rate in the Japanese economy after the 1960s in Fig.1.<sup>2</sup>

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<sup>2</sup> The data sources and calculation procedures of the variables are as follows. The profit is calculated on the basis of data from Cabinet Office, *Annual Report on National Accounts*, and the capital stocks of both corporations and all firms are obtained from Cabinet Office, *Gross Capital Stock of Private Enterprises*. The profit rate of corporations = (the incomes of private corporations + interest + dividend) / the capital stock of corporations. In constructing the profit rate of all enterprises, the incomes of unincorporated enterprises are formally divided into profits and wages, following income distribution in corporations. We obtain the accumulation rate as the growth rate of real capital stock, adjusting the data of gross capital stock in order to remove the effects of the privatisation of NTT and Japan Tobacco Industry in 1985, and JNR in 1987 etc.

**Fig.1 Capital Accumulation and the Profit Rate**



Source: *Annual Report on National Accounts*

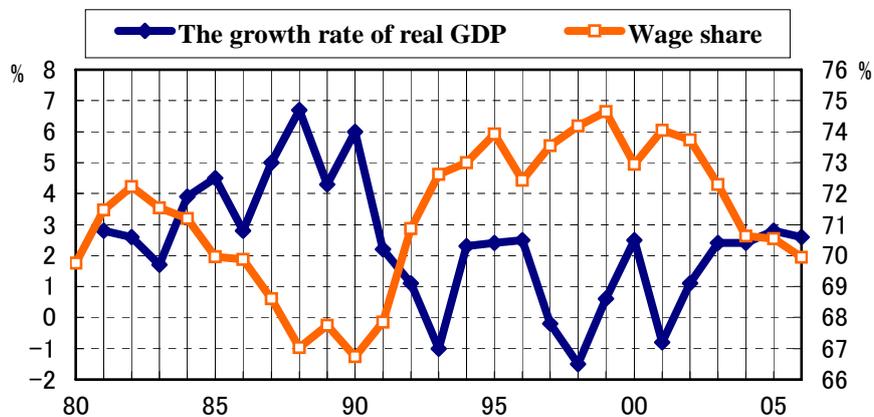
**The Profit Rate:** The profit rate is calculated as net profits divided by the gross capital stock at current prices. As shown in Figure 1, it was quite high in the period of high economic growth, and reached its peak in 1969. Since then, it has been falling generally. The Japanese economy has experienced two sharp falls in the profit rate in the post-war period. First, the profit rate started to fall at the beginning of the 1970s, that is, before the first oil shock, and then it fell very sharply after it. Second, the profit rate fell in the late 1980s and the early 1990s. At the beginning of the 1970s, the decreases in profit share, capacity utilisation and potential output-capital ratio were the contributing factors, and the falls in profit share and capacity utilisation became remarkable in the process of the downturn in the first half of the 1970s. In the fall in the profit rate around 1990, the fall in the potential output-capital ratio contributed very much, and both profit shares and capacity utilisation fell sharply in the recession in the 1990s. The rise in the ratio of output prices to capital prices has pushed up on the profit rate in expansions and has prevented it from falling in contractions. The profitability of corporations has been very low in the 1990s.<sup>3</sup> This is caused by several factors. First, stagnant investment leads to a low level of capacity utilisation (see Fig.3). Second, potential output-capital ratio fell sharply because of the excess capital caused by “over-accumulation”(see Fig.3). Third, wage shares rise due to a sharp fall in labour productivity with “labour hoarding”(see Fig.2) . Furthermore, the bad loan problem puts great financial pressure on corporate profitability. Another important feature is profitability differential between large firms and small and medium-size ones. This was caused by a pressure on the

<sup>3</sup> As for more detailed information about the factors influencing the changes in the profit rate from the 1960s to the 1990s, see Uemura (2000).

subcontractor system, including decreases in both volume of orders and unit prices offered by parent companies that are pursuing the restructuring of subcontractor network. The profit rate started to recover slightly due to decreasing wages and firing many workers in the first half of the 2000s. However, there were the great differentials of profitability between different-sized firms, as we will see later.

**The Accumulation Rate,** The accumulation rate is calculated on the basis of the percentage growth rate of gross capital stock of private enterprises. As shown in Fig. 1, a quite interesting feature was seen in its fluctuation in the 1960s. It was fluctuating in a very dynamic way, mostly following the profit rate with one-year lag. The accumulation rate reached a peak in 1970, then declined sharply in the first half of the 1970s. It increased again in the second half of the 1980s during the Bubble boom, although the profit rate was falling gradually. Therefore, we see the “over accumulation” of capital stock in the late 1980s. Then, it fell quite sharply at the beginning of the 1990s, and was at a very low level with a large amount of scrapping of capital stock in the long-lasting recession. The accumulation rate did not recover well at least at the aggregate level in the 2000s, because the differentials of the accumulation rates became wider between the industrial sectors, as we will see later.

**Fig2. Growth and Distributon in the Japanese Economy**



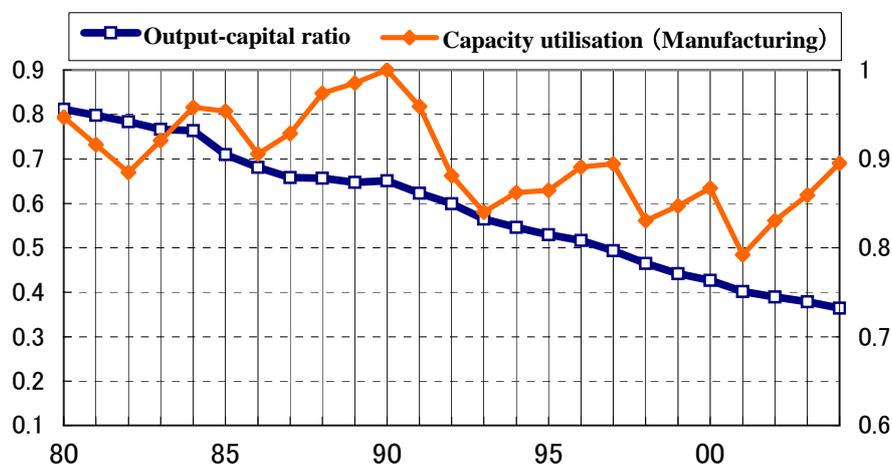
Source: Annual Report on National Accounts

