

Japan in Recession : An Overview

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Since the end of 1990, economic activities in Japan have been declining. The economic slowdown speeded up since the April-June quarter of 1991, pushing the country into the period of economic recession. The sluggishness is persistent until the present time.

The purpose of this paper is to illustrate the current economic condition in Japan. An explanation for causes and effects of Japan's economic slowdown will be made. Finally, the paper attempts to draw a future prospect for the Japanese economy and its effects to the world economy.

The paper agrees with many Japanese economists that the current recession in Japan was caused by the coincidence of the turmoil in the financial market with the economic slowdown that occurred along the normal path of business cycle after the period of high economic expansion. The slowing growth rate is a result of the decline in domestic demand for investment and private consumption of durable goods.

Basically, however, the Japanese economy is still robust. International trade still has a strong performance. Unemployment rate is low and there is no sign of inflation.

It is expected that Japan's economy will recover in the second half of FY 1992 (since

October 1992), partly due to the fiscal policy planned in March 1992.

Nevertheless, if recession persists, Japan is risking falling back to the problem of trade conflicts since its exports is highly competitive and Japan fails to boost demand for imports. As a source of fund, the role of the private sector will decline while the role of Japanese government through foreign aids will increase. This is because such policy will not only give better image to the country and relax trade conflict but also stimulate production and investment by the Japanese business sector.

1. Recession and Its Evidences

What Is Recession?

The U.S's National Bureau of Economic Research defines a recession as "a decline in total output, income, employment, and trade, usually lasting six months to a year and marked by widespread contractions in many sectors of the economy" (Moore, 1983). However, this definition that an economy is in recession when GNP declines for at least two consecutive quarters is not accepted by the Japanese government.

According to the Economic Planning Agency (EPA), the Prime Minister's Office of the

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Japanese Government, a recession exists" if Japan's quarterly GDP, in annual conversion percentage, continues to fall short of 3% for three quarters straight" [JER/February, 1992: p.4]. The 3% annual rate is chosen because the average annual GDP growth rate had been around 3% in Japan's latest period of recession (i.e. the recession in 1986 of a 3.1% GDP growth due to yen appreciations). The three-quarter period is adopted because the shortest recessionary period Japan had experienced after World War II had been nine months or three quarters between February and October 1977 [Ibid].

Evidences of the Recession in 1991

To support an argument that Japan is now in recession, the trend of GNP and other major economic indicators will be explored. GNP is used instead of GDP because of an availability of data [note 1]. It shows that although Japan's economy has been slowed down since the end of 1990, just since the April-June quarter of 1991 is it really in recession by the EPA's definition.

Evidences reveal that the present recession occurred because of the declining private housing investment, investment in plant and equipment and private consumption on durable goods. Unlike the recession in the U.S., Japan's

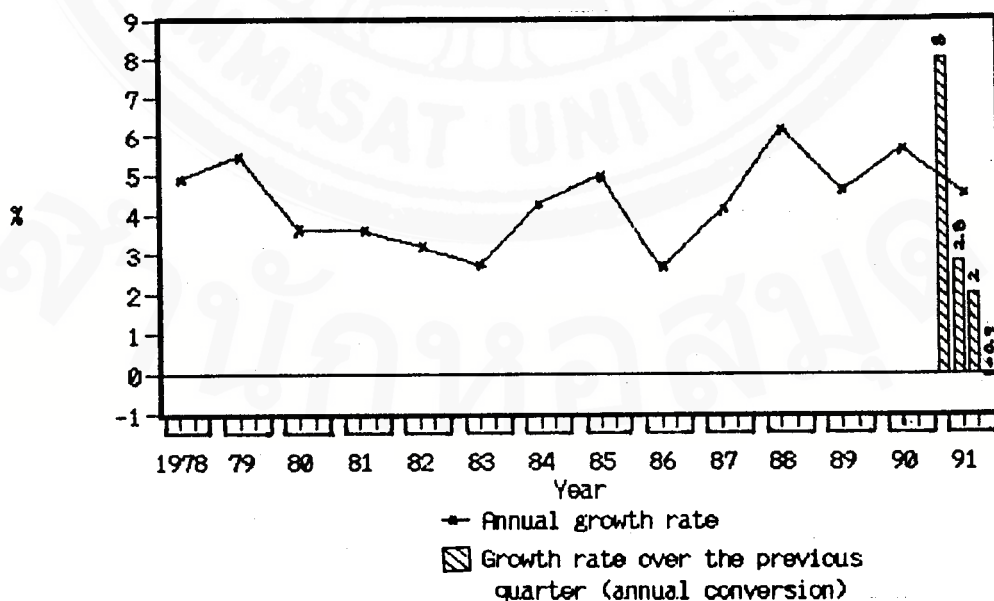
employment level and trade are still robust.

