

**Development Bank of Japan
Research Report
No. 13**

**Recent Trends in the Japanese Economy:
Weakness of Current Economic Recovery and
Its Background**

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**Economic and Industrial Research Department
Development Bank of Japan**

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Recent Trends in the Japanese Economy: Weakness of Current Economic Recovery and Its Background

Summary

1. The Japanese economy recovered moderately after bottoming out in April 1999 but recently there has been a pause in the recovery. Consumption remains weak, reflecting negligible improvement in income and employment conditions. Without significant positive factors, production growth has been slowing as public investment is reduced due to financial difficulties, and exports are leveling off.

Personal consumption remains sluggish. Although earned income recorded positive growth in 2000, bonuses have increased only slightly last summer and the pace of recovery has not picked up. The slump in nominal consumption, accompanied by a decline in the consumer spending deflator, has not supported a recovery in consumption in terms of sales performance. The buoyant sales of emerging specialty stores have not resulted in an increase in sales for the whole retail industry including medium- and small-sized stores.

Plant and equipment investment is recovering rapidly in the manufacturing sector, led by electrical machinery and other so-called IT-related industries. In the non-manufacturing sector, however, investment has remained level after a swift recovery led by the growth of retail outlets and increased investment in certain services. The leading indicator points to a decline in both manufacturing and non-manufacturing industries.

The housing investment is leveling off, following a rise led initially by owned houses on the back of enhanced tax relief measures in 1999, and then by dwellings for sale later in the year. Sales have been buoyant for dwellings for sale, with the contract rate remaining around 80% for condominiums in the Tokyo metropolitan area, although inventories have also increased slightly.

Public investment is declining mainly among local governments as they experience financial difficulties. Although the new development policy drawn up in October 2000 may have some effect, the value of public works projects continues to decrease from the previous year on a contract basis.

Exports, a major contributor to the recent economic recovery, had leveled off by late 2000, reflecting the slowdown in the U.S. economy and the depreciation of the euro. Imports, on the other hand, continue to increase slowly, mainly from Asia. On balance, net exports have been declining from the previous year.

Despite accelerated growth in capital goods led by plant and equipment investment, industrial shipments remain stagnant for construction materials and consumer goods. As inventories of heavily weighted producers' goods are in the phase of involuntary accumulation, inventories have risen as a whole and growth of shipments has been slowing.

Prices remain weak except for some influence of rising crude oil prices. Job offers have been improving but unemployment remains high, as the increase in employment is largely offset by a continued decline in the number self-employed. Financial institutions are increasing their investment in government bonds as share prices stagnate and demand for financing remains weak.

2. The current economic recovery since the bottom of the second quarter of 1999 has been led by private demand including exports and plant and equipment investment. Despite the improvement of corporate profits, however, the pace of recovery has been very slow due to stagnant consumption.

Personal consumption has remained stagnant largely because improving corporate profits have not translated into a significant increase in earned income. This may be partially attributed to the large labor share, which continued to rise throughout the 1990s even though labor productivity did not improve substantially. Although plant and equipment investment started to rise rapidly, growth has been slow due to lack of a sufficient ripple effect. This may be partly because corporate profits have improved largely due to a reduction in fixed costs, so plant and equipment investment has not increased in proportion to corporate profits.

Exports, a major contributor to the current recovery, heavily depend on economic conditions overseas. On the other hand, imports are rising due to such factors as relative prices and direct external investment as well as the condition of the Japanese economy, thus increasingly affecting domestic supply. There remains little scope to increase public investment as the national and local governments accumulated debts throughout the 1990s. The credit function of financial institutions has also been weak. In addition to the continuing downtrend in the prices of goods, service prices are now tending to weaken along with wages and salaries.

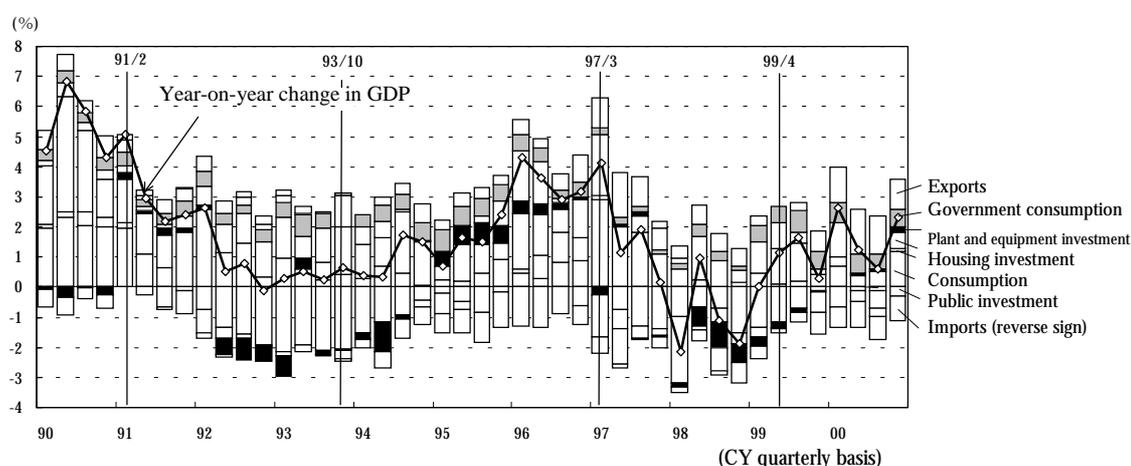
I. The Japanese Economy: Pausing in Recovery

1. Overview: Slower Growth in Production

The Japanese economy recovered slowly after bottoming out in April 1999 but recently there has been a pause in the recovery. The demand has been weakened as exports are leveling off despite the increase in plant and equipment investment. Consumption remains in a slump reflecting negligible improvement in income and employment conditions. Overall, the Japanese economy is not strong.

Real GDP (Figure 1-1, based on 93 SNA) recorded its first positive growth in two years in fiscal 1999, up 1.4% from the previous year, following a decline of 0.6% in fiscal 1998. On a quarterly basis, real GDP resumed the level of the previous year in the first quarter of 1999, followed by positive growth for seven consecutive periods to the fourth quarter of 2000 since recording an increase of 1.1% from the previous year in the second quarter of 1999.

Figure 1-1. Trends in Real GDP (Year-on-year change by component)



Source: Cabinet Office, "Annual Report on National Accounts," 1995 as base year.

Reference: Revision of real GDP growth (%) with change in base year (from 1990 to 1995) for national accounts (based on 93SNA).

FY	1991	1992	1993	1994	1995	1996	1997	1998	1999
1995 as base year (93SNA)	2.5	0.4	0.4	1.1	2.5	3.4	0.2	▲0.6	1.4
1990 as base year (68SNA)	2.9	0.4	0.5	0.6	3.0	4.4	▲0.1	▲1.9	(0.5)
Revision	▲0.4	0.0	▲0.1	0.5	▲0.5	▲1.0	0.3	1.3	(0.9)

Note: Number for fiscal 1999 taking 1990 as base year represents preliminary estimation.

Source: Cabinet Office.

By expenditure item, private final consumption has remained sluggish. After recording a substantial increase in the lower 2% range in the first half of fiscal 1999, which reflected the consumption trend of single-member households, it has not shown significant signs of recovery, sliding to the first year-on-year decline in three periods in the third quarter of 2000. The ripple effect of improvement in corporate profits has been weaker than in past recovery phases, with high unemployment as one factor delaying the recovery in consumption.

Since recording the first increase in six periods in the fourth quarter of 1999, up 2.9% from

the previous year, private plant and equipment investment increased on the previous year for five consecutive periods to the fourth quarter of 2000. However, the recovery, backed by net exports, has been unevenly distributed. Indeed, investment in the manufacturing sector has increased rapidly led by IT-related industries, while the non-manufacturing sector has been experiencing a up and down in investment, mainly in services. The leading indicator such as machinery orders has shown a sign of decline in both manufacturing and non-manufacturing industries.

Private housing investment increased on the previous year from the second quarter of 1999, mainly due to the continuation of low interest rates and the effect of housing tax relief measures. However, it has been declining on the previous year for two consecutive periods since the second quarter of 2000, as housing starts turned down for owned houses, which had led the increase in investment. Although housing starts exceeded 1.2 million units as a whole in fiscal 1999 and have already turned upwards for owned houses, they are currently showing signs of leveling off as the construction of dwellings for sale including condominiums has passed its peak.

Public fixed capital formation has been declining on the previous year for five consecutive periods since the fourth quarter of 1999, partly due to the diminishing effect of the two economic stimulus packages launched in fiscal 1998. Despite the expected progress of the economic stimulus package (totaling ¥18 trillion) and the new development policy (¥11 trillion) decided in November 1999 and October 2000 respectively, it will continue to fall as the finances of local governments remain precarious.

Data on international trade in goods and services indicate that exports rose on the previous year in the third quarter of 1999 and continued to increase by double digits to the third quarter of 2000, backed by favorable economic conditions worldwide, particularly in Asia. According to seasonally adjusted figures, however, the year-on-year increase leveled off in the third quarter of 2000. The slow-down in growth of the world economy, particularly the U.S. economy, are expected to have an effect in the coming periods. Meanwhile, imports have been increasing mainly from Asia, rising by about 10% in each period since the fourth quarter of 1999. Although net exports have made a positive contribution for four quarters since the first quarter of 2000, their trend must be monitored closely in future.

Figure 1-2 shows the trend of major production indicators including industrial production index, construction activity index and tertiary industry activity index.

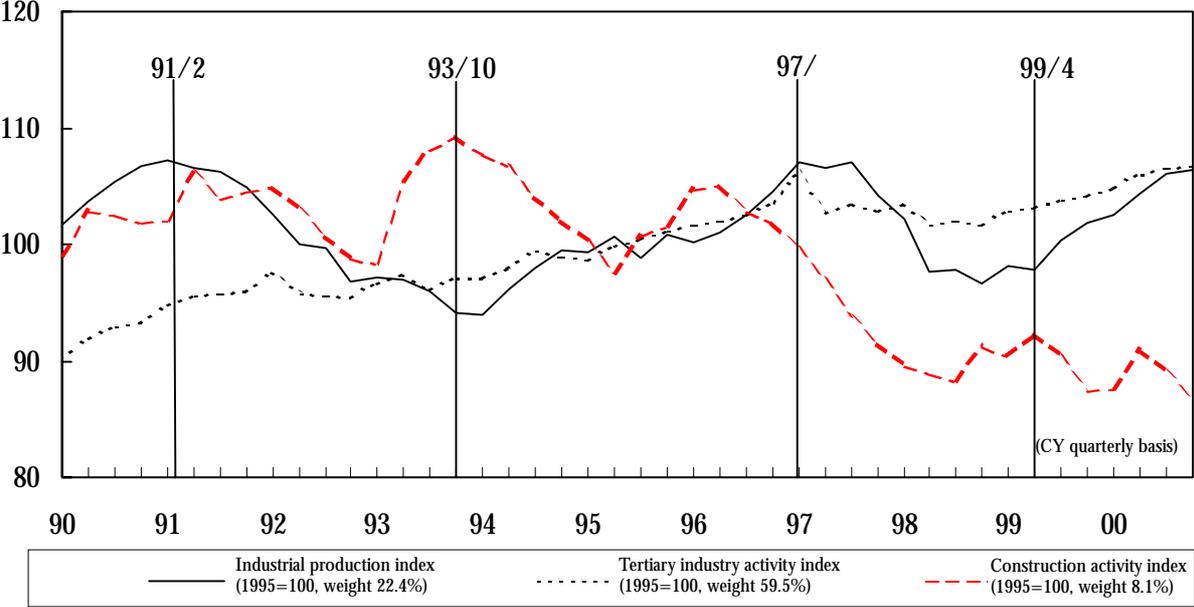
The industrial production index, after bottoming out in the second quarter of 1999, has been rising as a whole to the fourth quarter of 2000, although the pace of growth has been slowing. On a monthly basis, the index peaked in August 2000. Attention should be focused on whether production growth will surpass this level.

The construction activity index rose temporarily from the fourth quarter of 1988 as public works projects took off, but has since leveled off and remains low at present. Although there has been no substantial movement in the tertiary industry activity index, it has been rising slowly thanks to transportation, communications and other industries, led by mobile communications and carriers.

2. Shipments: Slowed Growth, Inventories: Increase Led by Producers' Goods

The inventory cycle in terms of the growth of shipments and inventories to 2000 indicates that the growth of industrial shipments as a whole has been slowing since peaking in the second quarter of 2000 while total industrial inventories have risen, led by producers' goods. This shift implies that the inventory buildup phase is nearing completion (Figure 1-3).

Figure 1-2. Trend of Production Indicators (Seasonally adjusted)



Source: Ministry of Economy, Trade and Industry, “Industrial Statistics Monthly.”

By type of goods, shipments of capital goods (excluding transport equipment) continue to increase substantially backed by the growth of plant and equipment investment, resulting in the continued reduction of inventories (Figure 1-4). The shipments of construction materials remain almost unchanged from the previous year as public investment has been curtailed and private construction investment remains sluggish except in a few areas such as factories (Figure 1-5). Despite a slight recovery in domestic demand, shipments of consumer goods have changed little overall as the growth of exports has leveled off due to adverse factors such as the slowdown of the U.S. economy (Figure 1-6). Though weak demand continues for both construction materials and consumer goods, inventories remain below the level of the previous year. Producer’s goods pushed up the growth of industrial shipments as a whole by leading the recovery for final demand goods. In the latter half of 2000, however, the slower growth of shipments was accompanied by the rapid increase in inventories, suggesting that the inventories of producers’ goods are now in the “unintended accumulation phase” (Figure 1-7). Although the slower growth of shipments may be partially explained by the high level recorded in the previous year and reaction to the excessive global demand in the first half of 2000, the deteriorating prices and production adjustment that have started for certain industries such as electrical machinery and iron/steel may result in an across-the-board adjustment depending on demand in the coming periods.

Figure 1-3. Inventory Cycle (Mining and manufacturing sector)

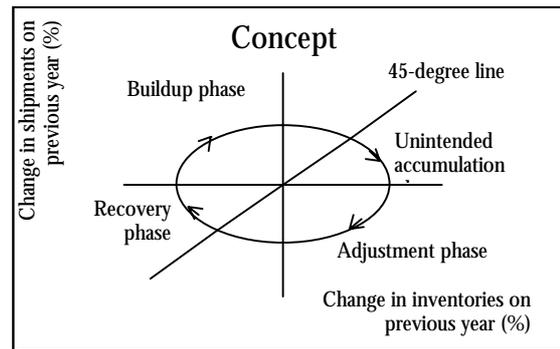
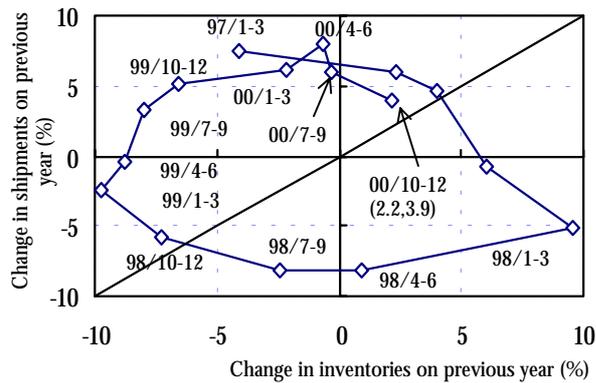


Figure 1-4. Inventory Cycle of Capital Goods (Excluding transport equipment)

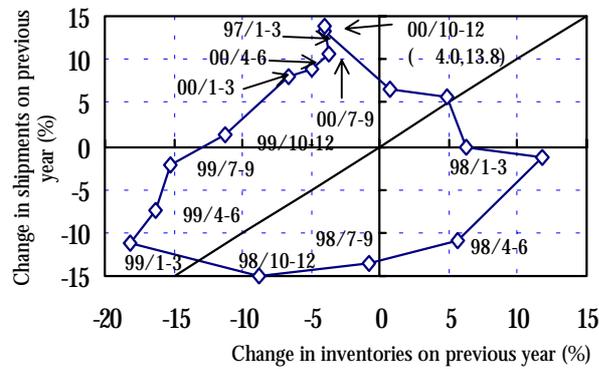


Figure 1-5. Inventory Cycle of Construction Materials

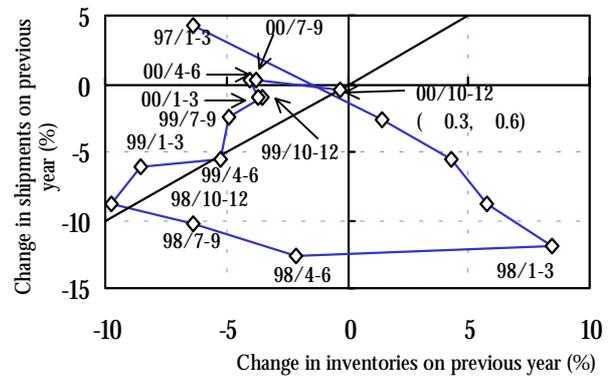


Figure 1-6. Inventory Cycle of Consumer Goods

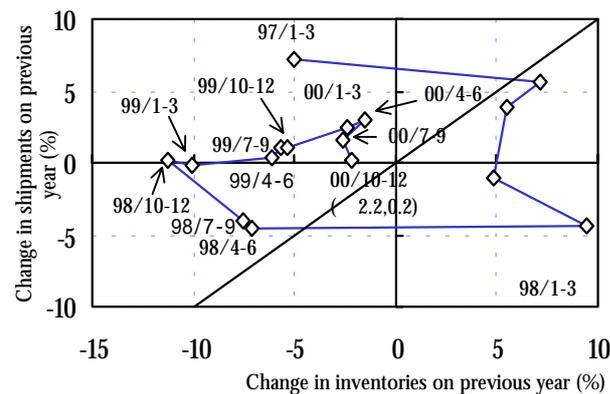
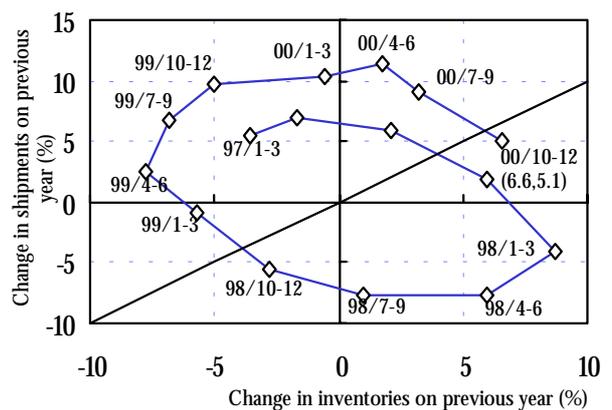


Figure 1-7. Inventory Cycle of Producer Goods



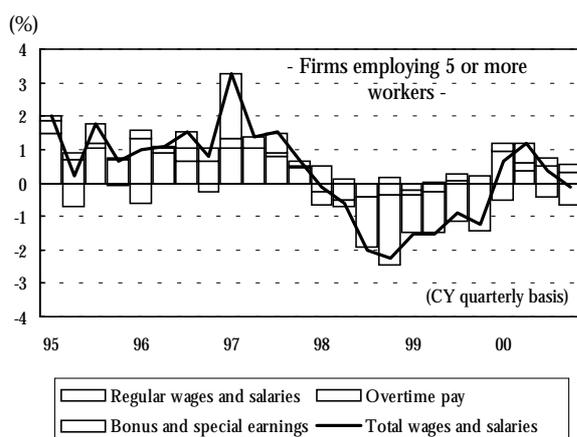
Source: Ministry of Economy, Trade and Industry, "Industrial Index."