**Wage Share Fluctuating Counter-cyclically:** We can see the long-term shifts in wage share after the 1980s in Fig.2.<sup>4</sup> The share of incomes of unincorporated enterprises accounted for a high percentage of national income in the high growth era, so the result of calculations of wage share levels depended largely on how they dealt with the incomes of unincorporated enterprises. It is defied in terms of “employee

<sup>4</sup> As for long-term shifts in wage share in the Japanese economy after the 1960s, see Uemura (2000).

incomes/(national income – unincorporated enterprises’ incomes)”.<sup>5</sup> According to Uemura (2000), wage share slightly decreased in the period of high growth, rose considerably in the first half of the 1970s, and then stagnated again after 1975. This seems to have reflected structural shifts in institutional arrangements in wage bargaining. Then, wage share has been quite stable since the late 1970s. As for the cyclical movement of wage share, it has been fluctuating counter-cyclically over the post-war period in the Japanese economy. This has occurred with following relations. Labour productivity fluctuates pro-cyclically, because the job security of core workers results in “labour hoarding” during contractions and an easing of labour costs during expansions. Furthermore, the economy realises “increasing returns to scale” in expansions. Therefore, the growth of product wages lags behind productivity growth in expansions, and the deceleration in productivity growth was much larger than that in product wages. This makes wage share fluctuate counter-cyclically. As seen in Fig.2, wage share rose considerably due to “labour hoarding” in the recession in the 1990s. Then, wage share decreased very sharply due to decreasing wages and firing many workers in the first half of the 2000s.

**Fig.3 The Output-capital Ratio and Capacity Utilisation**



Source: *Annual Report on National Accounts and Industrial Index*.

Note: Capital coefficient = Real capital stock/ real GDP

**Capacity Utilisation and the Decreasing Output-capital Ratio:** The fluctuations and trends of capacity utilisation are depicted in Fig.3. The changes in capacity

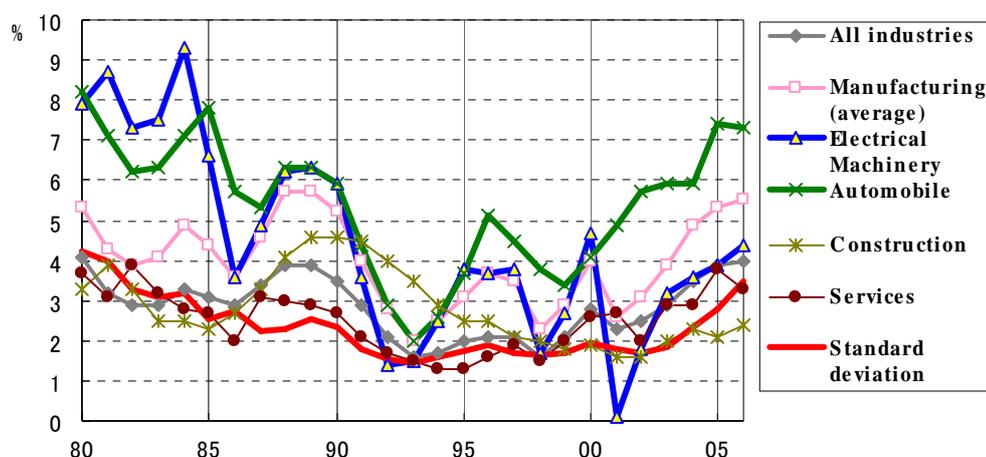
<sup>5</sup> In Fig.3, national incomes, employee incomes, and unincorporated enterprises’ incomes are obtained from Cabinet Office, *Annual Report on National Accounts*.

utilisation are especially important in investment decisions in the manufacturing industry. It went up to a very high level in the Bubble boom in the second half of the 1980s, and then fell very sharply in 1991. This reflected excess capital stocks which had accumulated in the 1980s. After the scrapping of capital stock in the second half of the 1990s, capacity utilisation started to rise in the recovery process after 2002. However, the output-capital ratio did not stop falling, so the potential output-capital ratio seems to have been falling continuously. This may mean the inefficient use of capital stock reflecting some difficulties in transforming the Japanese economy to the more knowledge-based one.

### 2.3 Differentials of the Profit Rate and the Accumulation Rate between Sectors

One of the remarkable features of the Japanese economy is the large differentials of the profit rate and the accumulation rate between industrial sectors. As we can see in Fig.4, the differentials of the profit rate have been widening in the recovery process in the 2000s.