(1) GNP growth and its components

As shown in Figure 1, Japan's latest expansionary period started from November 1986. During FY 1987-1990 [note 2], Japan's average real GNP growth rate was 5.15% per annum. Although there was a report of declining end-user demand since the end of 1990 [JCEC 1981], the real GNP growth rate of the January-March quarter of 1991 over the previous quarter was as high as 8% in an annual conversion. However, the growth rate declined rapidly to 2.8% (annual conversion) in the April-June quarter and 2% in the following quarter. The growth rate became negative of -0.2% in the October-December quarter of 1991. The figures reveal that since the April-June quarter of 1991 Japan has been already in recession as her GNP growth rates were below 3% for three consecutive quarters.

The data of real GNP growth for the January-March period of 1992, which is the last quarter for FY 1991, are not available. However, given the persistent slowdown of Japanese economy up to early 1992, it is expected that the FY 1991's real growth rate will be about 3%, less than the preliminary figure of 3.5% as shown in Figure 1.

Figure 1
Japan's Real GNP Growth Rate (%)



Note : Data for 1991 are preliminary data of GNP

Sources : 1978-1990 : Japan Institute for Social and Economic Affairs, "Japan 1992 : An International Comparison" Tokyo : Keizai Koho Center, 1991.

1991 : Bank of Tokyo, "Tokyo Financial Review," Vol. 17, No. 6, June 1992.

The decline in the growth of GNP is a result of the decline in domestic demand, caused mainly by the contraction of private housing investment and industrial investment in plant and equipment and partly by a fall in private consumption. Table 1 reveals that the growth of private housing investment decreased considerably from 4.9% in FY 1990 to -11.6% in FY 1991. The growth in private plant and equipment investment also reduced from 12.1% to 3.3% during the same period. Household consumption slowed down from the growth of 4% to 2.7% due to the contraction of consumption of durable goods. The deterioration in domestic

private demand could not be compensated by an increase in the government spending (government final consumption expenditure and fixed capital formation) and a rise in net exports (export-import). The increase in net exports was attributable to a remarkably contraction of imports from 7.2% in FY 1990 to -2.8% in FY 1991. In total, the contribution of domestic demand to real GNP growth declined by more than a half from 5.4% to 2.2% while that of foreign demand increased from 0.1% to 1.3%. As a result, the real GNP growth in FY 1991 was only 3.5%, declining from 5.5% in FY 1990 (Figure 2).

Table 1
Japan's Real Growth Rates of Gross National Expenditure,
Industrial Production Index and Consumer Price Index,
Fiscal Year 1990-1992 (at 1985 prices)