3. Consumption: Sluggish

Figure 1-8 shows trends in the total amount of wages and salaries per person. In spite of positive growth for four consecutive periods since the first quarter of 2000, the amount has improved very little as a whole. Although overtime pay has risen for three consecutive periods since the third quarter of 1999 thanks to a slight increase in extra hours, recovery in regular wages and salaries has been insignificant as the spring labor union campaign in 2000 only resulted in a pay increase of 2.06%, falling to a new record low. Bonus and special earnings have only bottomed out. Figure 1-9 shows the change on the previous year of summer and year-end bonuses (in the private sector). The summer bonus in 2000 increased by only 0.5% from the previous year, and the year-end bonus undercut the previous year's. As a whole, income has overcome the worst but is not recovering.

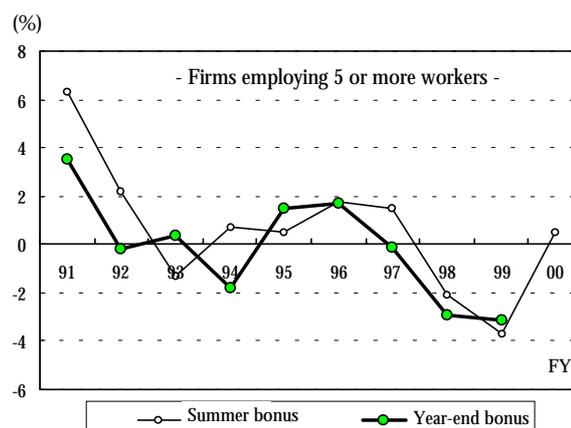
Figure 1-10 shows the year-on-year change in consumer spending for all households including single-member households. Per household (③), spending recorded substantial declines of 3-4% in 2000. Per person (③), however, spending was the same as the previous year, and the deviation from per capita final consumption expenditure (①) fell somewhat (average deviation from 1Q/96-3Q/00: 2.0 percentage points between ① and ③, and 0.7 percentage point between ① and ②). Thus, reflecting the diminishing family size, consumption per household may be understating actual spending.

Figure 1-8. Trends in Wages and Salaries per Person (Trend of year-on-year change by component)



Source: Ministry of Health, Labor and Welfare, "Monthly Labor Survey."

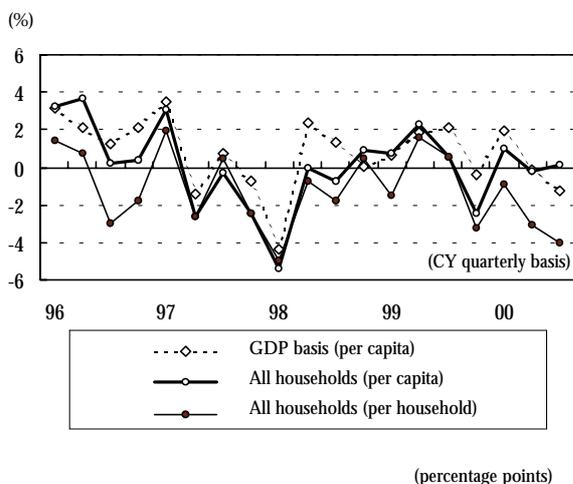
Figure 1-9. Change in Summer and Year-end Bonuses on Previous Year



Note: Summer bonus includes wages and salaries paid as bonus between June and August of the year. Year-end bonus includes wages and salaries paid as bonus between November of the year and January of the following year.

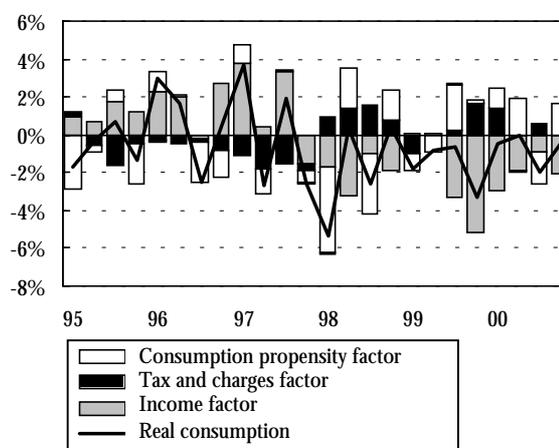
Source: Ministry of Health, Labor and Welfare, "Monthly Labor Survey."

Figure 1-10. Comparison of Real Consumption Expenditure (Change on previous year)



Average deviation of growth:	-	-
1Q/96-3Q/2000	2.0	0.7

Figure 1-11. Factor Resolution of Real Consumption Expenditure of Workers' Households (Change on previous year)



Notes: 1. Figures for all households represent estimates by the Ministry of Management and Coordination excluding agricultural, forestry and fishery households and single persons living in dormitories and boardinghouses accommodating 30 or more people.

2. $C/P = x(Y-T)/P$ is calculated as follows:

$$(C/P) = x(Y/P) - x(T/P) + x(Y-T)/P + \text{residual}$$

(income factor) (tax and charge factor) (consumption propensity factor)

C: consumption expenditure, Y: income, T: tax and charges, \bar{x} : average consumption propensity, P: consumer price

3. Contribution of local sales vouchers to income amounts to +1.0% for 1Q/99 and +0.1% for 2Q/99 (DBJ estimate).

Sources: Cabinet Office, "Annual Report on National Accounts;" Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Results of All Household Aggregation," "Family Income and Expenditure Survey," "Consumer Price Index" and "Population Estimation."

Consumption propensity (seasonally adjusted)	
99/3Q	71.9%
99/4Q	71.3%
00/1Q	70.8%
00/2Q	72.7%
00/3Q	70.9%
00/4Q	71.8%

Figure 1-11 analyzes the factors behind sluggish consumption from the trends in real consumer spending in workers' households according to the Family Income and Expenditure Survey. Here, the factors influencing consumption are decomposed into income (pre-tax income including regular wage and salary, overtime pay and bonus), tax and charges (income tax, inhabitant tax, social insurance premium, etc.) and consumption propensity (ratio of consumption to disposable income, which is equivalent to income minus tax and charges).

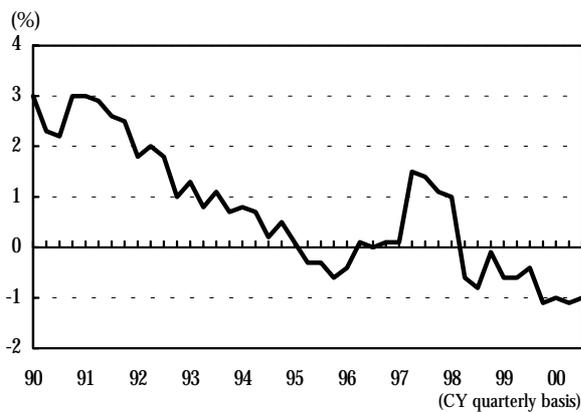
From the third quarter of 1999 to the first quarter of 2000, the reduction in tax and charges due to the continuation of tax relief measures and the rise in consumption propensity were offset by the reduction of bonus and the reaction to the previous year's local sales promotion voucher handouts. Currently, however, the drop in consumption propensity is canceling out the slight improvement in income.

The lack of perceived recovery in consumption may be explained by the fact that the consumer spending deflator has declined for 10 consecutive periods since the second quarter of 1998 (Figure 1-12) and that, unlike the previous phase of economic recovery, at present there has been a slump in nominal consumption (Figure 1-13). During the recovery from the previous trough (4Q/93), nominal consumption recovered slightly faster than real consumption. In the

current recovery phase (from 2Q/99), however, nominal consumption has not exceeded real consumption in growth, and the gap between the two indicators has now widened to 2% approximately.

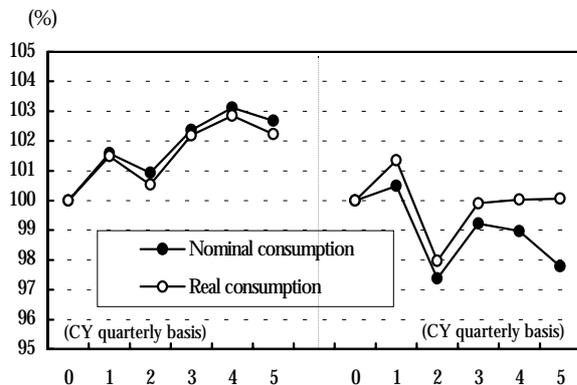
Figure 1-14 shows the situation from vendors' point of view according to the sales statistics. The retail sales index (seasonally adjusted, 1995=100) is still low even after bottoming out in early 2000. The recovery of the index for durable goods (household machinery and appliances, automobiles), which account for a little less than 20% of total retail sales, came to a halt in 2000. Also, the index for semi- and non-durable goods (textiles, clothes, personal goods, foods and beverages), accounting for 40% of the total, has remained low since plummeting in the latter half of 1999. In particular, the latter index continues to suffer adverse effects from accelerated price competition in clothing and the increase of cheap imports in foods.

Figure 1-12. Change in Consumer Expenditure Deflator on Previous Year



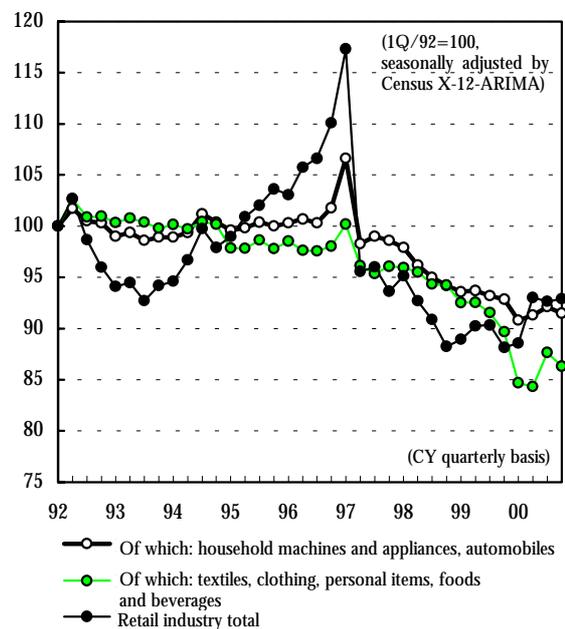
Source: Cabinet Office, "Annual Report on National Accounts."

Figure 1-13. Comparison of Nominal Consumption and Real Consumption in Economic Recovery Phase (Economic bottom=100, seasonally adjusted)



Source: Cabinet Office, "Annual Report on National Accounts."

Figure 1-14. Trend of Retail Sales Index (Seasonally adjusted)



Note: Retail sales index by industry (seasonally adjusted) is estimated using the weight of each industry in total sales (1995 as base year) and then recalculated on the basis of 1Q/92=100. The weights of industries appearing here are as follows:

- Textiles, clothing, personal items, foods and beverages 39.4%
- Household machines and appliances, automobiles 17.0%

Source: Ministry of Economy, Trade and Industry, "Report on the Current Survey of Commerce."

In recent years, the retail industry has been characterized by the emergence of new specialty stores. Figure 1-15 shows the contribution of specialty stores and other retail stores to the year-on-year growth of retail sales. Specialty stores are represented by the 186 companies ranked among the top 500 Japanese retailers for fiscal 1999 according to the Nikkei Ryutsu Shimbun and for which sales can be traced back to fiscal 1995. The sales of other retail stores are estimated as residual by treating as given the sales of the whole retail industry and large-sized retailers (department stores and supermarkets) in the sales statistics. Whereas the sales of the whole retail industry have been depressed since fiscal 1997, the positive contribution of the 186 specialized retailers has risen gradually, from 0.1% in fiscal 1997 to 0.6% in fiscal 1999. The share of those stores in total sales also increased from 6.4% in fiscal 1995 to 8.9% in fiscal 1999. Above all, the 11 pharmaceutical retailers and the 36 household electrical appliance and camera retailers enjoyed double-digit sales increases on average in fiscal 1995-99, up 12.4% and 10.7% respectively. However, this spectacular increase has been offset by stagnant conditions in other parts of the industry including small stores. Thus, specialty stores have not led to growth of the whole retail industry.

Among durable goods, Figure 1-16 shows the number of new car registrations (seasonally adjusted). Although the number has been improving since hitting a post-bubble low in the fourth quarter of 1999, new car sales since the autumn of 2000 have not grown overall partly due to problems related to recalls. The decline for two consecutive periods since the third quarter of 2000 points to the weakness of recovery in car sales.

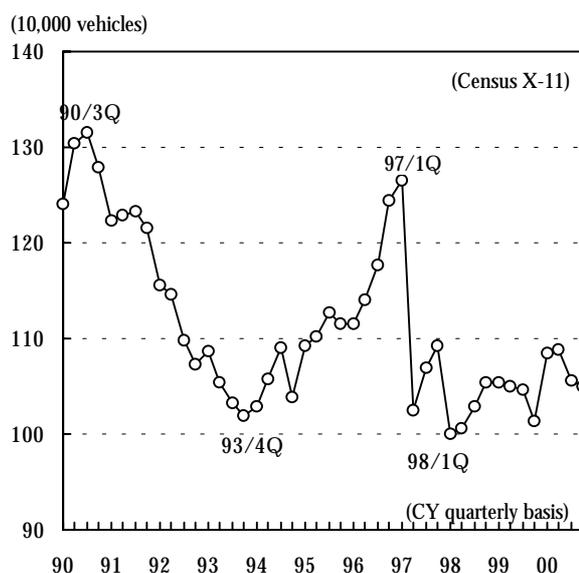
Figure 1-15. Contribution to Retail Sales Growth by Type of Retailers



Note: Specialty stores are represented by the 186 companies ranked among the top 500 Japanese retailers for fiscal 1999 and for which sales can be traced back to fiscal 1995. The sales of other retail stores are estimated as residual after subtracting the sales of large retailers (department stores and supermarkets) and the 186 specialty stores from the total sales of the retail industry.

Sources: Ministry of Economy, Trade and Industry, "Report on the Current Survey of Commerce;" Nihon Keizai Shimbun, "Distribution Company Yearbook;" Nikkei Ryutsu Shimbun, "The Top 500 Japanese Retailers."

Figure 1-16. Trend of New Car Registrations (Seasonally adjusted)



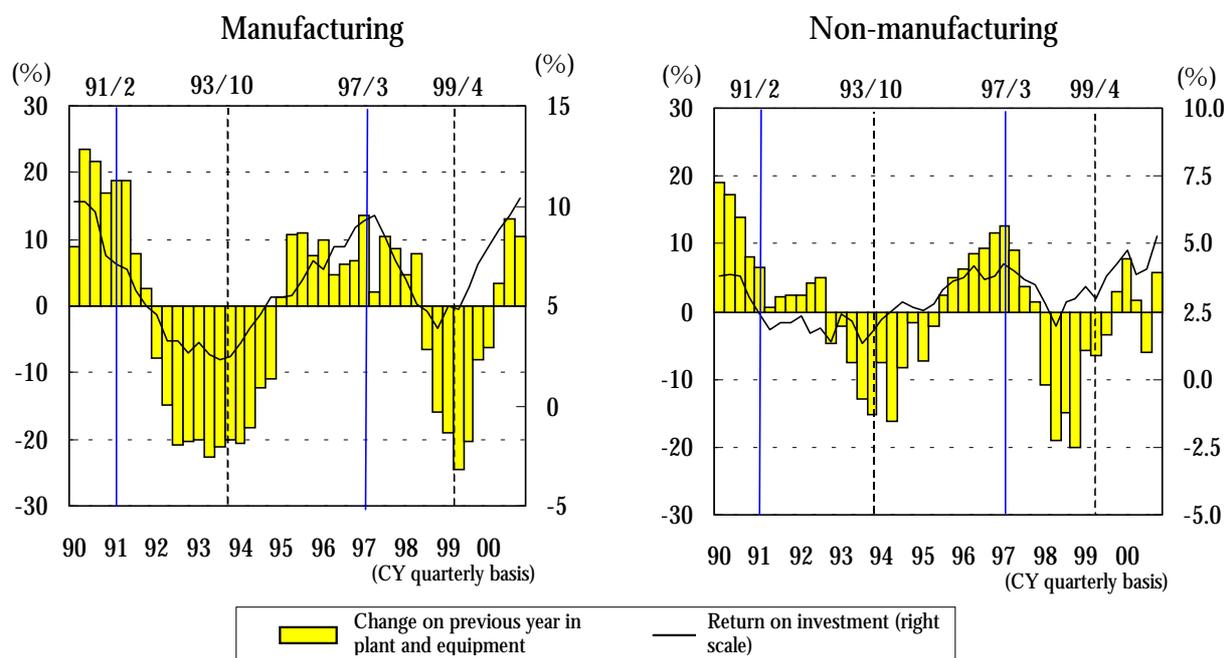
Source: Cabinet Office, "Indexes of Business Conditions."

4. Plant and Equipment Investment: Stalled in Non-manufacturing, Leading Indicator Implies Slowing Down

Figure 1-17 shows the trend of plant and equipment investment by industry according to the Statistical Survey of Incorporated Enterprises. Investment in the manufacturing sector recovered rapidly, up 13.0% from the previous year in the third quarter of 2000 followed by 10.4% growth in the fourth quarter, led by the so-called IT related industries such as non-ferrous metals and cement, ceramics & glass, as well as by electric machinery. Investment in the non-manufacturing sector, which led the recovery of the manufacturing sector has regained modest growth in the fourth quarter of 2000 after the decline of 5.9% of the previous quarter (the first decline in four quarters). The growth of plant and equipment investment in non-manufacturing from the fourth quarter of 1999 to the first quarter of 2000 was led by wholesale/retail (investment in new office buildings and large-scale redevelopment, accelerated establishment of new outlets before the enforcement of the Law on the Location of Large-scale Retail stores) and services (hotels, personal services and recreational facilities). Much of this growth may have come from temporary and local investment.

Return on investment (operating profit-tangible asset ratio – average interest rate on new loans: see Note of Figure 1-17), which empirically has a significant correlation with plant and equipment, continued to improve in the fourth quarter of 2000 for the manufacturing sector, exceeding a level equivalent to the previous peak in the second quarter of 1997. In the non-manufacturing sector, however, the improvement has been halted for somewhat recently. In the current recovery phase, the initial cautiousness of the manufacturing sector in plant and equipment investment is now being overtaken by a rapid recovery as investment returns to

Figure 1-17. Plant and Equipment Investment and Return on Investment (Corporations of all sizes)



- Notes: 1. Return on investment = operating profit-tangible asset ratio – average lending rate of banks (new loans, total), where operating profit-tangible asset ratio = operating profit/(tangible fixed assets + inventories).
2. No adjustments are made for changes in the accounting rule on business tax (ministerial order revised in Dec. 1998).