Fig.4 The Ordinary Profit-Total Capital Ratio by Industrial Sector

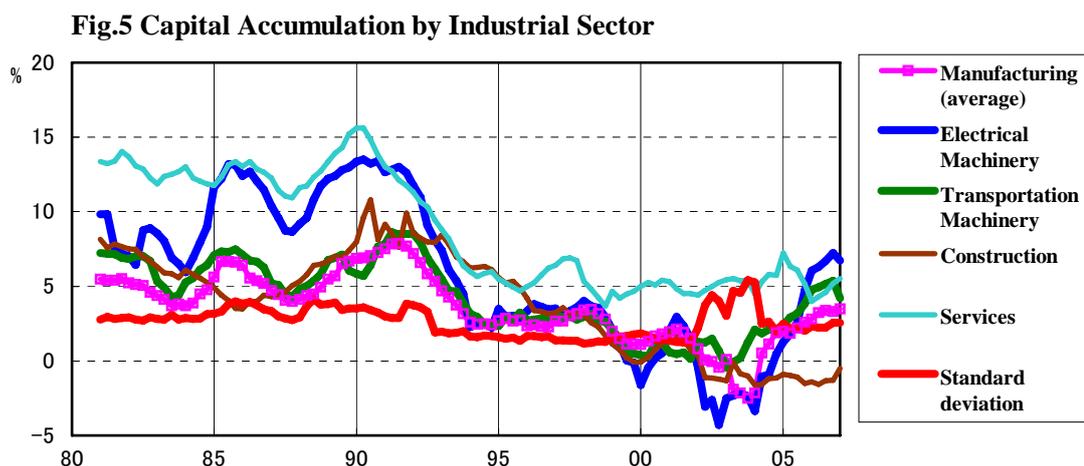


Source: Ministry of Finance, *Financial Statements Statistics of Corporations by Industry*

In the early 1990s, the ordinary profit-total capital ratio fell very sharply in the electrical machinery and automobile industries. The automobile industry recovered relatively earlier in the mid 1990s, but the electrical machinery industry experienced a sharp fall again in the IT recession in 2001 and showed a V-shape recovery due to firing many workers. The construction industry has not recovered well even in the process of recovery. Therefore, the standard deviation of the ratios increased remarkably. We can see the recovery of profitability was not uniform for firms in the different industries.

We can also see the increasing differentials of the accumulation rate in the process

of recovery in Fig. 5. Capital accumulation recovered strongly in the transportation machinery industry, while the electrical machinery industry and the construction industry experienced the negative rate of capital accumulation by large-scale scrapping. The accumulation rate recovered in the electrical machinery industry in the mid 2000s. The accumulation rates in the service industry have been relatively high since the 1980s.



Source: *Annual Report on National Accounts*

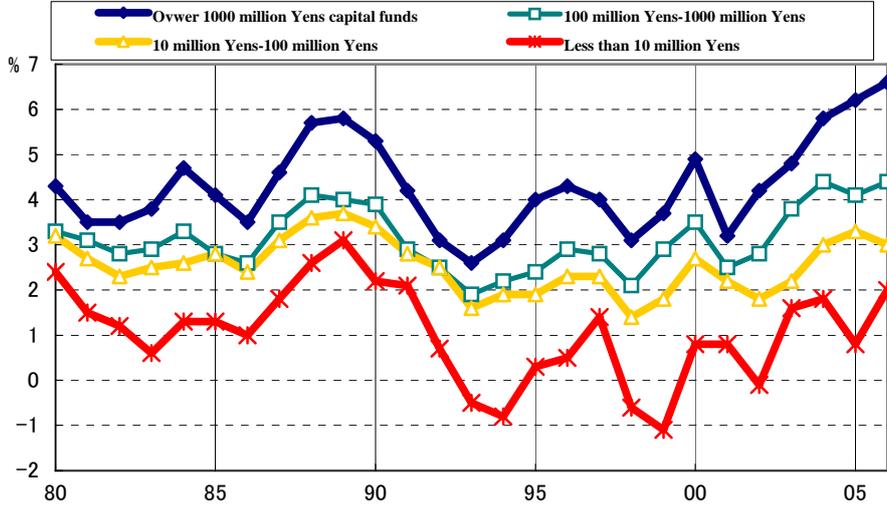
#### 2.4 Differentials of the Profit Rates between Different-sized Firms

In the Japanese economy, there has been “structural compatibility” between firm organisation in large firms, subcontracting networks and the segmented labour market, which promotes productivity growth in the manufacturing sector.<sup>6</sup> However, these institutional structures are transforming themselves after the recession. When we look at different-sized firms, profitability differentials have been more remarkable since the late 1990s, as seen in Fig.6. The profitability, which is measured by the ordinary profit-sales ratio, has increased in large firms, while it has remained at very low level in small and medium-size firms. Namely, only large firms benefited from the economic recovery in the first half of the 2000s. In other words, the very unequal recovery of profitability between different-sized firms showed that the growth pattern changed after the

<sup>6</sup> The analysis of this paper is deeply related to the institutional analysis of “the Hierarchical Market-Firm Nexus” in the post-war Japanese economy (Uemura and Ebizuka (1994), Isogai, Ebizuka and Uemura (2000)). The nexus consists of firm organization based on “the competence-based grade system”, the hierarchically segmented labour market and hierarchical inter-firm relations realizing the different types of flexibility. It should be emphasized that these components have “structural compatibility” in the Japanese economy. The concept of “structural compatibility” is, to certain extent, similar to “institutional complementarity” (Aoki (2000), Aoki and Dore (1996), but it is a more dynamic concept taking account of meso-level and macro-level stability based on the theoretical framework of the theory of regulation.

recession.

**Fig.6 The Firm-size Differentials of Ordinary Profit-Sales Ratio (Manufacturing)**



Source: Ministry of Finance, *Financial Statements Statistics of Corporations by Industry*

### 3. Pattern of Demand Formation

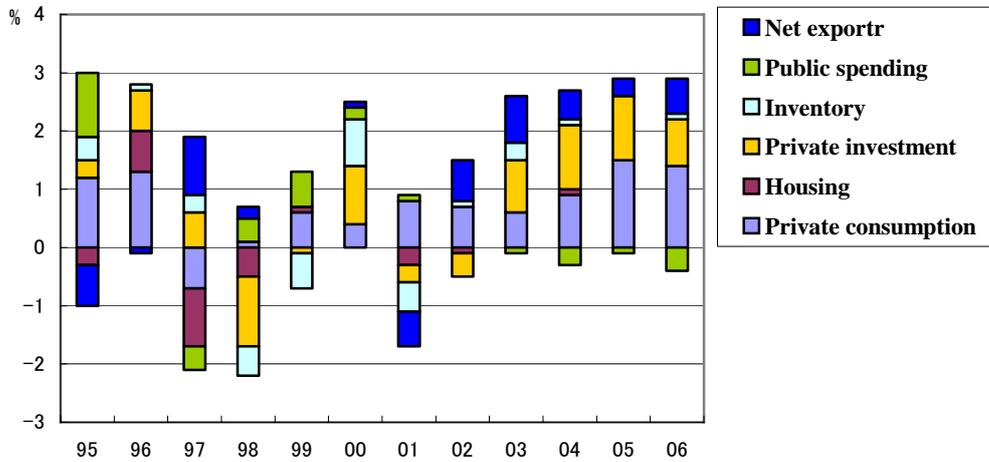
#### 3.1 Contribution to Real GDP Growth in the Recovery Process