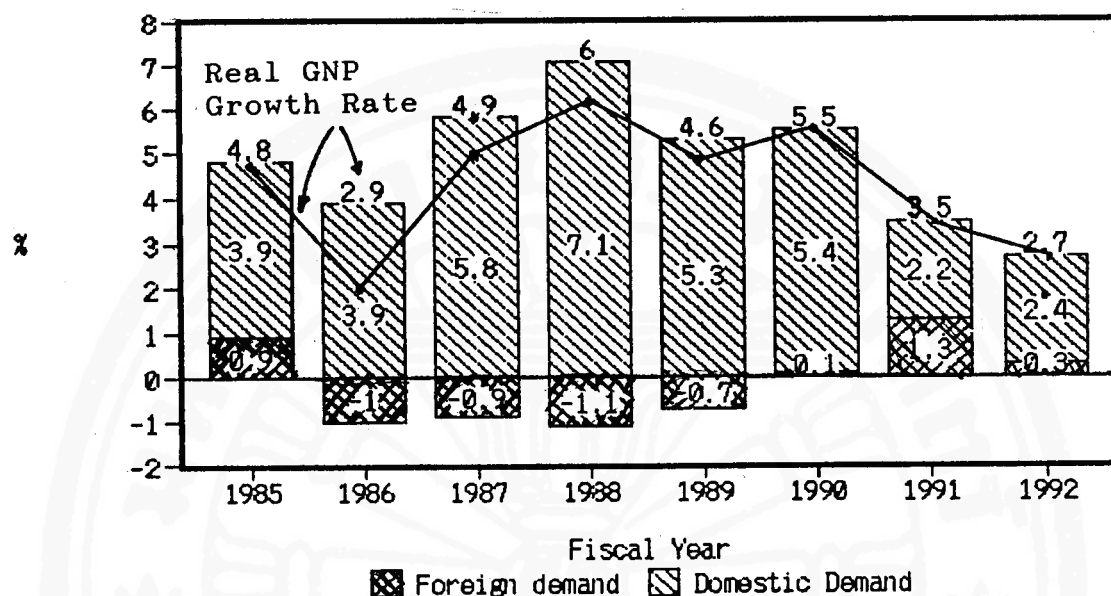
Unit : %

Item	1990	1991	1992
Gross National Expenditure	5.5	3.5	2.7
Private Consumption	4.0	2.7	2.7
Private Housing Investment	4.9	-11.6	0.9
Private Plant & Equipment Investment	12.1	3.3	0.4
Private Inventory Investment	-20.8	1.9	-32.6
General Government Consumption	2.4	2.9	2.0
Government Fixed Capital Formation	4.4	6.1	10.7
Government Inventory Investment	0.0	0.0	0.0
Exports	7.7	4.4	3.0
Imports	7.2	-2.8	1.4
Industrial Production Index	5.6	0.3	-2.4
Consumer Price Index	3.1	2.9	1.7

Notes : 1991 : estimated data
 1992 : forecasted data

Source : Bank of Tokyo, "Tokyo Financial Review," Vol. 17, No. 6, June 1992, Table 1.

Figure 2
Sources of Japan's Real GNP Growth



Notes : 1991 : Estimated Data
1992 : Forecasted Data

Sources : 1985-87 : Japan Institute for Social and Economic Affairs, "Japan 1992 : An International Comparison" Tokyo : Keizai Koho Center, 1991, Figure 1.8.
1988-89 : Japan Center for Economic Cooperation, "Quarterly Forecast of Japan's Economy," No. 79, December 1991, Table 1.
1990-92 : Bank of Tokyo, "Tokyo Financial Review," Vol. 17, No. 6. June 1992, Table 1

(2) Employment

Together with the decline in the real growth rate of private investment and durable consumption in 1991, the industrial production index fell from 5.16% in FY 1990 to 0.3% in FY 1991 (Table 1). Despite the negative growth in manufacturing production, employment growth remained its strength through the fiscal year 1991 with an average growth of 3% [JCEC 1991]. The unemployment rate maintained at 2.1% in the year [BOT, June 1992 : p.12], which was very close to the full employment level as compared with the rates ranged between 6-9% in the U.S. and other industrial European countries [JISEA 1991 : Table 8-9, p.71]. However, it is reported that part-time and overtime workers are declining [BOT, June 1992]

(3) International trade

Despite recession, Japan's trade surplus has been rising strongly since September 1991. The surplus appears to return to the record levels achieved five years ago, rising from US\$ 63.5 billion in calendar 1990 to US\$ 103.0 billion in 1991 [BOT, June 1992 : p.12]. This is because

(3.1) Japan's export competitiveness has fully recovered from post-Plaza agreement yen strength, mainly due to heavy capital investment at home and huge investments in overseas production. Japanese exports increased by 9.3% from US\$ 280.4 billion in calendar 1990 to US\$ 306.6 billion in 1991. These reflects the strength of Japan's major companies which are believed to be competitive in international markets even if the yen strengthens to around ¥ 120 to US\$1

[FER 1992]. Beside the U.S. and ASEAN countries, Japan's trade surplus with Europe has also been rising dramatically.