Sources: Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises," etc.

improve, while the recovery in non-manufacturing remains weak despite similar improvement in investment returns, except for a temporary increase from the fourth quarter of 1999 to the first quarter of 2000. This may be partially explained by the restraint on plant and equipment investment in industries that are under heavy pressure to cut costs due to deregulation or to restructure due to balance sheet problems.

Figure 1-18. Trends in Orders Received for Machinery
(Trend of year-on-year change by industry)

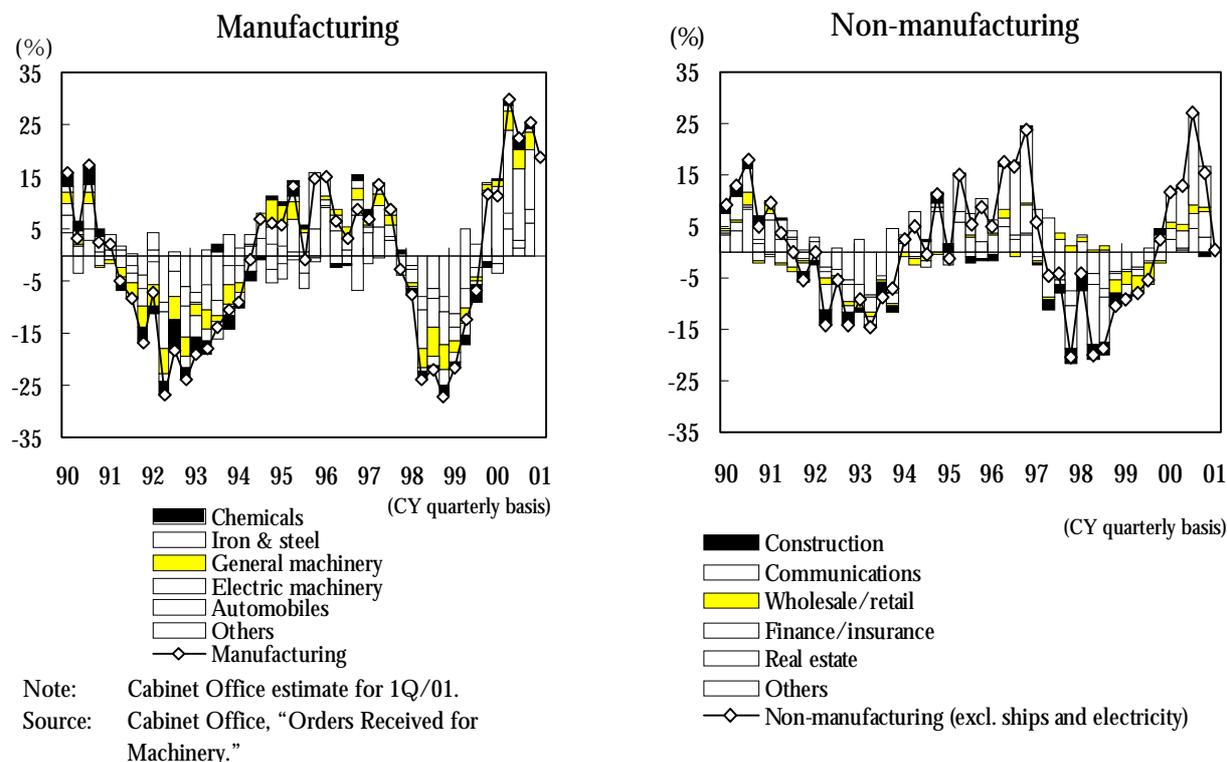
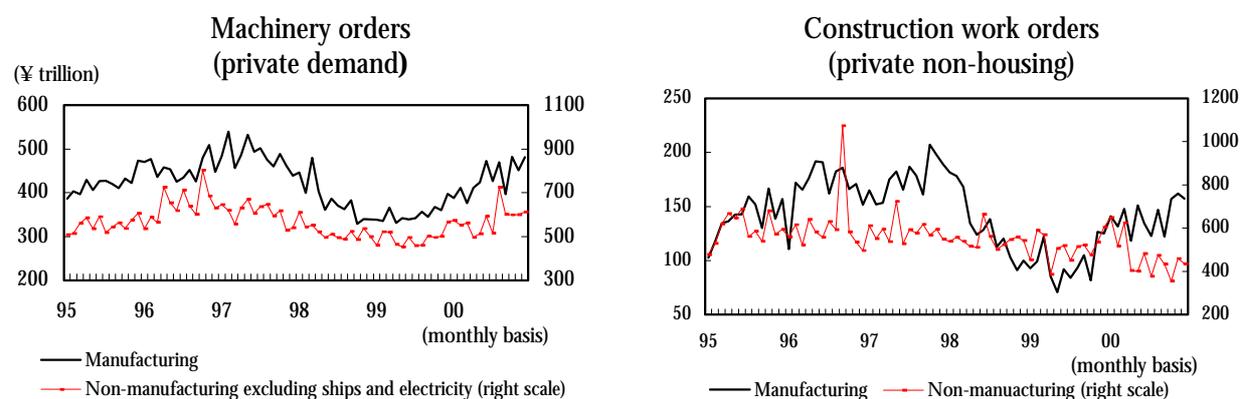


Figure 1-19. Trends in Real Plant and Equipment Investment by Investment Item
(Seasonally adjusted)



Machinery orders (private demand excluding ships and electricity: Figure 1-18), which usually lead plant and equipment investment by approximately two quarters¹, increased by double digits from the previous year in both manufacturing and non-manufacturing, particularly from electric machinery and communications respectively. Thus, plant and equipment investment is likely to remain firm until the first half of 2001. However, the forecast for the first quarter of 2001 decrease in both manufacturing and non-manufacturing – as a whole machine orders will decrease for the first time in seven quarters.

Moreover, orders received for construction works (private non-housing), a leading indicator for construction investment, have been falling slightly mainly from non-manufacturing (Figure 1-19). Also, as production may peak as suggested by the inventory cycle analysis presented in Section 2, the prospects for plant and equipment investment from the second half of 2001 do not look good.

[Supplement]

Trends in Plant and Equipment Investment by Type of Goods based on 93SNA and Estimation of Time Lag for Leading Indicator

Effective from October 2000, the basis of the Annual Report on National Accounts was changed to 93SNA (1995 as base year), and software was newly included in plant and equipment investment. This Supplement uses a simple method to estimate the quarterly trend of plant and equipment investment by type of goods according to 93SNA (1995 as base year), and examine the time lag of the leading indicator.

(1) Method and result of estimate of plant and equipment investment by type of goods

1) Method of estimate

The Annual Report on National Accounts shows the nominal and real amounts of investment in software as part of gross fixed capital formation for each calendar year since 1990. Based on the data and using the public-private ratio in the 1995 Input-Output Table/Fixed Capital Matrix, software investment grew at an annual rate of 7.4% in both nominal and real terms during the nine-year period from 1990 to 1999². Private software investment is estimated at ¥5.7 trillion in nominal terms in 1999, accounting for 7.6% of total plant and equipment investment. The computation of quarterly data is based on the new investment in software in the “Gross Capital Stock of Private Enterprises.”

The amount of plant and equipment investment on a GDP basis minus the amount of software investment estimated above is considered as the amount of tangible fixed asset investment³. The amount of machinery investment is considered as the residual after subtracting the amount of construction investment estimated separately based on the Integrated Statistics on Construction Work (Ministry of Land, Infrastructure and Transport), etc.

2) Result of estimate

Trends in the amounts of real plant and equipment investment (seasonally adjusted) for the three types of goods (machinery, construction and software) estimated above are shown in Figures 1-20 and 1-21, as well as their contribution to year-on-year change in total real plant and equipment investment. As a substantial increase in software investment can be observed currently as well as in 1997-98, its contribution has been something despite its small share in total plant and

1 See Supplement for the measurement of the time lag.

2 The estimate method assumes that the same growth rate applies to the public sector and the private sector.

3 In the strict sense, the amount includes investment in plant engineering, which was reclassified from tangible fixed assets to intangible fixed assets with the introduction of 93SNA.

equipment investment⁴.

Figure 1-20. Trends in Real Plant and Equipment Investment
(Trend of year-on-year change by investment item)

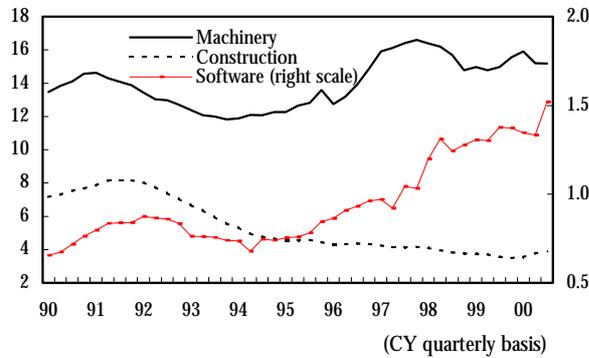
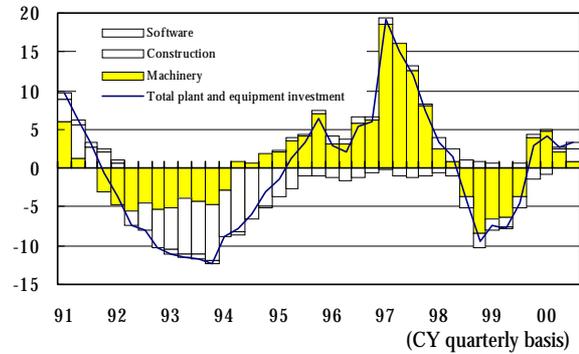


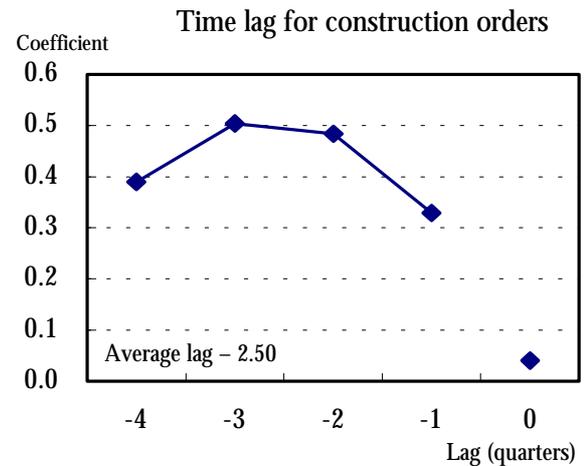
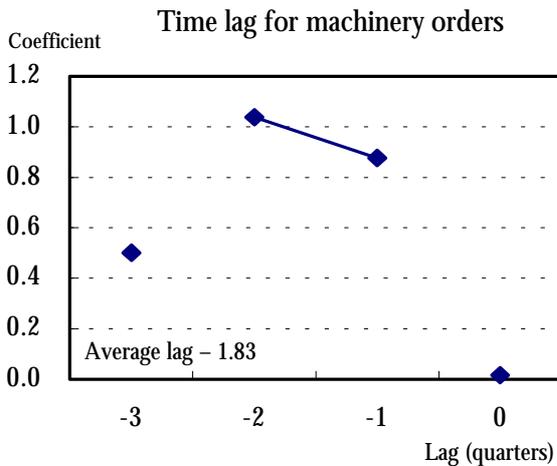
Figure 1-21. Trends in Leading Indicator of Plant and Equipment Investment



Note: Of the investment items, “machinery” is calculated as residual after subtracting the separately estimated amounts of construction investment and software investment from total plant and equipment investment.

Sources: Cabinet Office, “Annual Report on National Accounts,” “Gross Capital Stock of Private Enterprises,” Ministry of Land Infrastructure and Transport, “Integrated Statistics on Construction Work” and “Construction Cost Deflator.”

Figure 1-22. Measurement of Time Lag for Leading Indicator



Notes: 1. Data are seasonally adjusted.

2. Estimation equation:

Nominal machinery investment = constant term + (ρ_t · nominal machinery orders ρ_t), where $t = 0 - -3$; and

Nominal construction investment = constant term + (ρ_t · nominal construction work orders ρ_t), where $t = 0 - -4$.

Estimation is made with the least-squares method using an Almon lag (quadratic, without restriction on terminal point). Machinery orders include private demand excluding ships and electricity. Construction work orders include private non-residential construction. The estimation covers the period from 1Q/91 to 3Q/00. A constant term dummy is inserted for 1Q/97 and after.

3. Lines linking estimated values indicate significance at the 5% level.

Sources: Same as in Figures 1-19-21.

⁴ Software made a contribution of 0.8 percentage point to the 3.3% increase of real plant and equipment investment from the previous year in 3Q/00.

(2) Estimation of time lag for leading indicator

The time lag is calculated by the regression of the seasonally adjusted nominal series of machinery investment and construction investment obtained in the previous section with the nominal seasonally adjusted series of machinery orders (private demand excluding ships and electricity) and construction orders (private non-residential). A quadratic Almon lag (without restriction on the terminal point) is assumed as the lag structure. The length of lag is assumed to be 0-3 quarters for machinery and 0-4 quarters for construction. The sample period ranges from the first quarter of 1991 to the third quarter of 2000 to match the availability of data. A dummy for structural change is inserted for the first quarter of 1997 and afterward in light of the trend of residuals. As shown in Figure 1-22, the result indicates that the shape of the lag pattern and the significance of the coefficient are both satisfactory. The average time lag is 1.8 quarters for machinery orders and 2.5 quarters for construction orders. Thus, the time lag for machinery orders is found to be a little shorter than the traditional estimate of two to three quarters. This may be explained by the downsizing of machinery to be covered by plant and equipment investment due mainly to the increased share of IT-related machinery.

5. Housing Starts: Leveling Off

Housing starts (seasonally adjusted annual rate) plummeted after peaking at 1.697 million units in the fourth quarter of 1996, falling below 1.2 million in the third quarter of 1998 followed by a continued decline until the end of the year. Since regaining 1.2 million units in the first quarter of 1999 thanks to extension of housing tax relief in January 1999 and continued low interest rate, housing starts have remained flat in general, with some ups and downs (Figure 1-23). Figure 1-24 shows the contribution to year-on-year growth by type of housing. The recovery that started in the first quarter of 1999 was initially led by owned houses, which were followed by dwellings for sale including condominiums from the latter half of 1999. Currently, however, the eleventh-hour demand for owned houses to benefit from tax relief is being offset by the decline in dwellings for sale.

Figure 1-23. Trend of Housing Starts

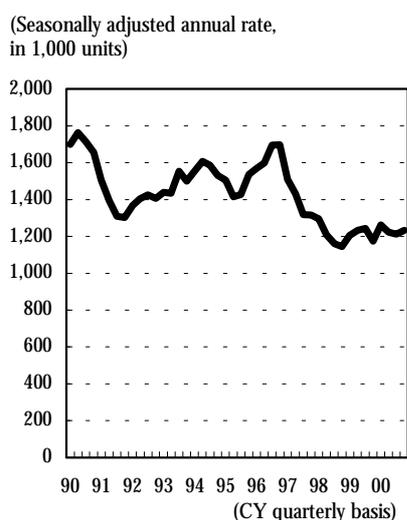
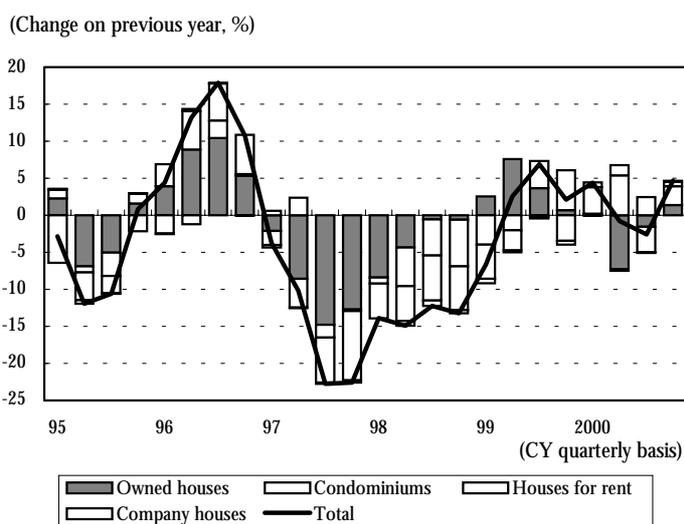


Figure 1-24. Housing Starts

(Trend of year-on-year change by component)



Source: Ministry of Land Infrastructure and Transport, "Report on Statistical Survey on Construction Starts."

Note: Same as in Figure 1-23.

The construction of owned houses increased in the first half of 1999 partly due to the expectation of an interest rate hike (Figure 1-25) and partly due to the initial time limit of December 2000 to benefit from housing tax relief. The subsequent downtrend may be explained by the stability of the standard lending rate of the Housing Loan Corporation at around 2.8% as well as by the reaction to the eleventh-hour demand.

The number of applications for the Corporation's housing purchase loans, a leading indicator of the construction of owned houses, rose 4.2% for the first invitation in 2000 but fell 42.1% for the second invitation (Figure 1-26). However, the drop was reduced to 4.5% for the third invitation. Some eleventh-hour demand may be occurring as the time limit for the current housing tax relief measures is approaching (June 2001).

The construction of condominiums was buoyant until the first quarter of 2000, largely offsetting the slump in owned houses, but then fell in the third quarter. Last-minute demand for condominiums seems to have subsided earlier than for owned houses due to their longer construction period (nine months to one year). Although the contract rate for condominiums in the Tokyo metropolitan area has stayed firm since 1999 at around 80%, completed inventories have been increasing slightly (Figure 1-27). The construction of houses for rent continues to slide due to a small glut on the supply side.

Figure 1-25. Trend of Housing Loan Interest Rates

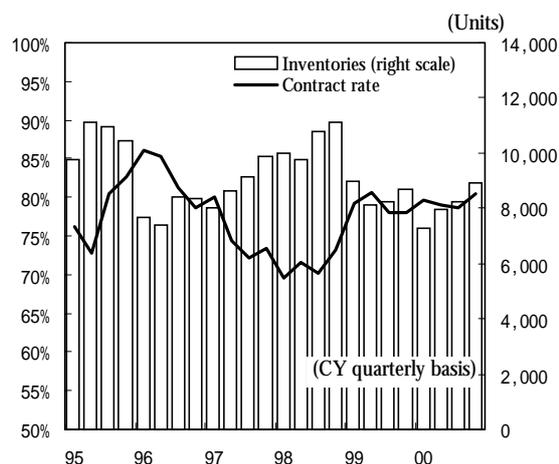
	99/6	7	8	9	10	11	12	00/1	2	3	4	5	6	7	8	9	10	11	12	01/1	01/2
Housing Loan Corporation	2.50	2.60			2.80			2.75	2.80	2.85	2.80	2.75			2.80	2.85		2.80		2.70	
City bank variable rate	2.375																2.5				
City bank fixed rate (5 years)	2.60	2.70	2.85	2.70	2.65	2.60			2.75	2.65	2.75	2.90					2.80		2.75	2.70	
City bank fixed rate (10 years)	3.55	3.75	3.60		3.50			3.40	3.55	3.50	3.45	3.60	3.65				3.55		3.50	3.45	

- Notes: 1. Interest rate of the Housing Loan Corporation represents the standard rate (applicable to "certain housing of good quality" for the initial 10 years).
2. The rate represents that at the end of the month.