Demand formation in the recovery process in the Japanese economy in the 2000s is characterised as follows (Fig.7).

First of all, export contributed considerably to real GDP growth, so the Japanese economy continued to exhibit export-led growth after the long-lasting recession. Above all, export has increased very rapidly to Asian countries, especially, China. Investment was not so active in the recovery process due to the insufficient investment opportunities with the restructuring of firm organisation and the uncertain financial system, which was reflected by the fact that credit multiplier remained at very low level (Fig.8).

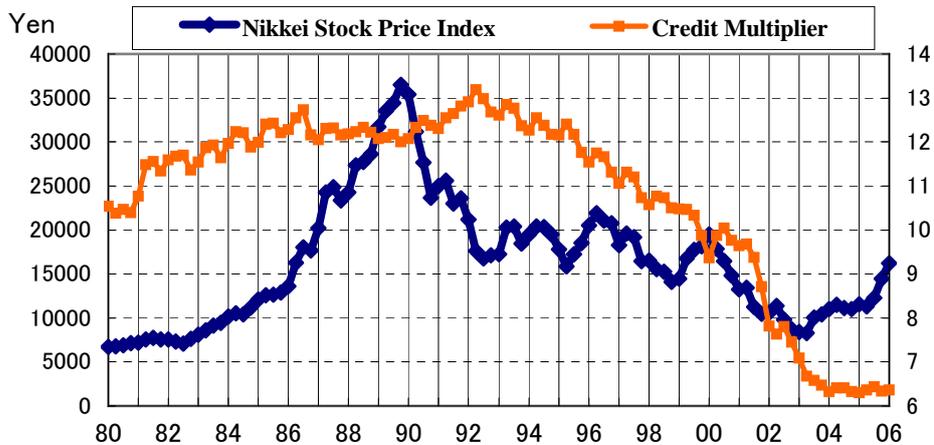
Consumption has less contributed to GDP growth compared with its percentage share. This was caused by the dramatic decrease in wage share and increasing income inequality among workers in the 2000s. The institutional changes in “wage-labour nexus” have influenced demand formation. Public spending has been constrained by restrictive fiscal policies due to large amount of budget deficit and neo-liberalist policies such as “structural reform” and budget cutting.

**Fig.7 Contribution to Real GDP Growth**



Source: Annual Report on National Accounts

**Fig.8 Stock Price and Credit Multiplier**



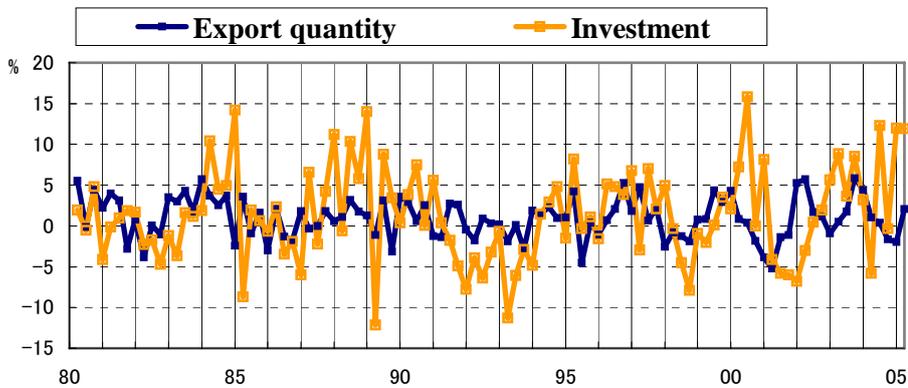
Source: Nikkei Stock Index 225 and Bank of Japan, *Monthly Report of Recent Economic and Financial Developments*

Note: Credit multiplier=(M2+CD)/(Base Money)

### 3.2 Export-led Growth and the Increasing Importance of the Asian Economies

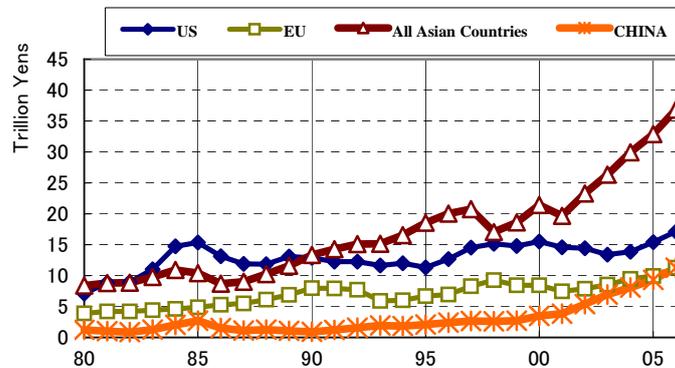
As for the relationship between export and investment, the close link between export and investment, which existed in the 1980s and disappeared in the 1990s, appeared again in the process of economic recovery in the 2000s, as seen in Fig.9. Namely, investment is following export quantity with a lag of a few quarters.