(3.2) Japanese imports declined by 6.1% from US\$ 216.8 billion in 1990 to US\$ 203.5 billion in 1991. This is attributable to the appreciation of yen (from ¥ 144.8 to ¥ 134.5 per US\$) that reduced the value of imports, a decline in the international oil price, a sharp decrease in luxury imports, and a decline in gold investment fund (which is counted as a Japanese import according to the IMF standards).

2. Causes of Recession

Usami, editor of the Japan Economic Review, stated that the present recession in Japan was an undesirable "over-reaction" brought by the termination of the "soap-bubble" economic boom during 1987-1990 [JER March 1990 : p.2]. That is, we cannot understand causes and consequences of the current recession unless we have background knowledge of causes and consequences of the economic boom occurred prior.

After a brief description for the last economic boom, we will point out major determinants for the bursting of the economic bubble and factors that finally pushed economic slowdown into recession. It should be noted that the current recession evolved in two stages. In the first stage, an economic slowdown took place after the period of economic expansion along a normal path of business cycle. The slowdown was induced by a tight monetary policy, the collapse of stock market due to external shock, and the business adjustment mechanism. The situation got worse at the second stage when a series of financial scandals were discovered and the economic slowdown turned into recession.

Heisei Boom : A Soap-bubble Economic Boom during 1987-90

After the first and second oil shocks, Japan succeeded in expanding her exports. The ratio of the Japanese trade volume (real exports plus real imports) to the world trade volume increased more than double in ten years from 6.7% in 1975 to 14.7% in 1984 [JCER 1990 : p.1].

Imbalance in world trade and trade conflicts occurred between Japan and other importing countries brought about the Plaza agreement in 1985 [note 3]. Following the agreement, the value of yen was sharply appreciated from the average level of ¥ 238.54 per US\$ in 1985 to ¥ 168.52 in 1986 [JISEA 1991 : Table 5-6].

Yen's appreciation slowed down the growth of exports and the real GNP growth in 1986. From Figure 2, while the growth of domestic demand maintained at 3.9% in FY 1985 and FY 1986, the growth of external demand fell from 0.9% to -1.0%. As a result, the real GNP growth declined by 1.9% from 4.8% in FY 1985 to 2.9% in FY 1986.

To stabilize the economic growth and to alleviate trade conflicts, Japan has changed her economic strategy to boost the domestic demand [note 4]. One important measure was to impose an easy-money policy by reducing an interest rate. Bank of Japan (BOJ) reduced the official discount rate from 4% in 1986 to 2.5% in 1987. This low level of discount rate was maintained for about 3 years during 1987 to the mid of 1989 [JISEA 1991 : Figure 9-5], [note 5].

Since 1987, domestic demand became the engine of growth of the Japanese economy. Figure 2 illustrates the high rates of growth of domestic demand of 5.5%-7% during FY 1987-FY 1990. As state previously, the average growth rate of real GNP was as high as 5.15% per annum during the period. This rate was the highest among industrialized countries [Ibid, Table 1.9]. It was name "Heisei boom" since its high growth rate continued for quite a long period which was comparable to the "Izanagi boom" during 1965-1970 [note 6].

However, the Heisei's high growth is a soap-bubble economic boom. It is characterized by "an overheated speculative quick money-making investment ventures on land, real estate and stock market" [JER February 1992]. Low interest rates during the period made the cost of capital-raising low. Japanese businessmen used abundance of funds to finance productive investments and to invest in stock market and property speculation. The financial boom boosted Japan's asset values-- stock and land prices in particular. Private investment expenditures

and consumption expenditures were stimulated which resulted in the high growth of domestic demand as stated above.