Figure 1-26. Housing Loan Applications for Owned Houses (Tokyo metropolitan area)

		Application deadline	Application period (Day)	Number of applications (1,000)	Change on previous year (%)	Standard rate (%)	
FY1997	1	5/30		10	55	-47.7	3.10
	2	9/12		15	52	-60.3	3.10
	3	11/28		18	47	-21.9	3.00
	4	3/6		19	57	-33.2	3.00
FY1998	1	6/5		23	62	13.3	2.75
	2	9/30		31	67	28.8	2.55
	3	12/25		37	70	49.9	2.00
	4	3/26		48	101	75.1	2.20
FY1999	1	6/18		36	62	0.0	2.40
	2	10/29		67	88	32.6	2.60
	3	1/14		61	37	-47.3	2.80
	4	3/10		33	38	-62.5	2.75
FY2000	1	6/30		49	65	4.3	2.75
	2	9/22		34	51	-42.1	2.75
	3	12/22		38	35	-4.5	2.80

Source: Housing Loan Corporation, "Monthly Report on Housing Loans."



Note: Contract rate represents the quarterly average ratio of units sold in the month to units marketed in the month. Completed inventories are measured at the end of each quarter.

Source: Real Estate Economic Research Institute, "Trend of Condominium Market in Tokyo Metropolitan

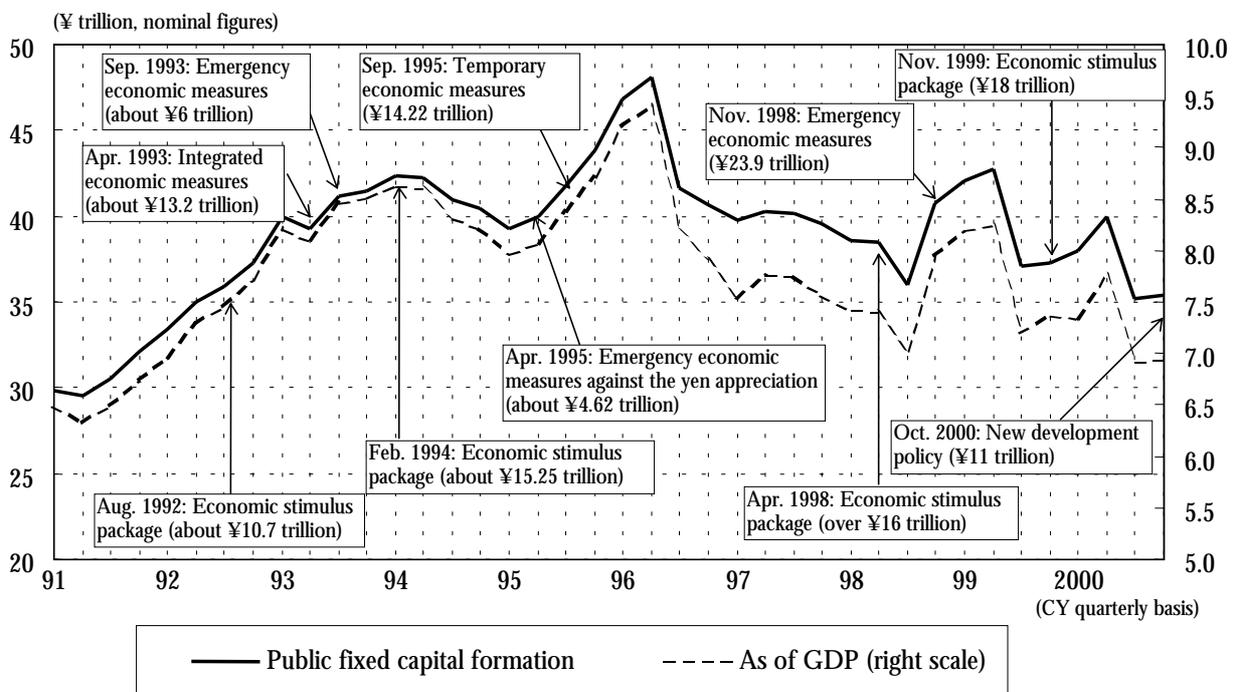
6. Public Investment: Moving Downward

Public investment (public capital formation, seasonally adjusted) started to rise in the fourth quarter of 1998 thanks to the economic stimulus package of April 1998 (totaling over ¥16 trillion) and the emergency economic measures of November 1998 (¥23.9 trillion). It increased to over 8% of GDP in the first and second quarters of 1999 (Figure 1-28) but had declined to under 7% by the third quarter of 2000.

The contract value of public works, the leading indicator, recorded a substantial increase of 11.7% for fiscal 1998 largely thanks to the huge year-on-year increase of 52.7% in the first quarter of 1999 due to the economic measures. However, the contract value began to fall again in the second quarter of 1999, particularly in regions with financial difficulties, and declined 9.1% in fiscal 1999 (Figure 1-29).

Despite the effects of the economic stimulus package of November 1999 (totaling some ¥18 trillion), public investment continues to slide from the previous year in fiscal 2000, falling for seven consecutive periods to the fourth quarter of 2000. Although the new development policy (totaling some ¥11 trillion) should have some effect, public investment is expected to continue to decline.

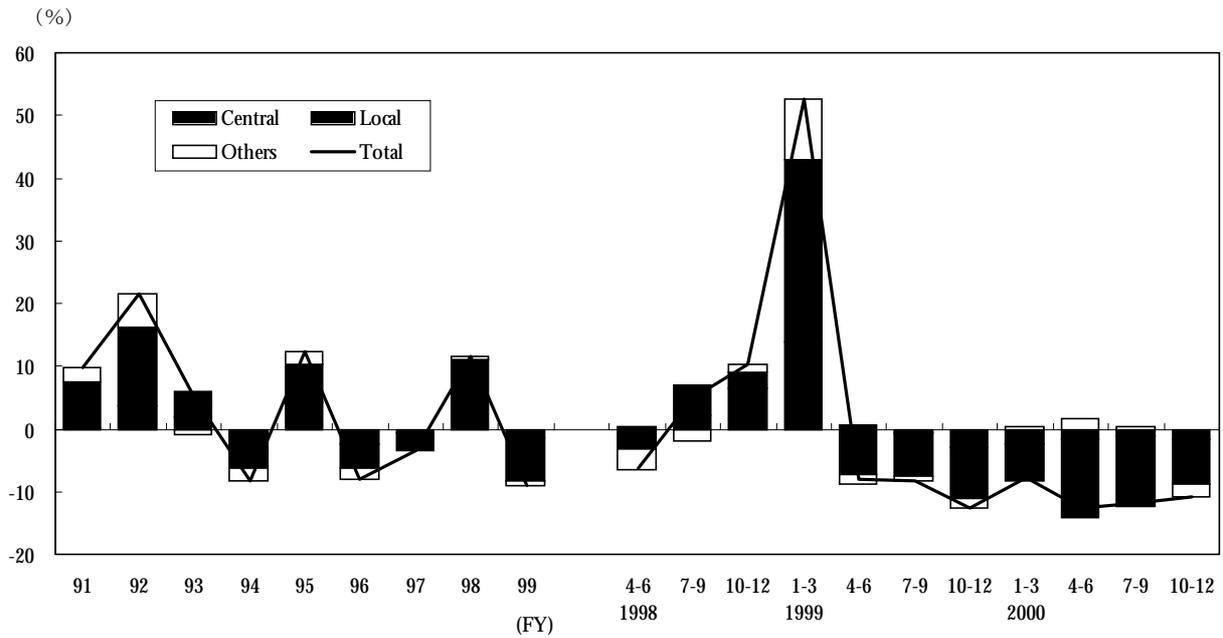
Figure 1-28. Trend of Public Investment



Note: Data represent seasonally adjusted annual rate.

Source: Cabinet Office, "Annual Report on National Accounts."

Figure 1-29. Trend of Contract Value for Public Works (Change on previous year)



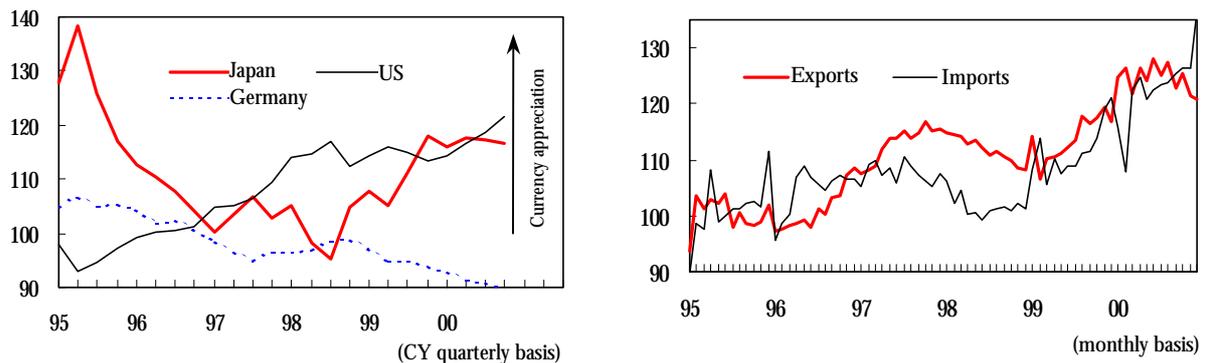
Source: Association of Surety Companies, "Table of Surety Business."

7. Exports: Leveling Off, Imports: Continuing to Increase

Figure 1-30 shows the trend of the real effective exchange rate of major currencies. After appreciating from September 1998 to December 1999, the yen remained almost flat throughout 2000.

The trend of export and import volumes in terms of seasonally adjusted monthly index indicates that imports have been increasing behind the gradual recovery of the domestic economy while the increase in exports leveled off in the latter half of 2000 due to the slowdown in other countries' economies (Figure 1-31).

Figure 1-30. Trend of Real Effective Exchange Rate (1990=100)



Note: Real effective exchange rate is currency index weighted for trade in industrial products with 44 trading partners in 1990 after adjustment for inflation.

Source: J.P. Morgan, "World Financial Market."

Note: Seasonally adjusted (X-12ARIMA) DBJ estimate.

Source: Japan Tariff Association, "Summary Report on Trade of Japan."

After turning upward on the previous year in the third quarter of 1999 thanks to the recovery of the Asian economy, exports increased substantially in the first and second quarters of 2000. In the third quarter, however, exports to the U.S. declined 0.2% from the previous year due to the perceived slowdown in the U.S. economy, followed by another decline in the fourth quarter. The growth in exports to Europe, which remained strong from the third quarter of 1999, slowed in the third quarter of 2000 as compared with the first and second quarter, as the euro continued to slide, and finally turned negative in the fourth quarter due to the slumping exports of automobiles. After the recovery from the currency crisis in ASEAN countries and South Korea, exports to Asia turned up in the second quarter of 1999 (up 5.7%) followed by a continued substantial increase, thus leading the growth of total exports. In the third quarter of 2000, however, the year-on-year increase was somewhat reduced as exports of steel ships and color TVs declined from the previous period. A similar trend was also observed in the fourth quarter.

Figure 1-32 shows the trend of shipments for export by type of goods according to the Industrial Production Statistics. The increase in exports in 1999 was led by producer goods such as transformers and fixed condensers. In 2000, there was a significant increase in exports for capital goods such as precision measurement instruments, steel ships and switches, as well as for producer goods.

Import volume (Figure 1-33) fell by as much as 6.8% in the third quarter of 1998 due to the sluggish domestic demand. After turning upward in the first quarter of 1999 (up 4.0%), it increased on the previous year for eight consecutive quarters, as domestic demand recovered gradually and the yen strengthened.

By origin, imports from Asia have been increasing strongly since 1999, accounting for most of the year-on-year increase in total imports.

By type of goods, the recovery of domestic production has boosted imports of producer goods and capital goods since 1999. The year 2000 also saw a significant increase in imports of durable and non-durable consumer goods.

Imports started to rise in the first quarter of 1999, while exports started to recover a little later (3Q/99) but have continuously increased since then. On balance, net exports declined from the previous year in 1999. Exports and imports both increased throughout 2000, but although exports continue to increase, the growth is decelerating. As a result, net exports have been smaller than in the previous year in general.

Figure 1-32. Trend of Export Volume (Change on previous year)

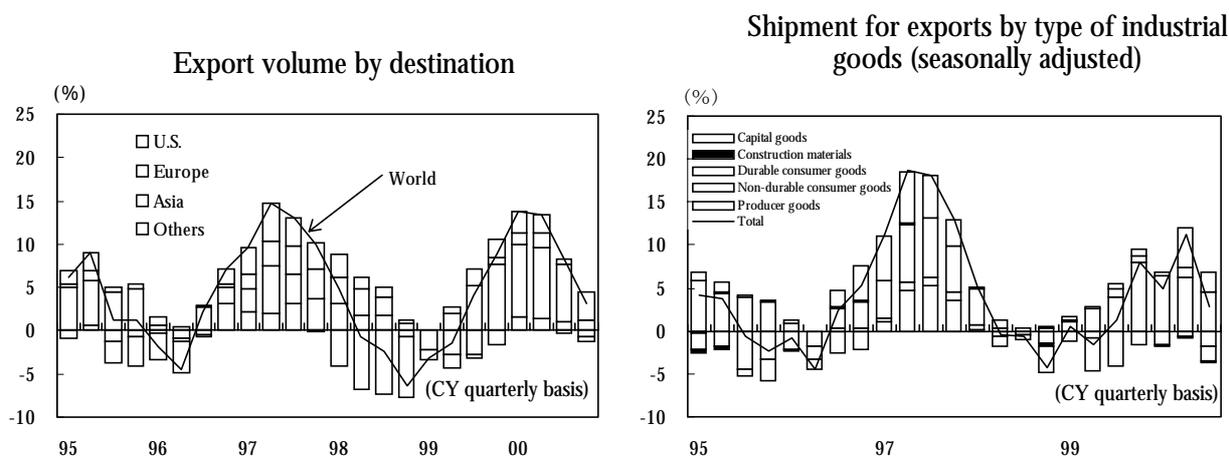
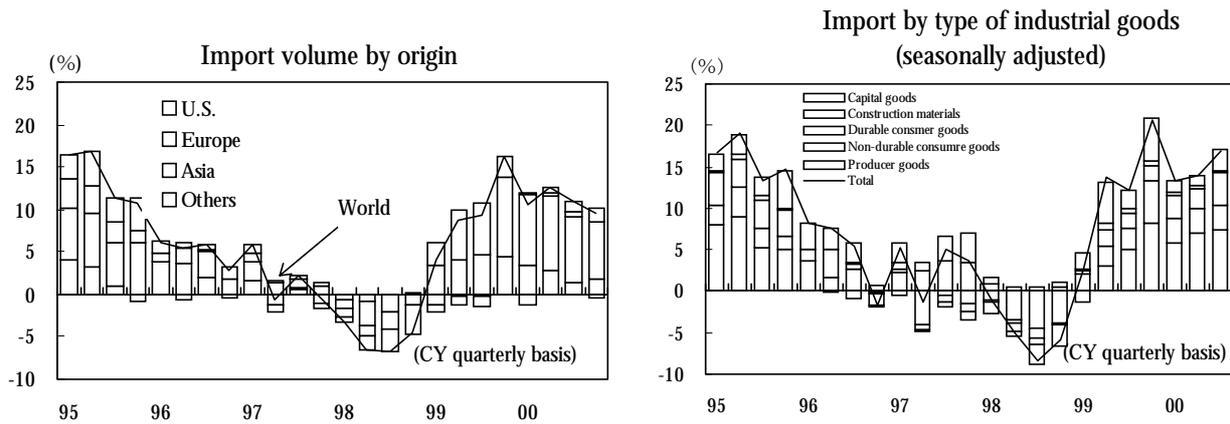


Figure 1-33. Trend of Import Volume (Change on previous year)



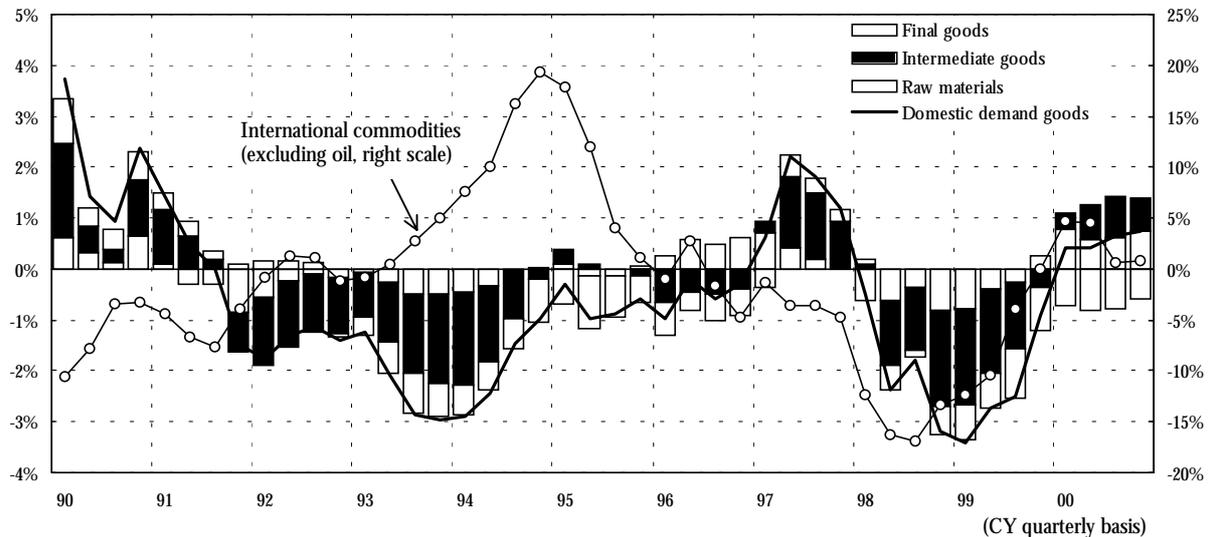
Sources: Japan Tariff Association, "Summary Report on Trade of Japan;" Ministry of Economy, Trade and Industry, "Summary of Analysis of Mining and Manufacturing Industrial Activities."

8. Consumer Prices: Still Weak

International commodity prices (Figure 1-34), mostly composed of primary products excluding crude oil, rebounded in the first quarter of 2000 for the first time in about four years largely due to the rise in metal prices induced by the expansion of the world economy in 1999 including the recovery of the Asian economy. However, they declined slightly from the previous year in the fourth quarter, affected by the expectation of good harvests worldwide and the slowdown of the world economy. Currently, prices are flat or declining slightly.