**Fig.9 Export and Investment**

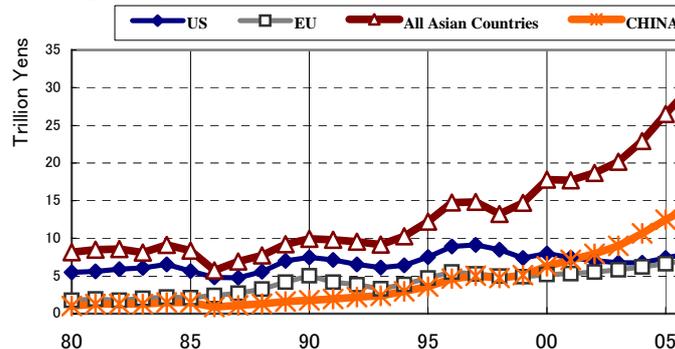


Source: Ministry of Finance, *Trade Statistics*

**Fig.10 Export to Regions**



**Fig.11 Import from Regions**

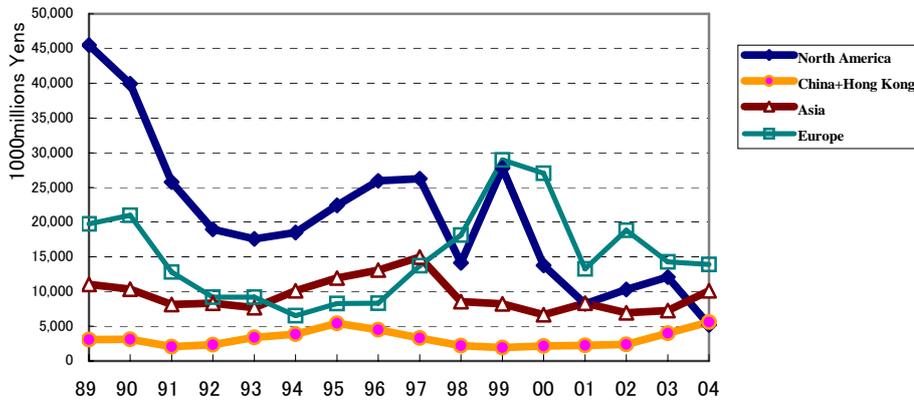


Source: Ministry of Finance, *Trade Statistics*

As for the international trade, Japan's main trading partners changed from US to Asian countries in the 1990s, as seen in Fig.10 and Fig.11. Especially, China became the biggest trade partner of Japan in the 2000s. In Japan's trade with Asian countries, intermediate good trade plays an increasing important role to promote international production linkages. In this situation, Japanese multinational companies came to make more FDI in Asian countries than US, as seen in Fig.12. This has a great influence on

investment behaviours and employment structures in the Japanese economy.

Fig. 12 Japanse FDI in Regions



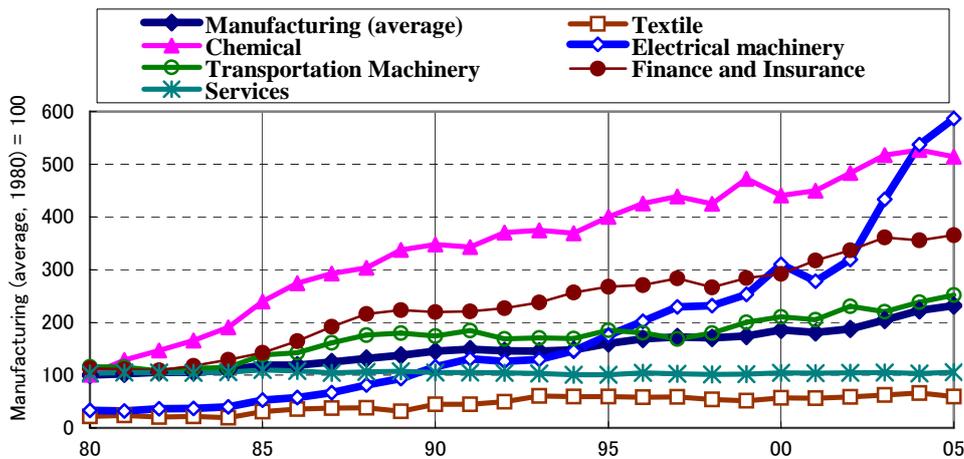
Source: Ministry of Finance, *Foreign Direct Investment*.

#### 4. Productivity Growth Differentials after the Recession

##### 4.1. Productivity Differentials between the Industrial Sectors

Productivity differentials between industrial sectors are one of the remarkable structural characteristics of the Japanese economy. Especially, productivity growth is much higher in the export goods sector than the non-export goods sector. In the recovery process, productivity growth differentials were widening between industries, as seen in Fig.13. Labour productivity rose very sharply due to firing many workers and promoting innovation in the electrical machinery industry. This was brought about by such an institutional change in the employment system that managers give up keeping employment security.

Fig.13 Productivity Growth Differentials between Industries

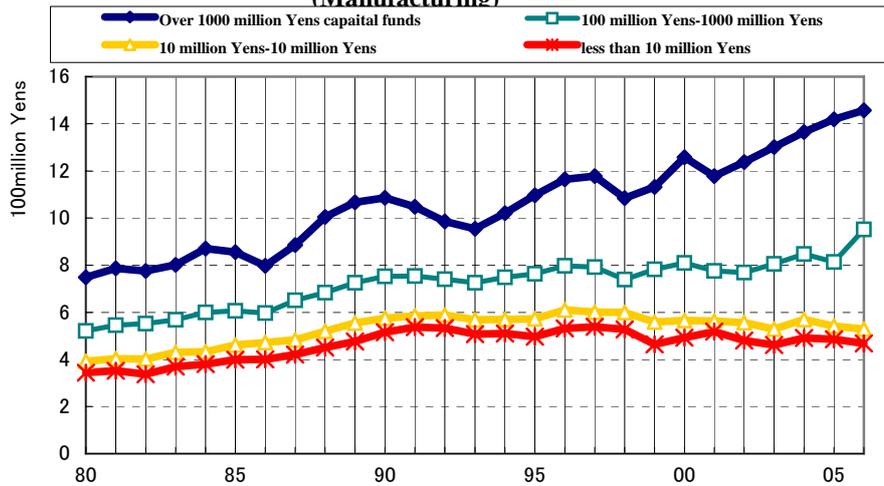


Source: *Annual Report on National Accounts*

## 4.2. Productivity Differentials between Different-size Firms

Productivity growth differentials have also increased between large firms and small and medium-size firms since the 1990s. Especially, the firm-size differentials of value-added per worker have been increasing remarkably in the recovery process in the 2000s (Fig. 14).