Factors Terminating the Soap-bubble Boom at the End of 1990

The slowdown of the economy started at the end of 1990. this was caused by the decline in private housing, investment and consumption of durable goods. Japanese economists thought that such economic slowdown was just a normal process of business adjustment after the period of economic expansion [Ekonomisuto, July 14, 1992].

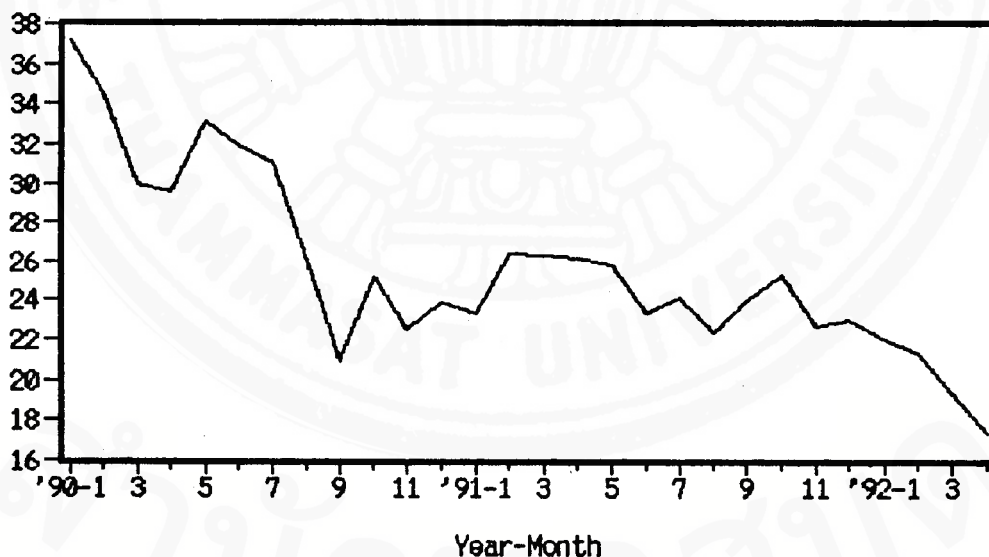
Three factors are responsible for the economic slowdown. They are as follows.

(1) Increases in the Official Discount Rate

Yasushi Mieno, Head of the central bank (Bank of Japan, BOJ) viewed that the monetary policy in the past were improper. The official interest rate of 2.5% during 1987-mid 1989 was too low. It created a liquidity bubble which threatened inflation. Stock prices soared to levels where they bore no relation to companies, earning power. Land and housing values reached astronomic heights well beyond the purchasing power of most individuals [FER 1992]. The rising of stock, housing and land values are depicted in Figure 3. To BOJ, matters had been allowed to go to the point where they risked running out of controls [FER 1992 : p. 127-133].

Figure 3, stock, land and housing prices

Figure 3
Tokyo Stock Prices (thousand yen)



Source : Bank of Tokyo, Tokyo Financial Review, various months.

Against opposition from then finance minister Ryutaro Hashimoto, who wanted to ensure the continuance of Japan's politically popular economic boom, Mieno forced an anti-inflationary tight money policy to stamp out the bubble economic boom. The discount rate was increased from 2.5% to 4.25% in May 1989, 5.25% in March 1990 and 6% in August 1990 [BOT, June 1992].

Nevertheless, JCEC claimed that the increases in the central bank discount rate since the mid 1989 were not a "direct" cause of the economic slowdown. The reason given is that the economic sluggishness was started at the end of 1990, more than one year later.

(2) Collapse of the Stock Market

The first-round increases in the official discount rates in May 1989 and an expectation that it would be further increased affected firstly the stock market. By the beginning of 1990, the Tokyo Stock Exchange began a nine-month plunge. The Gulf tension started in August and the political instability in Soviet Union in December 1990 worsened the situation. As a result, Tokyo Stock prices (Nikkei Stock average of 225 selected stocks) fell down by almost 50% from its 1989 all-time high of nearly 40,000 points to an average of about 24,000 points in 1990. (Figure 3).

A decline in share prices since the early 1990 and associated decline in the transactions induced the sluggishness of finance and insurance industry.