Figure 1-34. Trends in Commodity and Wholesale Prices (Domestic Demand Goods)

(Trend of year-on-year change by component)

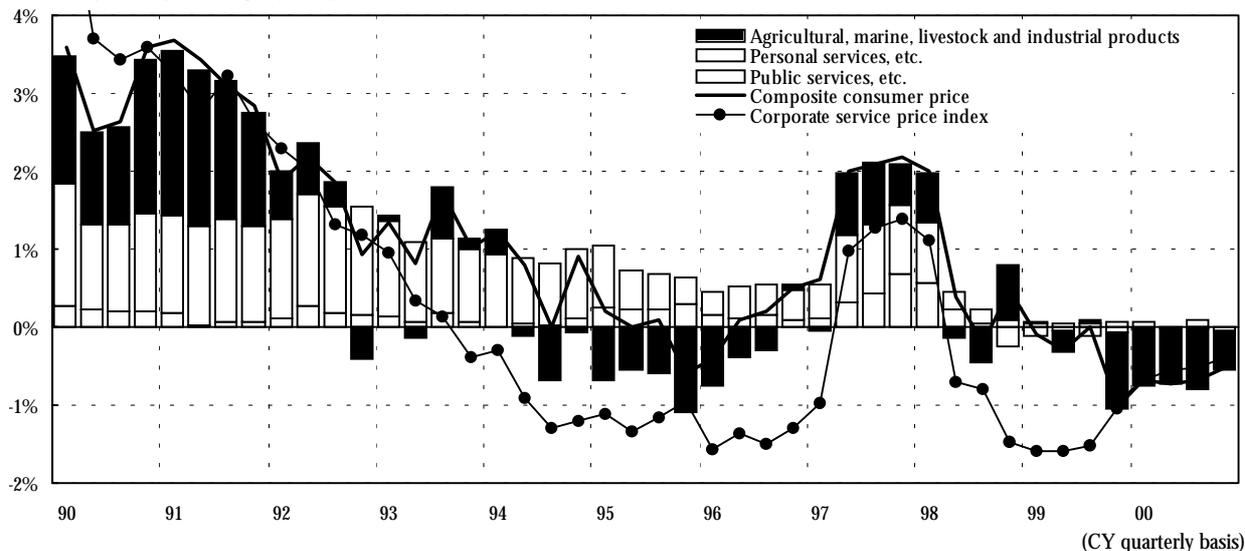


Note: Wholesale prices represent the average of domestic and import prices for domestic demand goods.

Sources: Bank of Japan, "Price Indexes Monthly;" IMF, "International Financial Statistics."

Figure 1-35. Trends in Corporate Service and Consumer Prices (Goods and services)

(Trend of year-on-year change by component)



- Notes:
1. Personal services, etc. include publications, rent and eating-out. Public services, etc. include electricity, city gas and water supply.
 2. Corporate services include lease/rental, transport, communications, real estate rental, bank commission, insurance premium, etc.

Sources: Bank of Japan, "Price Indexes Monthly;" Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Indexes Monthly."

Wholesale prices of domestic demand goods (weighted average of domestic and import prices; Figure 1-34) have been rising since the beginning of 2000 as prices of raw materials and intermediate goods turned up due to rising crude oil prices. However, the price hike has not been passed on to final goods even after the traditional time lag of about one year as the prices of final goods continue their slide from 1998.

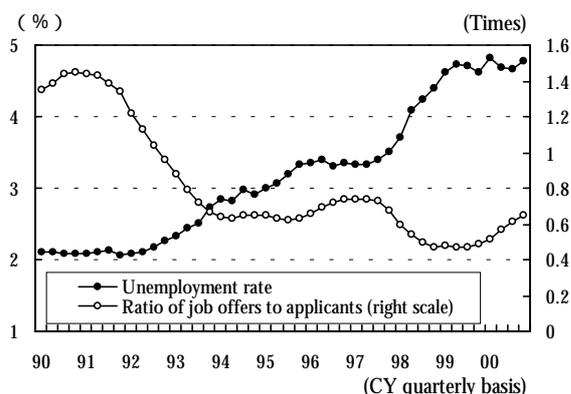
The decline in corporate service prices (Figure 1-35) slowed in 2000, reflecting the rise in maritime transport charges, which are determined internationally in general. Nonetheless, prices partly are still weak due to the downward pressure of deregulation in the communication and finance sectors as well as the decline in leasing prices including information equipment and in real estate rents.

Consumer prices have been falling on the previous year since 1999. Figure 1-35 indicates that the prices of commodities (agricultural, marine, livestock and industrial products) have been declining since the fourth quarter of 1999. In addition to the substantial fall in fresh food prices partly due to competition with imports, there has been a drop in prices for a wide range of items including furniture/houseware and culture/recreation as well as textile products and durable goods. Service prices have also been weak. For personal services in particular (published prices for personal services plus publishing, rent for housing and eating-out), downward pressure is coming from recreational services, eating-out and communications.

9. Employment: Harsh Especially for Self-employed, with Unemployment Stays High

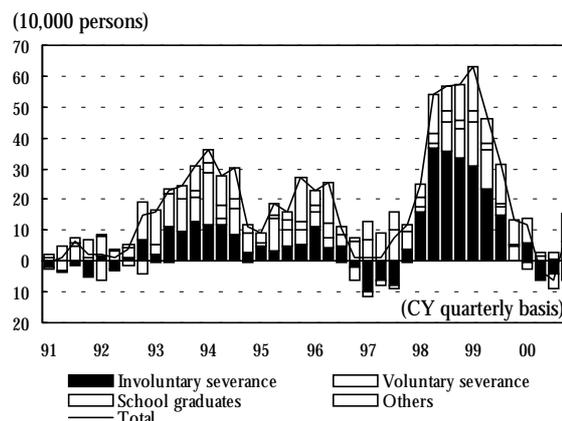
As a whole, employment has not improved discernibly. Figure 1-36 shows the trend of principal macroeconomic employment indicators: the ratio of job offers to applicants and unemployment

Figure 1-36. Trends in Ratio of Job Offers to Applicants and Unemployment Rate



Sources: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey;" Ministry of Health, Labor and Welfare, "Statistics on Placement Activities."

Figure 1-37. Trends in Unemployment by Reason for Job-seeking



Notes: 1. Any deviation between the total and the sum of components is included in "Others."
2. "Involuntary unemployment" includes severance for reasons such as personnel cutback, business slump and age limit. "Voluntary unemployment" includes severance for personal or family circumstances. "Others" includes housewives (non-labor force) who are newly seeking employment, etc.

Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey."

rate. The former indicator recovered gradually from a low of 0.46 in May 1999 to 0.66 in December 2000. The unemployment rate, however, has not improved and stood at a record high level of 4.9% as of January.

Figure 1-37 shows the change in the number of unemployed by reason for job seeking. The growth of unemployment dropped substantially in 1999, mainly for "involuntary severance" due to personnel cutbacks and the deterioration of business performance. Although the number unemployed decreased temporarily in the second and third quarters of 2000, it is rising again except for "voluntary severance" due to personal or family reasons.

By industry (Figure 1-38), the number employed has not improved much except in services and transport/communications. Particularly in the manufacturing sector, the downtrend has not been halted since the third quarter of 1997. Wholesale/retail and restaurants have lost their traditional labor-absorbing power, as business conditions remain unfavorable.

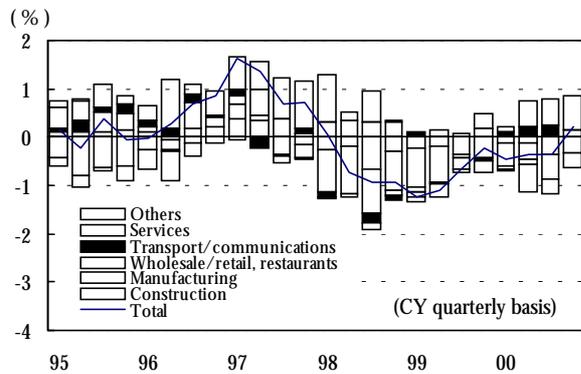
The increase in the number of employees is not necessarily a cause for optimism. Figure 1-40 shows the change in the number of regular workers and temporary/daily workers. Although regular employment is currently showing signs of bottoming out after consecutive year-on-year declines from the first quarter of 1998, the increase in employees is still led by temporary/daily employment, which represents irregular workers with lower labor cost for employers.

By status of employers (Figure 1-41), employees of medium-sized companies (employing 30-499 workers) are increasing significantly, while the increase in employment by large companies

(500 or more workers) observed in the first half of 2000 has come to a halt. The overall employment picture is mixed, with tough conditions for small companies (1-29 workers) and a progressive increase in bankruptcies.

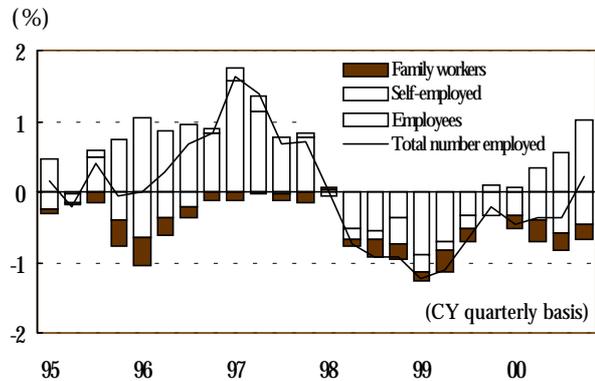
(Trend of year-on-year change by component)

Figure 1-38. Number Employed by Industry (Trend of year-on-year change by component)



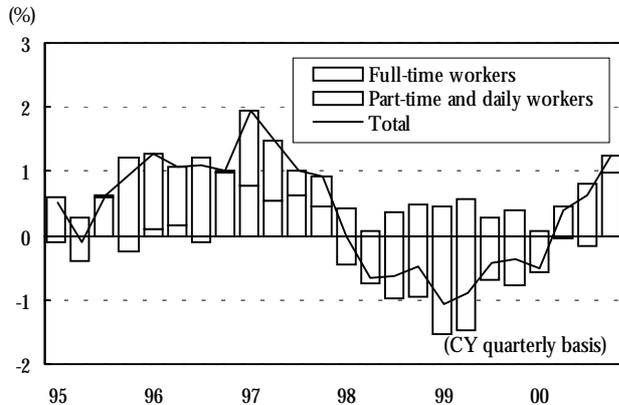
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey."

Figure 1-39. Number Employed by Status (Trend of year-on-year change by component)



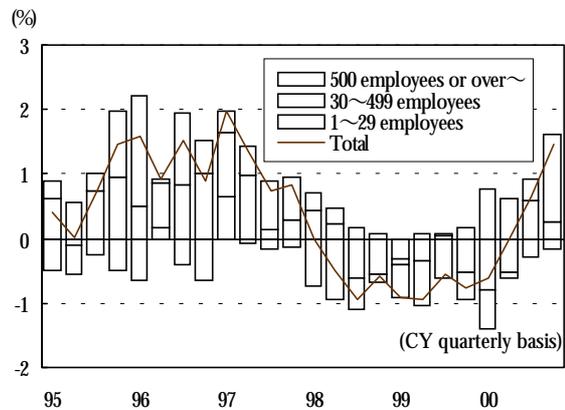
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey."

Figure 1-40. Contribution to Change in Number Employed (Non-agricultural sector)



Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey."

Figure 1-41. Contribution to Change in Number Employed (Non-agricultural sector excluding government)



Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey."

10. Share Prices: Bearish, Long-term Interest: Showing Downtrend

Since the termination of the zero-interest policy in August 2000, inter-bank overnight lending rates was guided to the level of 0.25% (Figure 1-42). However, the rate is nearing zero again after the announcement of easing of monetary policy on March 19. Yields on three-month CDs (buy), which are representative of short-term interest rates, showed a slight increase due to this change in policy and seasonal demand for funds in the year-end period, but declined reflecting the easing of monetary policy.

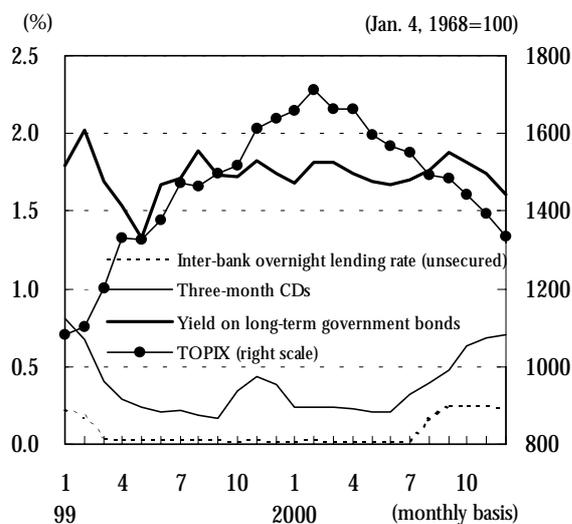
Long-term interest rates stayed at about 1.8% from around June 1999 and remained stable with very little movement from the latter half of fiscal 1999. Subsequently, they temporarily rose to almost 1.9% in September 2000 but have declined to about 1.2% recently.

Share prices fell in 2000 after rising throughout 1999. The position of foreign shareholders, who supported the increase in 1999, changed from long to short in 2000 (Figure 1-43).

Money supply (M2+CD) grew by more than 3.5% from fiscal 1998 to the first half of fiscal 1999, dropped to a low of 1.9% in the latter half of the year, and is now around 2% (Figure 1-44). In detail, CDs turned upward in July 2000, but quasi-money (term deposits, etc.) has been reduced and the growth of deposit currencies has been slowing. On the other hand, outstanding bank credits have been dropping and the increase in assets is solely attributed to the purchase of government bonds (Figure 1-45).

From February 2001, both short-term and long-term interest rates have shown further decline reflecting the BOJ's easy monetary policy.

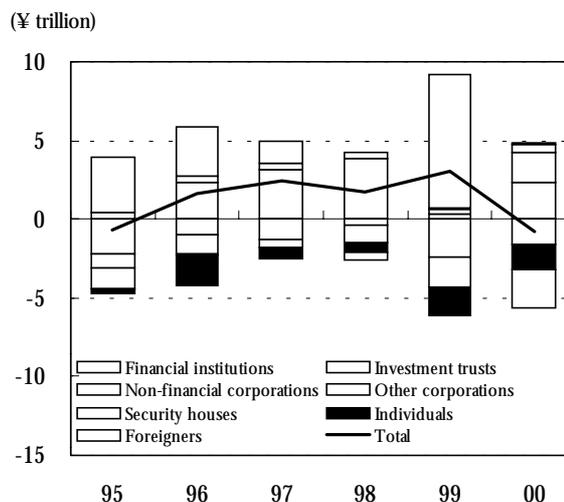
Figure 1-42. Trends in Selected Financial Indicators



Notes: 1. Yield on long-term government bonds represent that on 10-year bonds.
2. Three-month CDs are represented by the quotation (buy) rate on new issues.

Source: Nihon Keizai Shimbun.

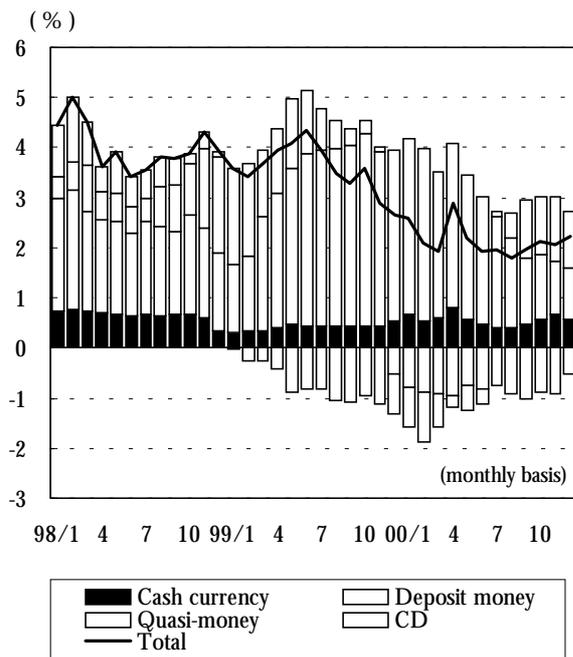
Figure 1-43. Net Purchase of Stocks



Note: Based on sales and purchases on commission on the Tokyo Stock Exchange.

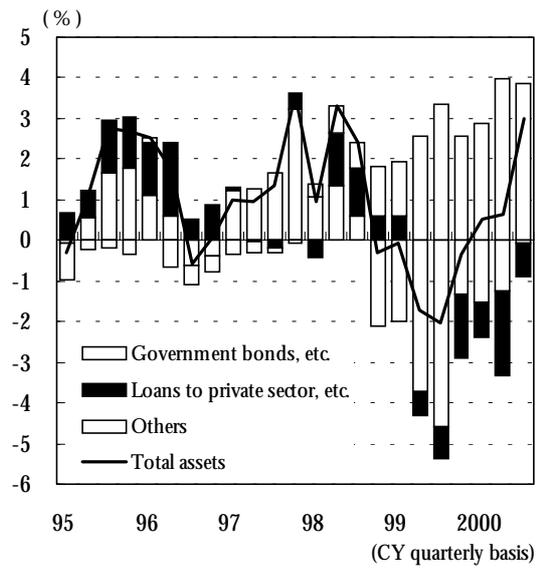
Source: Tokyo Stock Exchange, "TSE Monthly."

Figure 1-44. Growth of Money Supply



Note: Average balance, change on previous year.
 Source: Bank of Japan, "Financial and Economic Statistics Monthly."

Figure 1-45. Asset Growth in Banking Sector



Source: Bank of Japan, "Financial and Economic Statistics Monthly."

II. Weakness of Current Economic Recovery and Its Background

1. Characteristics of Current Economic Recovery Compared with Patterns since 1980s

Figures 2-1, 2-2, 2-3 and 2-4 identify demand items leading economic recoveries since the 1980s by showing real values indexed on the economic bottom (=100). The current recovery after the bottom of the second quarter of 1999 has been led by exports and plant and equipment investment, taking the lead from public investment (public capital formation) and housing investment, which had supported the economy until it hit the bottom.