**Fig.14 The Firm-size Differentials of Value Added per Worker  
(Manufacturing)**



Source: Ministry of Finance, *Financial Statements Statistics of Corporations by Industry*

As we mentioned, the “structural compatibility” between large firms, subcontracting networks and the segmented labour market enhanced the work incentives for workers and promoted the flexibility of employment adjustment after the 1970s. However, this hierarchical socio-economic structure may be eroded gradually due to the remarkable increase in the firm-size differentials and the “increasing fluidity” of subcontractor networks after the late 1990s. The Japanese economy comes to exhibit more heterogeneous structures, which is influenced very much by increasing interdependence with the Asian economies.

## 5. Changes in Wage Co-ordination and Employment

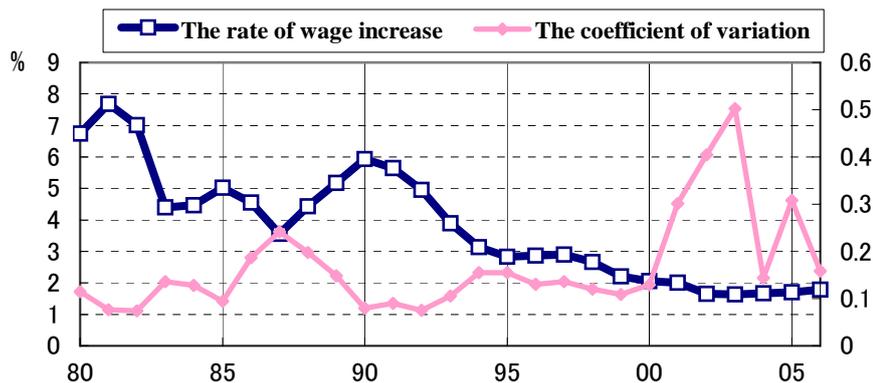
### 5.1 Institutional Wage Co-ordination Eroded

Nominal wage growth was highly sensitive to the unemployment rate with the strong “reserve army effect” in the second half of the 1960s, but it was not so even in the quasi-full employment situation in the late 1980s. Therefore, product wages increased almost in line with labour productivity over the 1980s, and this was quite compatible

with the export-led growth. The distributional pattern was ensured by the complex wage co-ordinating mechanisms which consists of a profit sharing mechanism in large firms, “SHUNTO”(spring offensive), and the flexible determination of wages of non-regular workers on the basis of the hierarchical economic structures (Tsuru,1992; Ebizuka, Uemura and Isogai,1997).

In the 1990s, however, wages share rose considerably, even though we still maintain those co-ordinating mechanisms, because labour productivity fell very sharply due to “labour hoarding” in large firms in the severe recession. After the recession, wage spill over mechanism has been weakening, because SHUNTO as a institutionalised wage co-ordination mechanism was almost broken down as seen in Fig.15. Then, wages have been depressed in the recovery process in the 2000s.

**Fig.15 Wage Increase and Variation among Industries in Spring Offensive**



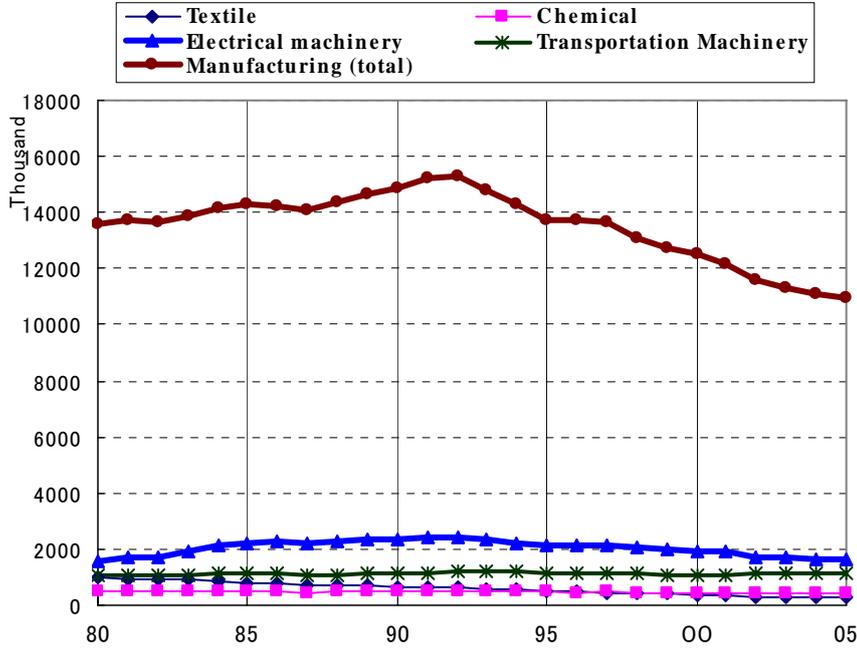
Source: Ministry of Health, Labour and Welfare, *Wage Increase in Spring in Major Private Companies*.

The wage increase at lower rates due to the collapse of SHUNTO depresses consumption demand even in the recovery process in the 2000s, and the Japanese economy depends much more on export.