(3) Stock adjustment mechanism in micro-economic level

Economists of Japan Center for Economic Cooperation emphasized that the slowing down of the economic growth was simply a result of the stock adjustment mechanism, particularly in housing, automobile, and finance and insurance industries [JCEC 1991]. The following explanations are drawn heavily from a report of JCEC [Ibid]

Housing sales largely expanded during the period of 1986-89, mainly in rental housing. The boom was stimulated by the increasing land price the tax distortions. Following tax distortions were generated in order to relax the problem of scarcity in land and expensive housing :

(1) land tax can be reduced by 10%-30% for the land on which rental houses are built (2) bank debts for the construction of rental housing can be deducted from the inheritance tax base (3) interest payments on debt incurred for residential construction can be deducted from taxable income. Excess supply for housing in the period of economic boom was followed by the period for stock adjustment in 1990-91.

Automobile sales jumped by 30% in 1989 as compared to the previous years. This is attributable to the fall in relative prices of automobiles after a large decline in automobile sales tax from 18.5%-23% to 6% when a general consumption tax was introduced. The decline in sales of automobiles simply represented the reduction of private consumption for durable goods after the period of high consumption.

Factors Pushing the Economic Slowdown into Recession

As presented in the first section, Japan's economic slowdown speeded up since the April-June quarter of 1991. Since then, Japanese economy fell into recession. The reason is that the decline in investment expenditures was worsened by the people's loss of confidence in the country's financial system when a series of financial scandals revealed since June 1991. Also, There is a report of the decelerated household consumption.

(1) Financial Scandals

The following explanations for two major cases of financial scandals discovered since June 1991 are drawn from the Far Eastern Economic Review issued in August and September 1991.

(1.1) securities compensation

In June 1991, Nomura, Nikko, Daiwa and Yamaichi --the four biggest brokerages-- and other 17 securities houses admitted that they had compensated certain clients (229 cases) for stock market losses. Compensation added up to US\$ 1.3 billion. Those clients included politicians and big companies some of which are sources of political funding. However, other small customers received nothing. In Japan, any compensation is not allowed. The Ministry of Finance (MOF) was blamed for tacitly approving the payments.

(1.2) banking fraud

In 1990 when Japan's land and property prices were booming, the MOF and BOJ urged city banks to slow real-estate financing. To retain their commitment, big banks encouraged smaller Japanese lenders and some foreign ones to extend credit to their customers, and effectively provided a guarantee against these loans turning sour. Also, some big property speculators were up against their credit limits so that they could not borrow any more. In such a case, they persuaded reputable banks (e.g. Fuji Bank) to produce forged evidence of deposits. Then, they were able to borrow from other banks or non-banks. However, when the economy slowed down, loans became non-performing and lenders tried to take over their collateral. Banking fraud, then, appeared. Out of the total value of about US\$ 5 billion: 1.9 billion was valued at Fuji Bank and 2.5 billion at Toyo Shinkin bank (credit union bank).

The scandals affected investor confidence as reflected by the plunge of the stock prices from about 26,000 points in May to about 23,000 points in June 1991. Securities compensation also affected public image of the MOF. Due to the banking fraud, private banks were more strict to lend money. That is, the scandals suppressed business investment either through debt or equity stock.

(2) Multiplier Effects through Household Consumption

Despite the contraction of private consumption of durable goods, in early and mid 1991 consumer spendings was still strong and sturdy as compared with other components of GNP. This is reflected by a relatively slight fall in its average annual growth rate shown previously in Table 1. The slight contraction is attributable to the stability in growth of employment and wages as stated earlier.

Multiplier started its negative effect at the end of 1991. In December 1991, there is a report of the declining sales of Japan's major department stores around the country, especially the consumption on luxury goods [JER, February 1992]. This reveals that the rapidly-spreading business slowdown has eventually caught up with even a vigorous sector of Japan's economy.