Figure 2-1. 1Q/83 - 1Q/85B
(Recovery from worldwide recession)

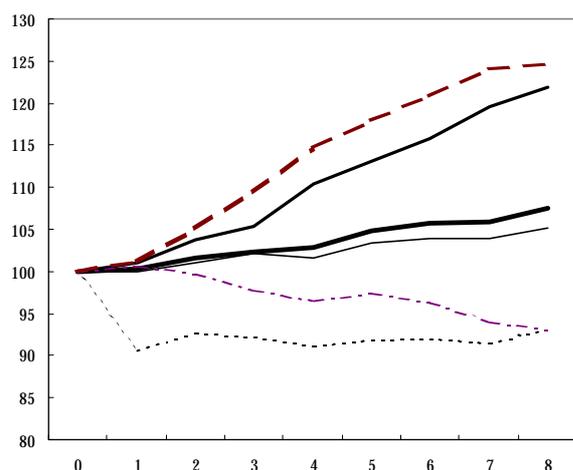


Figure 2-2. 4Q/86 - 4Q/88
(Recovery from high yen recession)

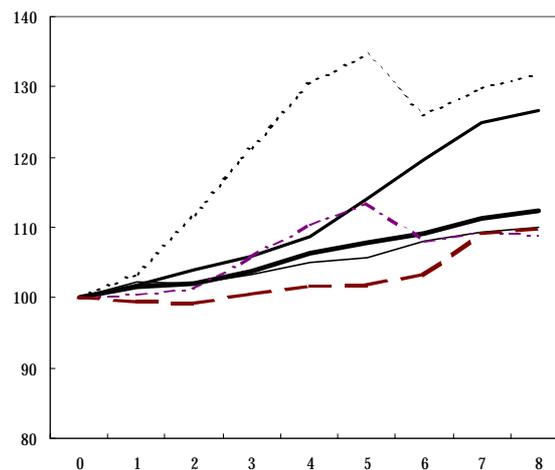


Figure 2-3. 4Q/93 - 4Q/95
(Recovery from collapse of bubble economy)

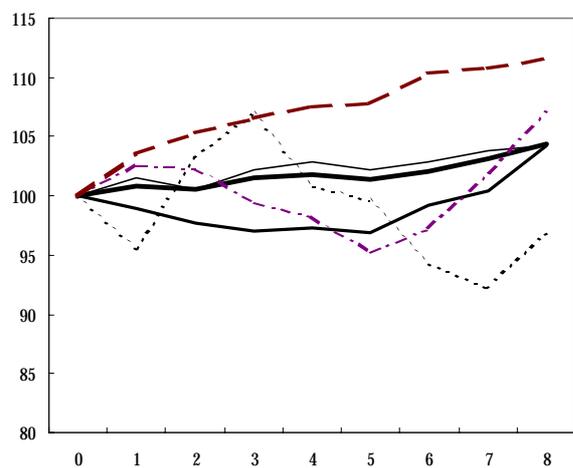
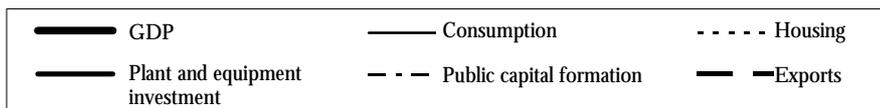
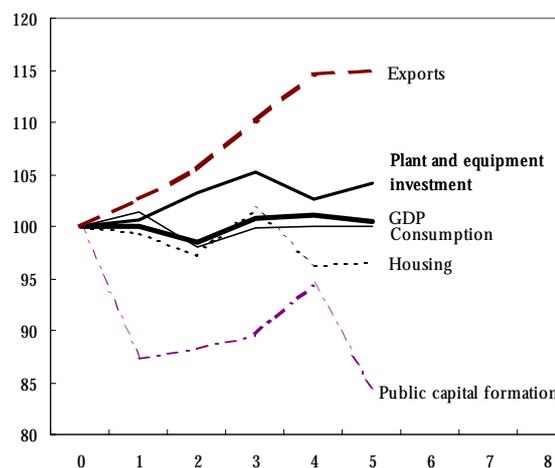


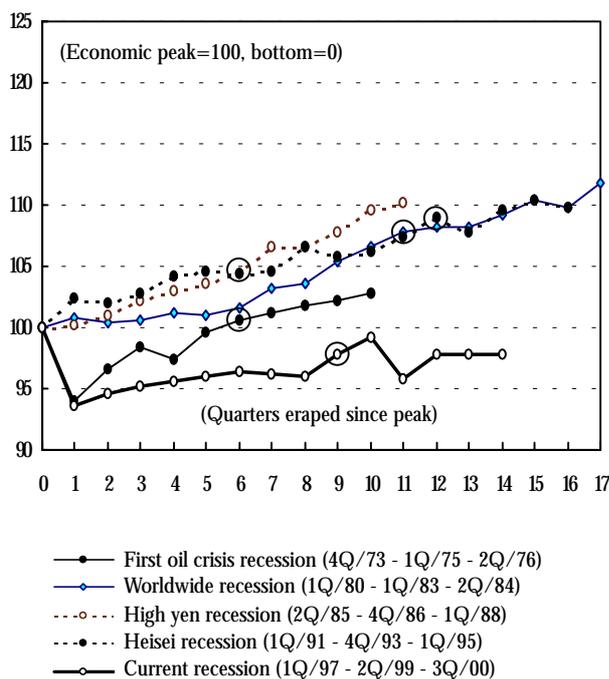
Figure 2-4. 2Q/99 - 3Q/00
(Current recovery)



Note: Index based on economic bottom (=100).

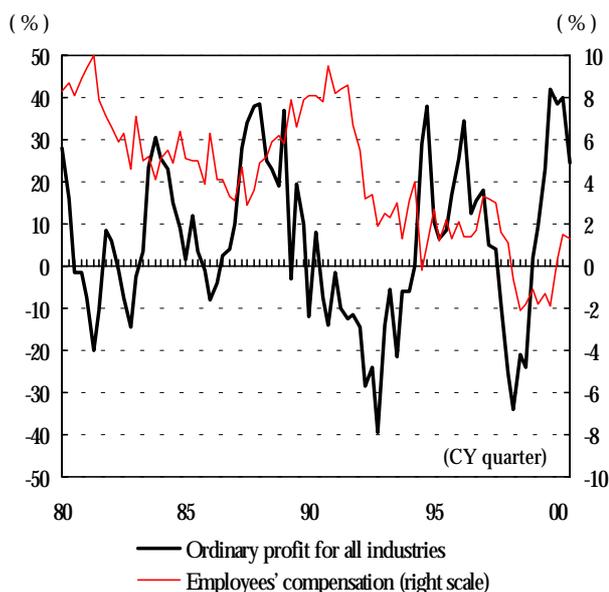
Source: Cabinet Office, "Annual Report on National Accounts."

Figure 2-5. Comparison of Real Personal Consumption



Note: Based on 68SNA for first oil crisis recession.
 Source: Cabinet Office, "Annual Report on National Accounts."

Figure 2-6. Trends in Corporate Profits and Employees' Compensation (year-on-year change)



Note: Based on 68SNA for employees' compensation until 4Q/90.

Sources: Cabinet Office, "Annual Report on National Accounts;" Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

The current recovery process resembles the recovery from the worldwide recession that started in the first quarter of 1983, in that it was led by exports and plant and equipment investment. That machinery investment in export-oriented industries such as electric machinery and transport equipment increased rapidly at that time corresponds to the fact that the current growth has also been led by machinery investment including in electric machinery. However, the current recovery is different in that the growth of the non-manufacturing sector is far less strong.

Also, the current recovery is similar to the post-bubble recovery from the fourth quarter of 1993, being led by the growth of exports, but it is also marked by a slump in consumption, whereas in the post-bubble recovery, consumption stayed relatively firm and covered the slump in plant and equipment investment.

2. Factors behind Sluggish Personal Consumption, Stalled Improvement in Productivity and Large Labor Share

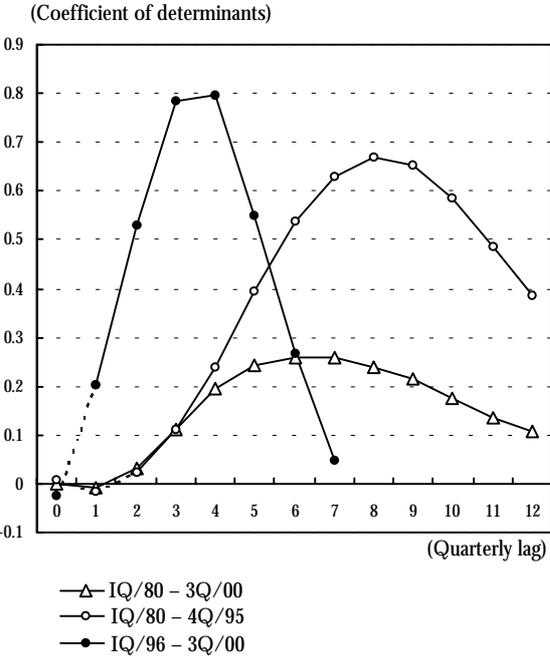
The current recovery process is characterized by a prolonged slump in personal consumption and a lack of vitality even after five quarters from the economic bottom (2Q/99). Figure 2-5 compares the current situation with recovery phases from major recessions in the past (period ranging from the peak to the bottom and five quarters after the bottom). Here, real consumption on a quarterly basis is indexed on the economic peak (=100).

With the exception of the first oil crisis, the level of real consumption had never dropped below the level at the economic peak throughout the past recovery phases (from the worldwide recession, the high-yen recession and the Heisei recession). In the current case, however, the eleventh-hour demand in the second quarter of 1997, just before the consumption tax hike, was

followed by a slump that continued for two years until the economy hit the bottom. Moreover, consumption has stayed almost flat since the bottom, and as of the third quarter of 2000 is still about 2% lower than in the first quarter of 1997. The current slump in consumption contrasts strongly with the recovery phase from the equally grave recession following the first oil crisis, during which real consumption had regained the pre-recession level by the time the economy hit the bottom (1Q/75) and subsequently followed a mild recovery path.

As noted in Section 1-3, one of the factors behind the current slump in consumption is lack of growth of wages and salaries. Indeed, the improvement in corporate profit appears to have had no significant impact on household income. The following section examines this phenomenon from a macroeconomic viewpoint in terms of the relationship between corporate profits and income as well as between productivity and labor share.

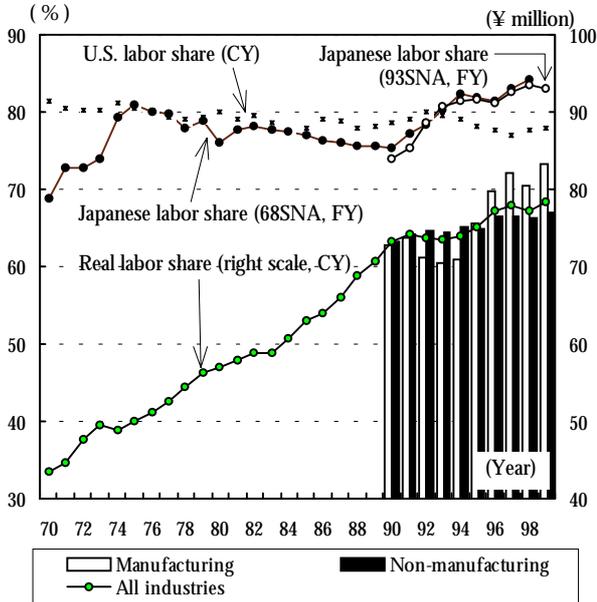
Figure 2-7. Lagged Correlation between Corporate Profits and Employees' Compensation



Note: Based on the equation: year-on-year change in employees' compensation = + *year-on-year change in ordinary profit for all industries (-t), the degree of correlation is measured for three estimation periods. Dotted line on the graph indicates statistical insignificance. Data are based on three-quarter moving average.

Sources: Cabinet Office, "Annual Report on National Accounts;" Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

Figure 2-8. Labor Share and Real Labor Productivity



- Notes:
1. Labor share = employees' compensation / (national income - proprietorship income).
 2. Real labor productivity = real GDP by industry / number employed by industry. Estimates for 1970-89 are based on average differential between 68SNA and 93SNA for 1990-98.
 3. Non-manufacturing includes construction, electricity/gas/water supply, wholesale/retail, finance/insurance, real estate, transport/communications and services.

Sources: Cabinet Office, "Annual Report on National Accounts;" Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey;" U.S. Department of Commerce, "Survey of Current Business."

Since remuneration is distributed from the value added by corporate activities, changes in employees' compensation are considered to be closely related with corporate profits. Figure 2-6 compares the year-on-year change in ordinary profit in all industries according to the Quarterly Report of Statistical Survey of Incorporated Enterprises with the year-on-year change in employees' compensation according to the SNA statistics. The relationship between the two items reveals that under the bubble economy, any substantial increase of 20-30% in ordinary profit eventually led to a rapid increase of 8-9% in employees' compensation. Since the latter half of the 1990s, however, the growth of employees' compensation has stayed within the range of 1-3% even when ordinary profit increased as substantially as in the bubble period. Thus, ordinary profit has increased by double digits since the third quarter of 1999, but employees' compensation only recorded a modest increase of 1.3% in the third quarter of 2000.

Moreover, a measurement using lagged correlation (Figure 2-7) indicates that the time lag between improvement in corporate profits and increase in employees' compensation has shortened since the latter half of the 1990s. Between the first quarter of 1980 and the fourth quarter of 1995, improvement in corporate profits impacted on employees' compensation within about two years in most cases. However, the correlation weakens if the estimation period is extended to the third quarter of 2000. If we take the period between the first quarter of 1996 and the third quarter of 2000, employees' compensation reflects the improvement in corporate profits in only about one year. If this relationship holds true, any slowdown in corporate profits in the latter half of 2000 will affect employees' compensation in the latter half of 2001. Thus, income conditions may deteriorate again without fully recovering.

Improvement in productivity is essential for income growth. Figure 2-8 shows the long-term trend of real labor productivity. After a steady rise until the 1980s, labor productivity leveled off in the 1990s and has remained stubbornly flat since 1996. By industry, improvement in labor productivity has become negligible in the non-manufacturing sector. Against this backdrop, the labor share in Japan, which was considered to be relatively small, increased rapidly in the 1990s and has stayed at a record high level of around 80% since fiscal 1994. This sharp shifts contrasts the stable trends of labor in the U.S., which has stayed at around 80%. Considering the fact that Japanese economy is now seeing the ever low productivity improvement and large labor share, any further improvement in household income is unlikely.

3. Quick Start but Weak Expansion for Current Recovery in Plant and Equipment Investment

Regarding the current economic recovery, attention has been focused since the initial stage on plant and equipment investment as one of the leading factors. Viewing recent developments, real plant and equipment investment on a GDP basis reportedly declined 2.5% from the previous period in the second quarter of 2000 and increased only 1.5% in the third quarter. Some argue that the investment has not increased as initially expected. How do such trends in plant and equipment investment compare with previous economic recovery processes?

The chronological relationship between the bottom of plant and equipment investment and that of the economy should be examined first to grasp the quickness or slowness of the recovery in plant and equipment at the initial stage of economic recovery. Figure 2-9 identifies the peak and bottom of plant and equipment investment by the change in the seasonally adjusted amount of real plant and equipment investment on a GDP basis (using a series cleared of time trends for the period until the fourth quarter of 1986; see Notes of the Figure for details). From the 1980s to the peak of the 11th cycle (the so-called Heisei boom), the peak and bottom of plant and equipment investment coincided with those of the economy or lagged behind them by one quarter. In contrast, from the trough following the Heisei boom (4Q/93) to the peak of the 12th

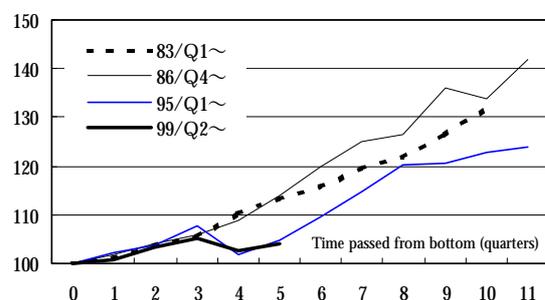
cycle (1Q/97), plant and equipment investment lagged behind the economy by five quarters in hitting the bottom and by three quarters in peaking. This might indicate that the recovery in investment was delayed by the prolonged stock adjustment following the collapse of the bubble economy, leading to the delay in reducing investment in response to the next economic peak. In the current recovery process, plant and equipment hit the bottom with the economy in the second quarter of 1999. Although it merely represents a return to the traditional pattern, expectations grew for plant and equipment investment to play a leading role at the initial stage of recovery due to its quicker response than in the previous recovery.

In order to measure the strength of recovery from the bottom in plant and equipment investment, Figure 2-10 compares the trend of investment indexed on the bottom (=100) with previous economic recovery processes. The current recovery does not differ much from the past three recoveries in its pace during the three quarters directly following the bottom. However, the current recovery has been comparable to the previous recovery in its slowness since the fourth quarter from the bottom.

Figure 2-9. Business Cycle and Plant and Equipment Investment

Economy		Plant and equipment investment		Economy		Plant and equipment investment	
Bottom	Bottom	Lag	Expansion period	Peak	Peak	Lag	Recession period
Q1/83	Q1/83	0	10	Q1/80	Q1/80*	0*	12*
Q4/86	Q4/86	0	18	Q2/85	Q3/85	1	5
Q4/93	Q1/95	5	11	Q1/91	Q2/91	1	15
Q2/99	Q2/99	0	(5)	Q1/97	Q4/97	3	6

Figure 2-10. Trend of Plant and Equipment Investment from Bottom
(Seasonally adjusted index, bottom=100)



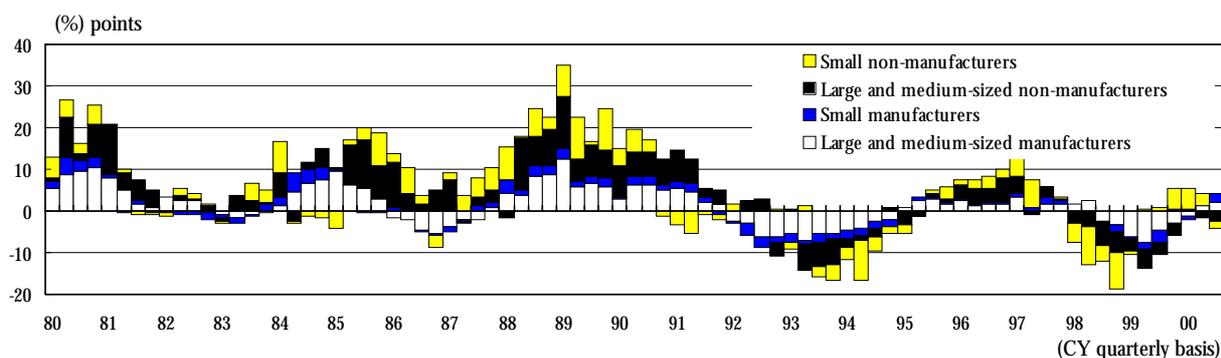
- Notes:
- Judgment on the peak and bottom of plant and equipment investment is based on the seasonally adjusted amount of real plant and equipment investment. For the period until Q4/86, however, the judgment is based on a time series obtained after removing the time trend from the original data (linear regression covering four quarters before and four quarters after the economic bottom or peak). * indicates data based on 68SNA (1990 as base year).
 - Lag (time lag from the economic bottom or peak), expansion period and recession period are in quarters. The expansion period from the bottom of Q2/99 is as of Q3/00.

Sources: Cabinet Office, "Standard Dates of Business Cycle" and "Annual Report on National Accounts."

Figure 2-11 shows the contribution to the year-on-year change in nominal plant and equipment investment according to the Quarterly Report by industry and by scale of corporation to identify the causes of the sluggish recovery from the bottom. The positive contribution from non-manufacturers at the initial stage of the current recovery has been reversed and replaced by

manufacturers of all sizes. Meanwhile, large and medium-sized non-manufacturers have constantly made a negative contribution. Setting aside the Heisei boom, in which plant and equipment investment grew across the board, the increase in investment was extended by the robustness of non-manufacturing in the latter stage in the 1983-85 and 1995-97 periods. In light of the trend of non-manufacturing so far, the current growth of plant and equipment investment may not continue for as long as in past recoveries (10 quarters from Q1/83 and 11 quarters from Q1/95; see Figure 2-9).