**5.2 Decline in Manufacturing Employment: de-industrialization**

Manufacturing employment has decreased at the absolute level since the early 1990s, and this can be called “de-industrialization” in terms of employment (Rowthorn and Wells(1987), Petit(1988)). There is the diversity of shifting pattern of employment among industrial sectors. Especially, employment has been falling very sharply in the electrical machinery industry, while it is maintained in the transportation machinery industry, as seen in Fig.16.

**Fig.16 Changes in Employment: de-industrialization**



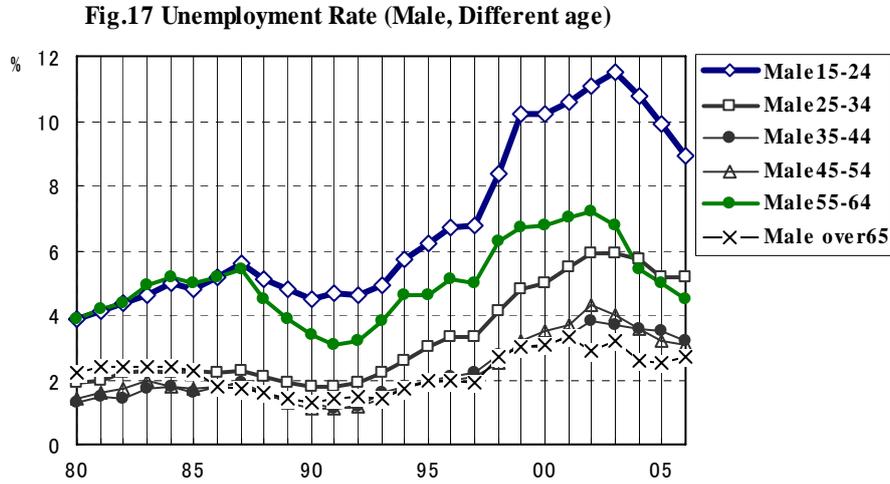
The theoretical relation between relevant variables is formalised in following equations.

$$\hat{N}_m = \hat{X}_m - \hat{\lambda}_m \quad , \quad \hat{N}_s = \hat{X}_s - \hat{\lambda}_s \quad (2)$$

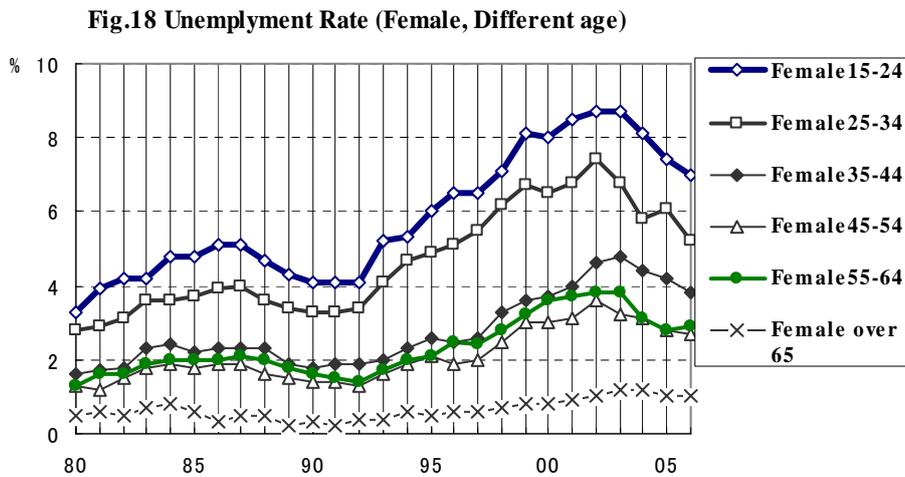
where  $\hat{N}$  is the growth rate of employment,  $\hat{X}$  is the growth rate of real output, and  $\hat{\lambda}$  is the growth rate of labour productivity. Suffixes  $m$  and  $s$  denote the manufacturing sector and the service sector, respectively. When demand for the manufacturing sector is stagnant in a recession, the share of manufacturing employment is decreasing. This structural shift in employment can be called “negative de-industrialization” (Rowthorn and Wells(1987)), because it is brought about by stagnant manufacturing output rather than high productivity growth. As a result, the relative share of employment in the service sector has been increasing.

From the institutional point of view, it should be pointed out that the increasing employment in the service sector depends on the various kinds of non-regular jobs which are very unstable in employment. In this situation, more structural unemployment might be brought about by the coordination failure for the shift in employment from one industrial sector to another. In fact, the unemployment rate of younger and elderly workers rose very sharply in the Japanese economy in the late 1990s, and this has remained at a very high level even in the recovery process in the 2000s, as seen in

Fig.17 and Fig.18.



Source: Ministry of Internal Affairs and Communications, Statistic Bureau, *Labour Force Survey*.



Source: Ministry of Internal Affairs and Communications, Statistic Bureau, *Labour Force Survey*.

## 6. A Shift in the Growth Regime of the Japanese Economy after the Recession

### 6.1 Institutional Changes Influencing on the Growth Regime

When we try to consider a shift in the growth regime of the Japanese economy after the long-lasting recession in the 1990s, we should take into account several major institutional changes which seem to influence the characteristics of the growth regime.

First, firm organisations were restructured and the employment system was

transformed in the manufacturing sector after the late 1990s. Especially, job security for regular workers was weakened and many workers were fired easily even from large companies. At the same time, the number of various non-regular workers increased very much to reduce the total wage costs.

Second, the wage co-ordinating mechanism changed dramatically at a firm level as well as an industrial level. As we have already seen, SHUNTO as an institutionalised wage bargaining system was broken down with the weakening power of trade unions. Accordingly, the spill over mechanism of trade surplus and productivity gain was eroded gradually, and economic differentials was widening in the Japanese economy.