3. Government Policies to Counteract the Recession

(1) Five-round Reductions in the Official Discount Rate during July 1991-July 1992

The continuous deterioration of quarterly rate of growth since April 1991 implies that economic recession has been persistent, quickly spreading and worsening. This put a pressure on the BOJ to relax the tight monetary policy. In addition, although a series of increases in interest rate is said to be an anti-inflation policy, in fact, consumer price inflation averaged a modest 2-3% annually during the years of bubble economy due to a stronger yen, lower energy costs and wage restraint [FER 1992 : p. 130].

Thus, the BOJ decided to reduce its official discount rate. The reduction was made five times during July 1991-July 1992 from 6% to 5.5%, 5.0%, 4.5%, 3.75%, and 3.25% in July, November and December 1991 and in April and July 1992.

These relaxation was said to be pressured by the ruling Liberal Democratic Party and the new government (Miyazawa administration since Nov 5, 1991). "The pressure seems to have been applied in the interest of continuing Japan's domestic demands buildup for helping America's economic rehabilitation." [JER, February 1992].

However, each step of the BOJ's movement is said to be too slow and each time a slight reduction of the official discount rate was too small to have sufficient positive effects. It is believed that such efforts by the BOJ will only alleviate debts of commercial banks to the BOJ. Compiling debt is a serious problem to commercial banks after the collapse of bubble economy. Since their clients could not pay debt, commercial banks also found difficulty to repay to the BOJ.

Conflicts between the BOJ and MOF is said to be a reason for the delayed actions of the BOJ. Despite the persistence of the slowdown in 1992, Mieno insisted on his belief that there was little or no fear of recession because of the basic strength or sturdiness of the Japanese economy, including the fundamental strength of industrial capital expenditures such as in the area of research and development and labor saving. Mieno was thus against (though failed) the calls for another official discount rate

cutdown backed up by conservative political influences. He considered that such easy money policy endanger the economy [JER, February 1992].

(2) Fiscal Policy

In 1991, fiscal policy remain "neutral" with no major increases in taxes nor government expenditure cut. With the full utilization of Fiscal Investment and Loan Programme (FLIP), the growth of nominal public expenditures was maintained at the same level as that in FY 1990, so that they increased in real term in FY 1991 by 6.1%

The government decision to counteract the spreading recession through fiscal measures was firstly made in March 1992 by Prime Minister Miyazawa and his new minister of finance Hata. Miyazawa's "emergency policy measures package" includes seven features. The most important one is an advancement in time schedule of about 75%, in value, of the entire national public works projects planned for FY 1992. A large supplementary budget of about 24 billion US\$ will be adopted so that the FY 1992 national budget will increase by 10.7% over those of the FY 1991. This rate is much higher than the FY 1991's growth rate of 6.1% (Table 1) and the rate of 6.4% planned earlier for FY 1992 as shown in a report of JCEC issued in December 1991.

(3) Regulation to the Stock Market

The financial scandals has induced some measures to regulate the financial market in order to build up public confidences in the country's financial system. This includes a possible amendments to the Securities and Exchange Law. In July 1992, an independent securities regulatory board along the lines of the Securities Exchange Commission (SEC) in the U.S. was established.

4. Future Prospect

Will the Economy be Recovered ? when and How ?

Japanese economists viewed that a moderate recovery will appear since the second half of FY 1992 (October-December 1992 and January-March 1993) [BOT, May 1992 ; Ekon-

omisuto, July 1992]. The growth rate for the year (FY 1992) is forecasted to be 2.7%, as shown in Table 1.

Major factors for the recovery are :

(1) a stability in private consumption growth

Major determinants for private consumption are personal income and marginal propensity to consume; the former depends upon growth in employment and wages. As mentioned earlier, the current recession has not been accompanied by a serious contraction of employment. Wages is expected to grow by 3% in 1992. In addition, price stability is anticipated for the future. Thus, real income will be stabilized. The marginal propensity to consume is expected to rise because of a deceleration in inflation and lower interest rates.

Moreover, it is expected that Private consumption on durable goods and luxury goods, of which slow growth rates are major determinants for the slowdown of private consumption, will be more active. Spending on services such as travel, education and recreation is expected to increase.