Figure 2-11. Nominal Plant and Equipment Investment by Industry and by Corporate Size



Note: Large and medium-sized companies are capitalized at ¥100 million or over, and small companies at less than ¥100 million.

Source: Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

In order to analyze the trend in each industry in further detail, the cumulative contribution to the year-on-year change in nominal plant and equipment investment (simple total of contribution in individual periods) was calculated for five quarters in each recovery period following the bottom to identify the degree of concentration (share) on the top five industries regarding their positive and negative contributions. According to Figure 2-12, a positive contribution is concentrated more heavily on the top five industries in the current recovery (78.5%) than in the previous three recovery phases. As compared with the Q1/87-Q1/88 and Q2/95-Q2/96 periods, when the degree of concentration remained in the 50-60% range, the current recovery is far less inclusive, led by only a handful of specific industries. Moreover, the top five industries belong to the non-manufacturing sector with the exception of electric machinery and among them, hotels and personal services have already seen their investment curtailed, thus justifying concerns about the sustainability of the recovery. Although the contribution of IT-related manufacturing industries (see Note of the Figure for definition) is larger than in the past three recovery processes, it is not as significant as generally considered, particularly in comparison with the Q2/83-Q2/84 and Q2/95-Q2/96 periods.

On the other hand, the concentration of negative contribution on the top five industries was constant in the higher 70% range in the previous three recoveries. In comparison, the current recovery has a low concentration of 58.6% on the top five industries. In contrast with the positive contribution, the fact that the negative contribution is distributed over a wide range of industries points to a stronger downward pressure from factors such as balance sheet adjustments, which may be partially responsible for the current weakness of recovery in plant and equipment investment.

Figure 2-12. Cumulative Contribution to Year-on-year Change in Nominal Plant and Equipment Investment by Industry and Degree of Concentration
(5 quarters from bottom)

Top 5 positive contributors and degree of concentration

Q2/83 ~ Q2/84	% pt	Q1/87~ Q1/88	% pt	Q2/95 ~ Q2/96	% pt	Q3/99 ~ Q3/00	% pt
Business services	18.5	Business services	9.4	Business services	7.4	Movie/recreation	5.9
Electric machinery	11.8	Other	5.8	Electric machinery	7.0	Electric machinery	5.8
		transport/communica- tions					
Metal products	3.1	Wholesale	5.0	Other	4.6	Wholesale	2.6
				transport/communica- tions			
Other manufacturing	1.9	Real estate	3.5	Metal products	1.7	Hotels	2.4
Real estate	1.9	Retail	3.1	Personal services	1.6	Personal services	1.9
Concentration on top 5	74.2%	Concentration on top 5	54.2%	Concentration on top 5	62.7%	Concentration on top 5	78.5%

(Cf.)

IT-related industries total	13.3	It-related industries total	0.4	IT-related industries total	9.4	IT-related industries total	7.3
Concentration	26.4%	Concentration	0.9%	Concentration	26.2%	Concentration	30.7%

Top 5 negative contributors and degree of concentration

Q2/83 ~ Q2/84	%pt	Q1/87 ~ Q1/88	%pt	Q2/95 ~ Q2/96	%pt	Q3/99 ~ Q3/00	%pt
Iron & steel	-5.1	Transport equipment	-4.0	Electricity	-2.5	Electricity	-5.4
Transport equipment	-3.5	Iron & steel	-2.7	Real estate	-1.3	Transport equipment	-4.2
Marine transport	-1.7	Hotels	-2.3	Construction	-1.3	Other	-3.5
						transport/communica- tions	
Hotels	-1.4	Marine transport	-1.3	Marine transport	-0.7	General machinery	-1.8
General machinery	-1.1	General machinery	-0.9	Oil/coal	-0.7	Real estate	-1.8
Concentration on top 5	78.3%	Concentration on top 5	77.3%	Concentration on top 5	78.9%	Concentration on top 5	58.6%

- Notes:
1. The names of industries are simplified as appropriate.
 2. Cumulative contribution to year-on-year change in plant and equipment investment for five quarters from the bottom is calculated according to the detailed classification of industries (18 manufacturing industries and 17 non-manufacturing industries) based on the Statistical Survey of Incorporated Enterprises. Concentration indicates the share of the top five industries in the sum (absolute value in the case of negative contribution) of positive (negative) contributors.
 3. The contribution of IT-related industries represents the sum of the positive contribution from electric machinery, non-ferrous metals, cement/ceramics/glass, general machinery and precision machinery. Concentration indicates their share among positive contributors.

Source: Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

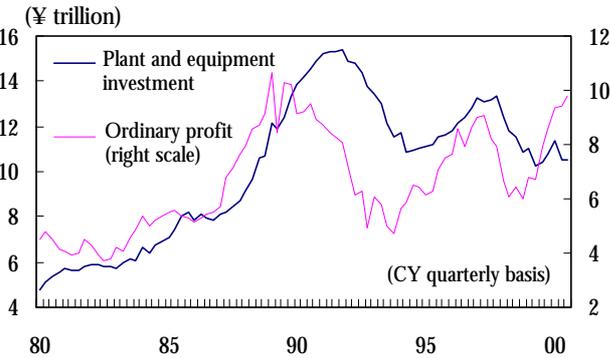
4. Modest Plant and Equipment Investment amidst Rapid Recovery in Corporate Profits

The modestness of recovery in plant and equipment investment as compared with the improvement of corporate profits is another characteristic of the current recovery phase. Figure 2-13 shows trends in total ordinary profit and plant and equipment investment (seasonally adjusted) for all industries and all sizes of corporation according to the Quarterly Report of Statistical Survey of Incorporated Enterprises. Since bottoming out at ¥6.0 trillion in the fourth quarter of 1998, ordinary profit has recovered to ¥9.8 trillion, a level almost comparable to 1989, when it reached the highest point for the 1980s and afterwards. On the other hand, plant and equipment investment has only recovered very slowly, at least in nominal terms.

In order to see how significant this phenomenon is in comparison with past recoveries, the ratio of plant and equipment investment to ordinary profit (investment/profit ratio) was calculated in terms of the trend from the bottom of plant and equipment investment. According

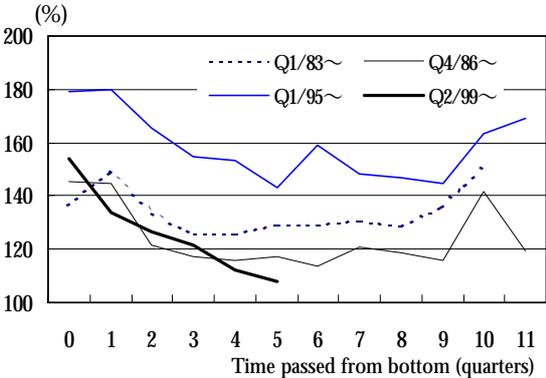
to Figure 2-14, the investment/profit ratio declines at the initial stage in each of the recovery phases, which means that plant and equipment investment always grows slower than profits at the start of the recovery. However, the decline in the investment/profit ratio was greater in the current recovery and the ratio (five quarters after the bottom) is still lower than in the past three recoveries. Although this implies a cautious corporate attitude, this gap should be monitored carefully in the coming periods. Throughout the previous recovery phases, the investment/profit ratio was constantly high, which indicates that plant and equipment investment outpaced the recovery in corporate profits. Hence, the cautious corporate attitude in the current phase is particularly worth noting.

Figure 2-13. Comparison of Trends in Plant and Equipment Investment and Ordinary Profit (Corporations of all sizes in all industries)



Note: Seasonally adjusted.
 Source: Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

Figure 2-14. Trends in Investment/Profit Ratio from Bottom of Plant and Equipment Investment (Corporations of all sizes in all industries)



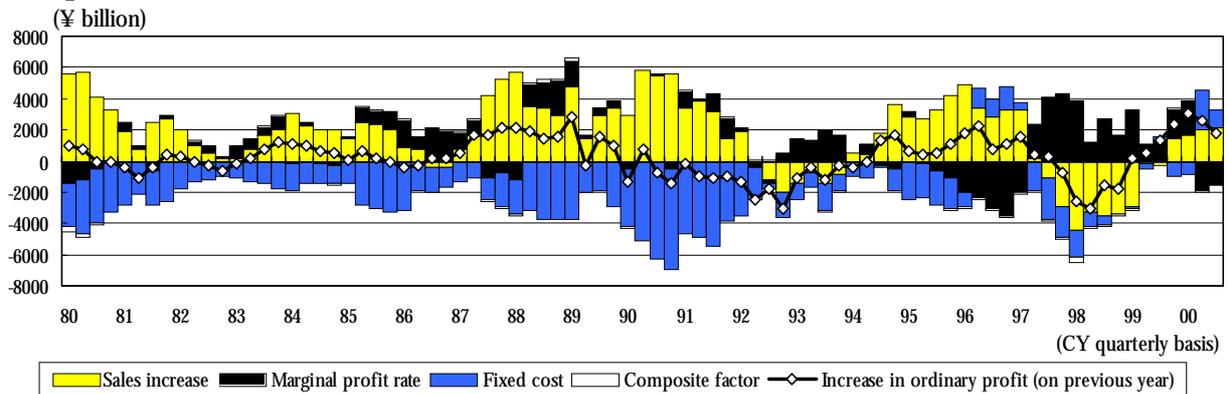
Note: Same as in Figure 2-13.

The restraint on plant and equipment investment in comparison with corporate profits may also be explained from the structure of profit increase. The contribution of income factors is smaller than in the past phase of profit increase, and marginal profit rate factors are currently making a negative contribution. Therefore, the current profit increase is characterized by a positive contribution from fixed cost reduction (Figure 2-15). Apart from the favorable influence of increased cash flow on financing, stronger corporate profits are generally considered to increase plant and equipment investment because they raise the expected growth rate or expected profit rate, both of which are basic criteria for investment. Apparently, the current structure of the profit increase provides few reasons for companies to be optimistic about their future and therefore has done little to boost plant and equipment investment.

The rapid recovery in corporate profits may level off as the U.S. economy cools. According to the Bank of Japan's Tankan survey in December 2000, for example, ordinary profit in the first half of fiscal 2000 increased 30.0% on the previous year for all industries and all sizes of corporation, but is slated to record a substantial drop of 4.2% in the latter half of the fiscal year. In order to identify the impact of such trends in corporate profits on plant and equipment investment, a functional estimate on their relationship was conducted for the period since the 1980s (except the 11th cycle for which the lag pattern differs considerably) by industry and by size of corporation, supposing a quadratic Almon lag (lag period of 0-8 quarters; with a restriction on the end point considering the coefficient of nine quarters ago as zero). As shown in Figure 2-16, the result of the estimate indicates that small companies are more likely to respond sensitively to

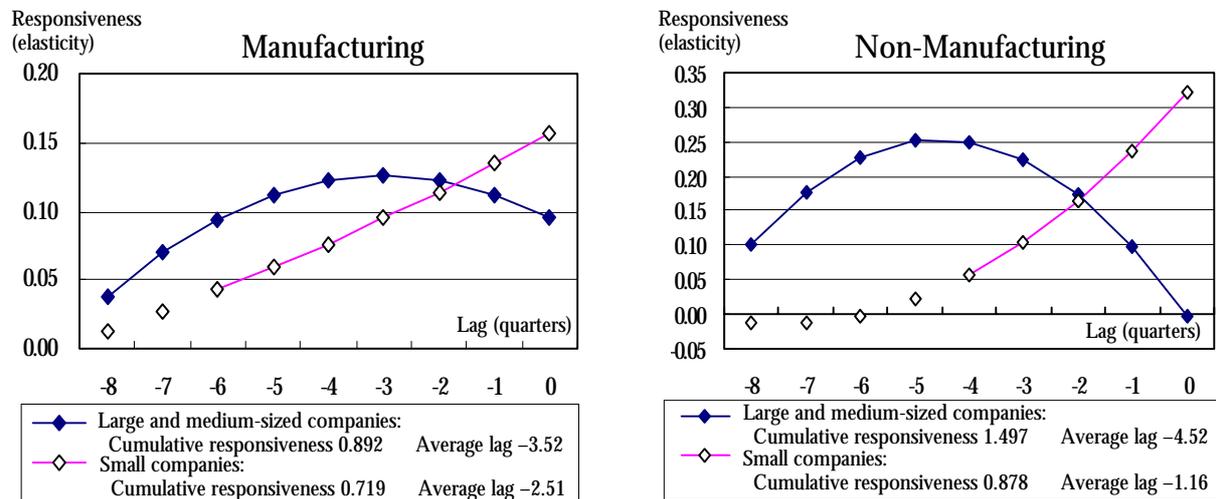
current profits than large and medium-sized companies. The average lag period in the manufacturing sector, which currently leads plant and equipment investment, stands at approximately 3.5 quarters for large and medium-sized companies and at 2.5 quarters for small companies. Thus, any slowdown in corporate profits in the latter half of fiscal 2000 is likely to exert a visible impact on small companies from the first half of fiscal 2001 and on large and medium-sized companies from the latter half of the fiscal year.

Figure 2-15. Year-on-year Change in Ordinary Profit by Component (Corporations of all sizes in all industries)



- Notes:
1. According to the formula: ordinary profit = sales (S) x marginal profit rate (MPR) - fixed cost (FC), $(S \times MPR_0)$ is treated as the contribution of profit increase, $(MPR \times S_0)$ as that of marginal profit, FC as that of fixed cost and the residual as that of composite factor (Δ : change on previous year, $_0$: value of one year ago).
 2. Fixed cost is defined as the sum of personnel cost, depreciation expenses and discount charge on interest payment.
- Source: Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

Figure 2-16. Responsiveness of Plant and Equipment Investment to Ordinary Profit (By industry and by corporate size)



- Notes:
1. Seasonally adjusted. Large and medium-sized companies are capitalized at ¥100 million or over, and small companies at less than ¥100 million.
 2. From the formula: $\ln(\text{plant and equipment investment}) = \text{constant term} + (\sum_{t=-8}^0 \beta_t \cdot \ln(\text{ordinary profit}))$, where $t = 0$ to -8 , estimation is made with the least-squares method using an Almon lag (quadratic, with a restriction on terminal point prescribing $\beta_{-9} = 0$ for $t = -9$). Estimation period ranges from Q1/80 to Q4/86 and from Q4/93 to Q3/00.
 3. Lines linking estimated values indicate significance at the 5% level.

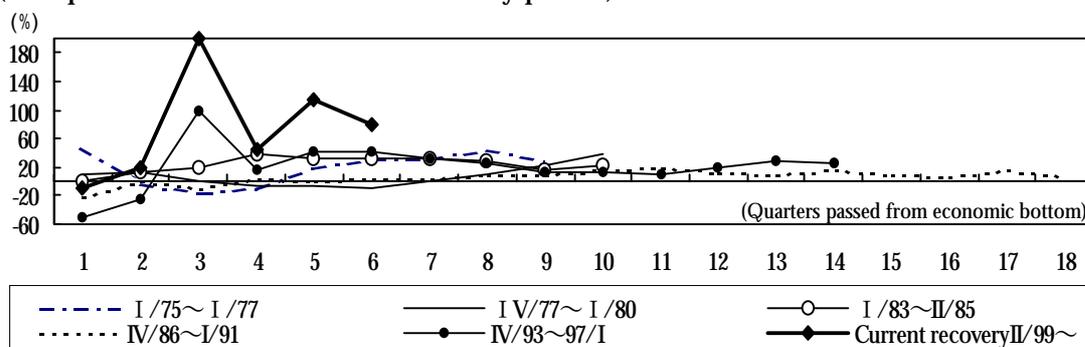
Source: Ministry of Finance, "Quarterly Report of Statistical Survey of Incorporated Enterprises."

5. Contribution of Exports to Economic Recovery and Increase in Imports Led by Consumer Goods

Figure 2-17 compares the contribution of exports to real GDP growth (change on the previous year) between the current economic recovery and the past recovery phases. The data indicate that the contribution of export is greater in the current recovery phase.

Figure 2-18 breaks down the movement of export volume into three factors (income in destination countries, relative export prices and foreign direct investment) to identify the conditions underlying the current growth of exports. As regards exports to the U.S., relative export prices are rising and therefore making a negative contribution as the yen has risen on the previous year since the latter half of 1999. In recent years, however, income has been making a positive contribution reflecting the expansion of the U.S. economy. The contribution rose substantially from the latter half of 1999 to the first half of 2000 in particular, largely leading the growth of exports to the U.S. in this period. The growth leveled off in the third quarter of 2000, however, as the contribution of income slowed down slightly and growth became flat for major export items such as passenger cars, which had been increasing substantially.

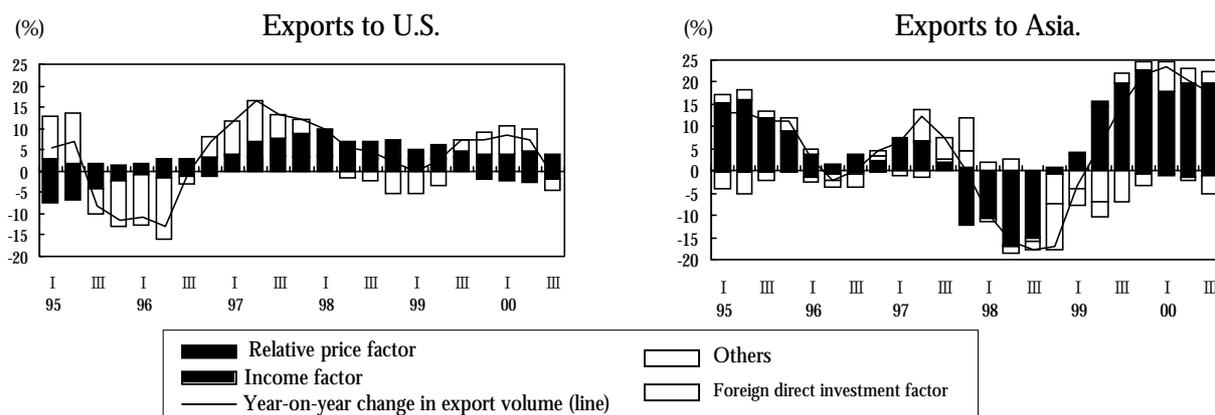
Figure 2-17. Contribution of Exports to Year-on-year Growth of Real GDP
(Comparison between economic recovery phases)



Note: Based on 68SNA until 1Q/80 and on 93SNA thereafter.

Source: Cabinet Office, "Annual Report on National Accounts."

Figure 2-18. Factor Resolution of Export Volume



Note: Seasonally adjusted export volume index is resolved into income factor (U.S.: real GDP, Asia: import volume), relative price factor (export price index/WPI for U.S. and Asia) and foreign direct investment factor (for Asia only; cumulative direct investment/nominal GDP of Japan) based on OLS.