Third, many foreign investors have entered the Japanese capital market, and their pressure on the corporate governance and corporate strategies have been much stronger. This causes the diversity of corporate strategy, depending on the relative share of foreign investor in shareholding. In this situation, the heterogeneity of firms has become one of the most important features of the Japanese firm system (Lechevalier (2007), Isogai(2008)).

Forth, Japanese multinational firms have developed their activities in the East Asian region, and they are promoting intermediate goods trade, foreign direct investment and international production networks. Especially, the interdependence between Japan and China has been stronger recently, and this has deep influence on industrial structures in Japan (Uemura and Wang (2007)).

## **6.2 Major Characteristics of the Emerging Growth Regime**

Based on the institutional analysis and the macroeconomic analysis of the Japanese economy after the 1980s, we can conclude that the growth regime shifted before and after the long-lasting recession in the 1990s. In fact, the Japanese economy showed a different growth pattern in the process of recovery in the early 2000s, as we have seen in the previous sections. The remarkable features of the emerging growth regime are the more heterogeneous character of Japanese economic structures between different industries and different-sized firms as well as the stronger economic integration of the Japanese economy into the Asian economies.

However, the possibility of innovative activities in the high-tech industry as the most necessary driving force of the emerging growth regime is still unpredictable at this moment. Therefore, the emerging growth regime has not showed its fully-fledged features, and it is still an open question whether the growth regime will be sustainable in the long run. In this regard, the appropriate co-ordinating mechanisms, or the mode of régulation, as well as structural compatibility among institutions are the most crucial

elements to predict the long-term stability of the growth regime. The main characteristics of the emerging growth regime are summarised from several important aspects in Table 1.

**Table 1 Shifting Growth Regime**

	<b>The 80s: Export-led growth regime with structural compatibility</b>	⇒	<b>The 2000s: Export-led growth regime with heterogeneous structures and regional integration</b>
<b>Growth rate</b>	About 4%	⇒	About 2%
<b>Export to</b>	US>ASIA>EU	⇒	ASIA>US>EU, Increase in intermediate goods trade
<b>Profitability</b>	Relatively high with profitability differentials	⇒	High in large firms in the automobile industry, but very low in small and medium-size firms in general
<b>Spillover of surplus</b>	The Spillover of trade surplus by wage coordination and redistribution through the tax system	⇒	Inter-industry wage differentials and weakening redistribution through the tax system
<b>Industrial Structures</b>	Strong manufacturing sector with high productivity growth	⇒	The necessity of promoting innovation in the high-tec industry with the expansion of the service sector, resulting in de-industrialization
<b>International production linkages</b>	Increasing FDI in Asian countries and US	⇒	Stronger international production linkages with Asian countries and de-localisation of production
<b>Structural compatibility</b>	Structural compatibility between firm organisation, subcontracting networks and the labour market supporting export-led growth	⇒	Weakening structural compatibility and shrinking core structures faced with the international division of labour in Asia

## 7. Conclusions

To conclude, we will summarise the previous structural analysis of the Japanese economy and will discuss the future prospect of the emerging growth regime.

First, as for growth potential, it should be emphasised that a high potential of economic growth still exists in the export goods sector, especially the automobile and electric machinery industries. In those industries, manufacturing firms maintain their competitiveness by promoting innovation and pursuing an evolutionary adaptation of their subcontractor networks to changing international economic relations. Firm organisation, hierarchical inter-firm relations and the segmented labour market, which had “structural compatibility” in those industries, have lost their coherence since the late

1990s. Faced with the “increasing fluidity” of the subcontractor network with large profitability differentials and the polarisation of the labour market with the increasing number of non-regular workers, a proper set of co-ordinating mechanisms is needed in corporate governance and inter-firm relations in order to realise the growth potential of those industries. Furthermore, in ageing society, we expect that the savings rate will decrease gradually due to the decrease in working population over the next twenty years, but this does not necessarily mean that the real growth path will be determined entirely by the decreasing savings rate. Both the growth rate and the profit rate will be sustained under proper institutional conditions. The service economy, especially elderly care and health care services, can grow with a proper set of institutional mechanisms to co-ordinate the supply and demand for those services to realise their potential.

Second, we should be very careful about the future trend of income distribution in the Japanese economy. We expect that fierce international competition will generate an increasing pressure to reduce real unit labour costs in the export goods sector. Wage determination will be more market-oriented, depending on profitability conditions at a firm level. Wage share will be also depressed at an aggregate level, while employment will be more diversified, or much more segmented. This may result in a lower level of consumption demand. Wage differentials are widening between different industrial sectors and different-sized firms. The equalising mechanism of incomes across industries will be weakened by the conflict of interest between different industrial sectors. These changes will influence the stability of the new growth regime and social integration in Japanese society.

Third, the increasing interdependence of the Japanese economy with the Asian economies is going to have stronger effects on the economic structures of the Japanese economy. Especially, we expect that foreign direct investment to Asian countries will increase rapidly, and that the Asian-wide international division of labour will be both widened and deepened. This may have an influence on the “structural compatibility” of institutions in the Japanese economy. In this growth pattern, however, there may also exist a serious possibility of "vicious circles". Namely, the mutually enforcing mechanism between export-led demand formation and productivity growth in the export goods sector may cause large productivity-growth differentials and price differentials between the export goods and non-export goods sectors, and this could in turn cause the further appreciation of yen, putting more pressure on manufacturing firms to raise productivity. The general increase in prices in the non-export goods sector in this kind of uneven development is a mechanism to equalise domestic incomes. This will surely aggravate the conflict of interest between the export goods sector integrated into the

Asian economies and the non-export goods sector. Furthermore, the international production linkage in East Asia promoted by Japanese multinational firms may accelerative de-industrialization in the Japanese economy. This might have a negative influence on innovative activities and the consensus on welfare in the Japanese socio-economic system. The framework of a new growth regime is emerging, but the appropriate mode of régulation has not been established yet.

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