Despite the slowdown of consumption in early FY 1992, the upward trend in late FY 1992 will result in an unchanged growth rate of private consumption of 2.7% in FY 1991 and FY 1992 (Table 1).

(2) the possible bottoming out of private housing investment

The decline in private housing investment is expected to come to an end in the second half of FY 1992. This is attributable partly to the decline in interest rate and land prices. However, the recovery in housing investment is expected to be weak as represented by the growth rate of 0.9% (Table 1).

(3) the adjustments in capital investment

In order that the economic recovery can be realized, adjustments in capital investment must be of short duration. Despite the pessimistic views of many companies on the outlook of the industrial sector in early 1992, it is expected that the quick to moderate adjustment will take place in the second half of FY 1992

[BOT, June 1992]. The reasons are as follows.

(3.1) the emergency economic measures adopted in March will induce investment in such industries as electric power, gas and telecommunications.

(3.2) In spite of the viewpoint that the decline in official discount rate will help mainly commercial banks (see the previous section) and the fact that expansion in the volume of bank loans will be limited because of the capital requirements by the Bank for International Settlements, fund-raising is possible through increased loans on the part of life insurance companies and bond issues.

(3.3) Corporation's investment in research and development and labor savings has been continued.

(3.4) Firm profits are projected to increase due to a recovery of demand, lower costs for raw materials and energy through the yen appreciation, and deceleration in wages. Although the recovery of firm profits will mainly take place in the non-manufacturing sector, finally it will also stimulate business investment in the manufacturing sector.

Nevertheless, the growth rate of private plant and equipment investment in FY 1992, as shown in Table 1, is forecasted to be modest of 0.4%.

(4) inventory adjustments

When the economy slowed down in 1991, an index of inventories increased continuously from 110 in December 1990 to 124.7 in January 1992. This was due to a rapid decline in demand for capital goods and consumer durables. However, since February 1992, the index shows a reversed trend. It has declined for two consecutive months to 123.1 in February and 121.8 in March 1992 [20, Table 1, p.12.]. The declining

index represents the desirable stock adjustment process.

Fiscal measures imposed in March will stimulate further adjustment through a recovery of final demand for capital goods and consumer durables. Investment in inventories is expected to return gradually.

Effects to the World Economy

Given the current economic situation in Japan, we consider that the following major results are possible if the recession is persistent.

(1) If Japan would fail to stimulate the domestic demand, the country might have to rely more on exports. However, it would almost certainly stimulate trade tensions with major trade partners such as U.S. and the EC.

(2) Whether Japan can continue her role as a source of funds for rest of the world is another question. In this respect, it is likely that the role of the Japanese government will increase while the role of private sector is declining.

In the period of recession, Japanese companies sent back overseas profits to Japan to offset tighter credit conditions at home [FER 1992]. On the contrary, there is a tendency of the increase in foreign indirect investment in Japan due to a decline in Tokyo stock prices.

On the other hand, the Japanese government planned to increase its foreign aids for FY 1992 as a part of the fiscal policy to raise government spending. Especially, the official development assistance (ODA) is planned to grow by 10.3%, the sharpest increase and the first two-digit rate in eight years [JER, March 1992]. By increasing ODA, the government stimulates the use of inventories and promotes production and investment of the private sector.

Notes

1. Differences between the growth rates of Japanese GNP and GDP are about $\pm 0.2\%$.

2. FY stands for fiscal year. In Japan, a fiscal year started from April. In this paper, a year without the notation FY refers to a calendar year.

3. The Plaza agreement was concluded in September 1985 by the finance ministers of the U.S., U.K., Japan, West Germany and France (G5).

4. In addition, there were other structural adjustments such as expansion of overseas production, switching of production into goods with higher value added and development of the service industry.

5. The easy money policy by keeping interest rates low was imposed to (1) compensate exporters for having to cope with a much higher yen after the Plaza agreement by making borrowing cheap (2) boost domestic investment (3) lift up Japan's domestic demand for goods and services in order to boost imports from and investments in the U.S. [JER, March 1992 : p.2].

6. Heisei and Izanagi are the names of reigns of Japanese emperors.

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