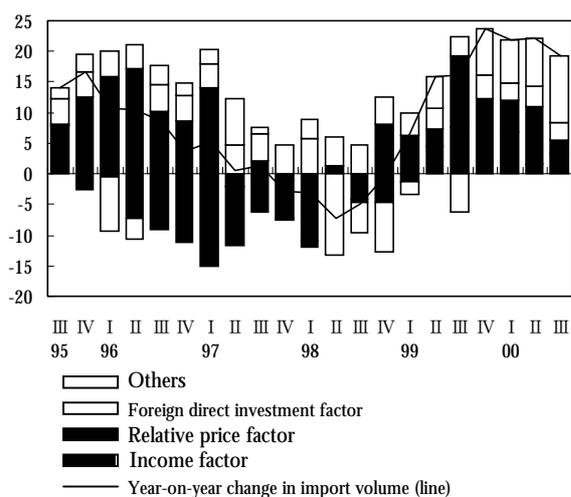
Sources: Japan Tariff Association, "Summary Report on Trade of Japan;" Ministry of Finance, "Statistics of Direct External Investment;" Cabinet Office, "Annual Report on National Accounts;" IMF, "International Financial Statistics."

The income factor has recovered considerably since 1999 as regards exports to Asia, leading the increase in overall exports in recent years. By product, exports to Asia have been led since the first quarter of 2000 by capital goods including switches and producer goods including semiconductor integrated circuits.

Similarly, Figure 2-19 breaks down the movement of imports into the factors of domestic income, relative import prices and foreign direct investment. The increase of exports from Asia since 1999 is largely attributable to the upturn of domestic demand and the decline in relative import prices. As compared with the previous recovery phase, the current recovery process is marked by the decline in import prices including textile and chemical products, metal products and machinery products, in addition to the continued slowness in the recovery of domestic demand. Also, the continued growth of direct investment in Asia is apparently exerting upward pressure on imports.

We also compared the current and past recovery phases by type of goods. The contribution of import goods to the growth of total industrial supply in the current recovery is greater than in the bubble era and previous recovery period (Figure 2-20). The contribution is significantly great in non-durable and durable consumer goods. This indicates that audio-visual equipment, clothes, shoes and other imports mainly from Asia are increasingly penetrating the domestic market as relative import prices continue to fall.

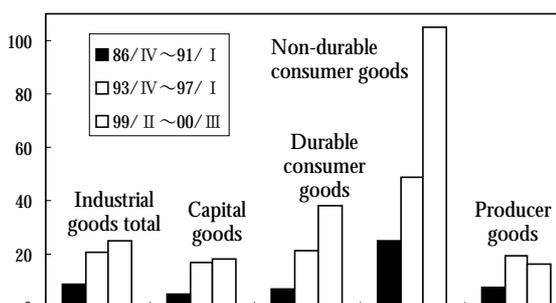
Figure 2-19. Factor Resolution of Import Volume (Imports from Asia)



Note: Seasonally adjusted import volume index is resolved into income factor (real domestic demand of Japan), relative price factor (import price index/domestic WPI for Japan) and foreign direct investment factor.

Sources: Same as in Figure 3-18.

Figure 2-20. Contribution of Import Goods to Growth of Total Industrial Supply



Notes: 1. Contribution to year-on-year growth from the economic bottom (cumulative basis).
2. Capital goods exclude transport equipment, and producer goods exclude mining.

Source: Ministry of Economy, Trade and Industry, "Total Industrial Supply Table."

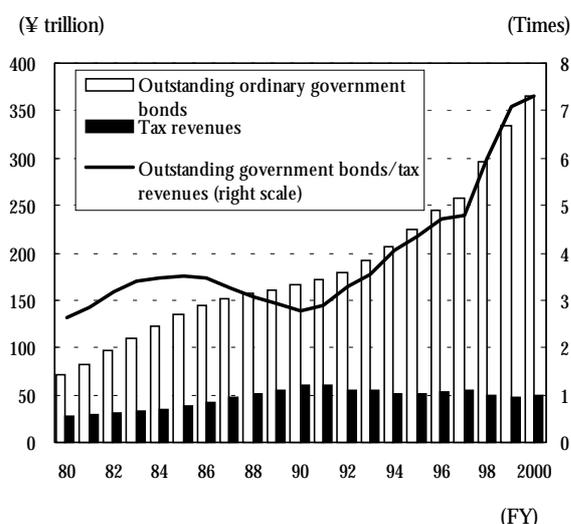
6. Heavy Debt Burden for National and Local Governments. Real Interest Rates Bottom Out due to Price Declines

Throughout the 1990s, outstanding debts increased rapidly for both the national and local governments as they were forced to take successive economic stimulus measures despite dwindling tax revenues. Due to the heavy debt burden, there is little room for maneuver for the state and regions.

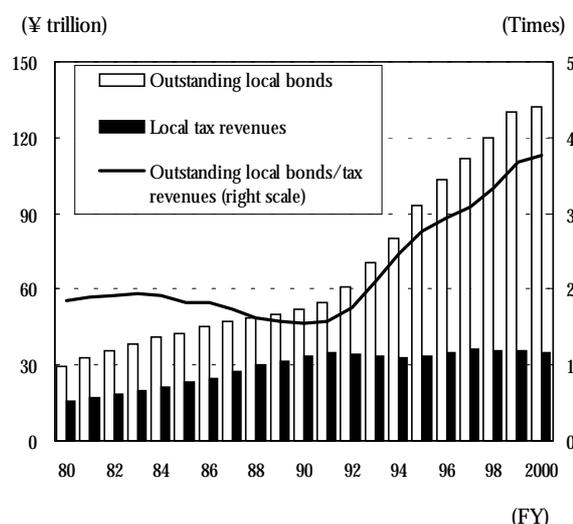
National tax revenues increased throughout the 1980s but have been falling since the peak of ¥60 trillion in fiscal 1990, and have not reached ¥50 trillion recently (Figure 2-21). Although outstanding ordinary government bonds have been increasing since the 1980s, the increase accelerated in the 1990s largely due to successive economic stimulus measures (the numbers for tax revenue and outstanding debts in fiscal 2000 represent revised budget after the supplementary budget). The government bond/tax revenue ratio rose from 2.8 in fiscal 1992 to 7.3 in fiscal 1999.

Local tax revenues fell slightly after reaching ¥35 trillion in fiscal 1991. Although there was a slight recovery in fiscal 1997, revenues have increased very little since then (Figure 2-22). Outstanding municipal bonds increased rapidly in the 1990s, as in the case of government bonds. The municipal bonds/local tax revenue ratio, which stayed under 2 until fiscal 1990, is expected to reach 3.8 for fiscal 2000.

Figure 2-21. Outstanding Government Bonds and Tax Revenues



Note: After supplementary budget for FY2000.
Sources: National Finance Association, "Financial Data Book," etc.



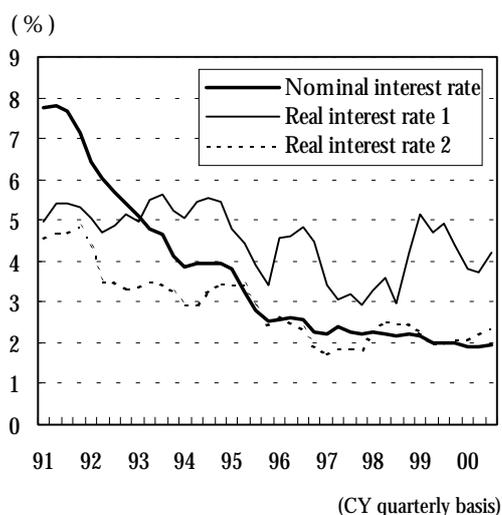
Note: Estimates for FY1999 and 2000.
Sources: Local Finance Association, "Annual Report of Local Finance Statistics."

As regards finance, real interest rates have bottomed out while bank credits stagnate.

Nominal interest rates (referring to the long-term composite value of average contracted interest rates on new loans for the purpose of this section) declined substantially from around 7% in the early 1990s to less than 2% at present. However, real interest rates have not fallen as sharply as nominal rates as prices remain weak. If the plant and equipment deflator is taken as a proxy variable for expected inflation rate (real rate 1), real interest rates declined until 1997 but have risen slightly since then (Figure 2-23). Even when the deflator is replaced with consumer price index (real rate 2), real interest rates have not fallen since 1997.

Also, demand for loans has been weak, and the 1990s are characterized by a stagnant credit compared with the 1980s (Figure 2-24). Credit grew in parallel with the economy in the recovery phases from the worldwide and high yen recessions in the mid-1980s. In the 1990s, however, both the post-bubble and current phases have not seen any increase in credit to match the economic recovery.

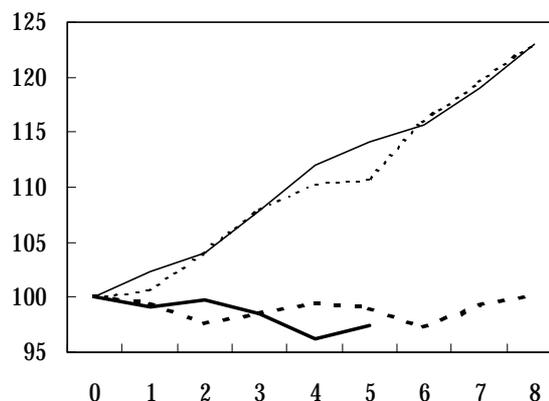
Figure 2-23. Nominal Interest Rate and Real Interest Rate



- Notes:
1. Nominal interest rate represents the long-term composite of average lending rate on new loans.
 2. Real interest rate 1 is calculated from year-on-year change in private corporation plant and equipment investment deflator. Real interest rate 2 is calculated from consumer price index (national composite index excluding fresh foods). The impact of the consumption tax hike in April 1997 (1.5%) and the increase in medical expenses (0.4%) is excluded.

Sources: Cabinet Office, "Annual Report on National Accounts;" Bank of Japan, "Financial and Economic Statistics Monthly;" Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Indexes Monthly."

Figure 2-24. Trends in Lending of Financial Institutions in Recovery Phases



- 1Q/83 - 1Q/85: recovery from worldwide recession
- 4Q/86 - 4Q/88: recovery from high yen recession
- - - - 4Q/93 - 4Q/95: recovery from collapse of bubble economy
- 2Q/99 - 3Q/00: current recovery

- Notes:
1. Indexed on economic bottom (=100).
 2. Figures under the horizontal axis indicate the number of quarters passed from the bottom.

Source: Bank of Japan, "Accounts of Domestic Banks."

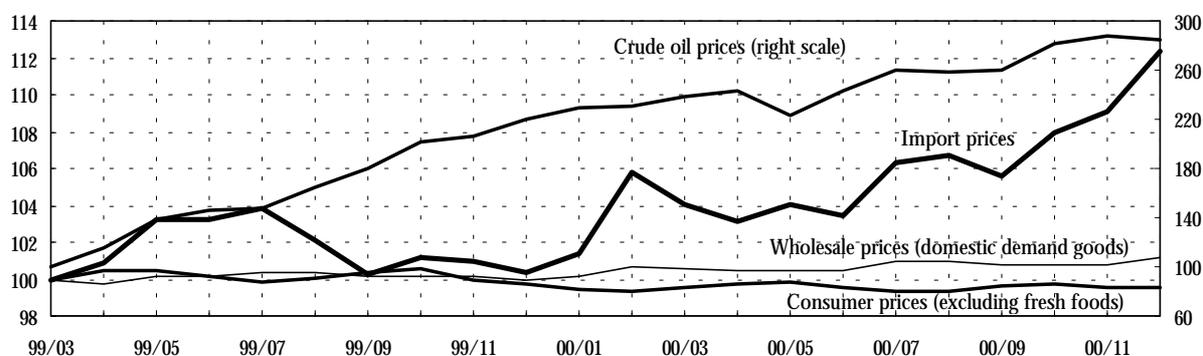
7. Weak Prices Accompanied by Sluggish Wages and Salaries

Since bottoming out in March 1999, crude oil prices have increased by almost 200% on the back of OPEC's policy to curtail production as well as the recovery of the world economy (Figure 2-25). Although this period coincides with the current economic recovery process, upward pressure on costs has not affected the whole Japanese economy. It is true that import prices rose 9.0% in just over the last one and a half years, but the rising oil prices have had little impact as the wholesale prices of domestic demand goods (imports and domestic goods) only increased by 0.7% in the same period while consumer prices even declined slightly. Of course, as mentioned in Section 1-8, the increase in raw material prices has raised wholesale prices in total. However, its impact has been negligible because the share of crude oil and oil products in business transactions (or GDP) has been declining.

Using the classification of goods and services, Figure 2-26 compares consumer prices between the current recovery and past recovery processes. As regards goods (excluding fresh foods), the economic recovery coincided with price declines in the last two recovery phases,

which began in 1993 and 1986 respectively. Although some external factors existed in the recovery before last, such as the appreciation of the yen and the decline of crude oil prices, price decline occurred in the last recovery phase for manufactured goods (durable goods in particular). Therefore, the price declines in the current recovery phase should not be exaggerated.

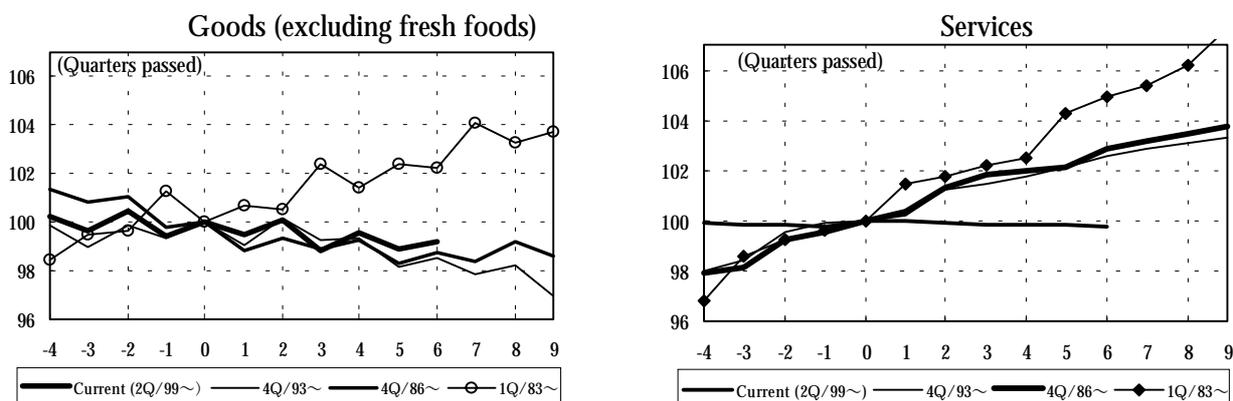
Figure 2-25. Crude Oil Prices and Price Indicators



Note: Indexed on March 1999 (=100).

Sources: Ministry of Finance, "Statistics on Trade;" Bank of Japan, "Price Indexes Monthly;" Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Indexes Monthly."

Figure 2-26. Consumer Price Index for Goods and Services (Economic bottom=100)



Note: October-November average for 4Q/00.

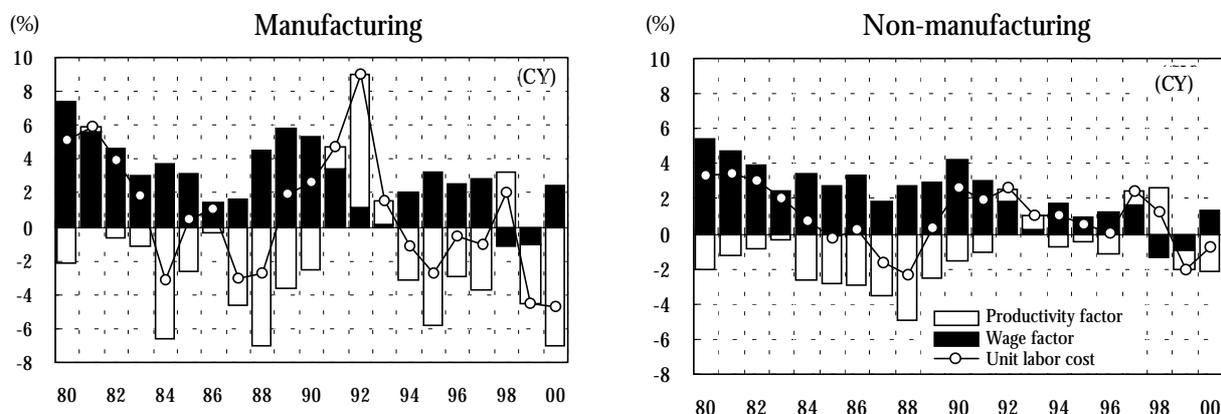
Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Indexes Monthly."

On the other hand, it should be noted that service prices rose by an annual rate of about 2% in the previous three recovery phases but have remained level or declined slightly on the previous year in the current phase. As mentioned in Chapter 1, the prices of personal and public services have stabilized since 1998. Since service prices exert a dominant influence on prices as a whole, their stabilization largely explains the decline in consumer prices.

Figure 2-27 shows unit labor cost in relation to prices. Unit labor cost is defined as the labor cost divided by value added (GDP). Although it does not correspond directly to prices, it is useful for examining the pressure on prices exerted by labor cost. Incidentally, the classification of manufacturing/non-manufacturing here is not equal to the classification of goods/services

mentioned above¹. The year-on-year growth of unit labor cost shows a similar trend for manufacturing and non-manufacturing, and changes in parallel with the price index at large.

Figure 2-27. Trends in Unit Labor Cost
(Trend of year-on-year change by component)



- Notes:
1. Unit labor cost = nominal wage index x number employed/activity index.
 2. Activity index for manufacturing represents the industrial production index for manufacturing industries.
 3. Non-manufacturing includes electricity/gas/water supply, wholesale/retail, finance/insurance, real estate, transport/communications and services. Wage index represents a composite of weighted average for regular employment. Activity index represents the tertiary industry composite index.

Sources: Ministry of Health, Labor and Welfare, "Monthly Statistical Survey on Labor;" Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Labor Force Survey;" Ministry of Economy, Trade and Industry, "Industrial Statistics Monthly."

A breakdown of unit labor cost into productivity and wage factors² indicates that although productivity tends to fluctuate considerably according to cyclical factors, there has been a significant improvement in the manufacturing sector in particular, pointing to a substantial reduction in unit labor cost. The wage factor turned negative in 1998 and 1999 for both manufacturing and non-manufacturing. Although it rose again for the January-October 2000 period, the growth has remained low in non-manufacturing, exerting a downward pressure on unit labor cost.

(as of March 16, 2001)

[by Economic Research Group (e-mail: report@dbj.go.jp)]

¹ Unit labor cost can be calculated for all industries but any change in unit labor cost in the retail industry, which is included in the non-manufacturing sector, is incorporated in the prices of goods. Also, any change in unit labor cost in the wholesale industry affects wholesale prices and thus exerts influence on a wide range of goods and services.

² Unit labor cost = nominal wage x number employed/value added = nominal wage/productivity. Here, the number of working hours is not taken into consideration and capacity utilization rate is not incorporated in the breakdown into the wage and productivity factors. Therefore, any rise in operating rate in good times will overstate the growth of productivity and wage, thus amplifying the cyclical movement. This however does not affect unit labor cost.

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