*Vierteljahrshefte zur Wirtschaftsforschung*
*70. Jahrgang, Heft 4/2001, S. 460–474*

# What Went Wrong in Japan: A Decade-Long Slump

By Günter Weinert*

**Summary**

*For Japan the nineties are regarded as the lost decade, due to slow economic growth in the formerly growth-intensive country. The slump, starting after the asset price bubble of the late eighties burst, is still going on. To identify factors contributing significantly to the unfavourable development, the article presents an analysis of the "nature" of changes in demand behaviour. The most remarkable change is in private business investment. A major reason for the significant rise and fall of the investment ratio in the wake of the emerging bubble and its bursting in the nineties was a change in growth expectations. This raises the question of whether macroeconomic policies might have reversed expectations. To estimate the role of monetary and fiscal policy in this process some policy rules are taken as a benchmark. These results for monetary policies are in line with vector autoregressive analyses indicating that monetary policy at least did not hamper economic recovery. The same applies to fiscal policies. However, they did not dominate the adverse effects of many structural problems, including the weakness of the financial system. Thus sweeping reforms in many areas of the economy are necessary.*

The nineties were supposed to become a Japanese decade. Many forecasters expected the economy in Japan to grow faster than in the US and also in Europe after the end of the Cold War (see, for example, Linder, 1986, 12; Bergsten, 1990, 96). These expectations seemed warranted although growth had slowed significantly in preceding decades. Until the beginning of the nineties the output trend had become much flatter after a period of outstandingly strong growth up to the first oil price crisis in 1973 (Figure 1). Annual growth rates had continued to be remarkably ahead of other western industrialised countries, however. Thus "Japan, inc.", i.e. the Japanese social and economic order with its close relations between political, administrative and economic institutions and the Japanese capitalism with strong elements of economic planning and cartelization, tended to be regarded more and more as a model. But reality disappointed expectations. On average, annual growth rates in Japan were near zero since the beginning of the nineties. Except in 1995–96 economic activity fluctuated between slight increases and recession.

The sluggish economic development in the nineties is specific to Japan, while up to the nineties output growth in Japan was much stronger than in other major industrial countries. The significant change in Japan's growth performance vis-à-vis the US and the EU countries as a whole is shown in Figure 2. Especially the US proved the possibility of strong growth for advanced high-income countries.

There are many analyses of the causes of the persistent weakness of economic activity in Japan, and there is much theorizing on macroeconomic strategies to overcome the slump. The variety of competing explanations and cures show the high degree of uncertainty on the causes. It also explains why forecasts on developments in Japan have often not come true in the last decade.

This contribution presents some results of different macroeconomic analyses on the causes of the slump in Japan. It will be done in several steps. The first is to find out which demand aggregates suffered most in the nineties. The second is to evaluate macroeconomic policy. Some structural aspects of the slump are considered in a following chapter.

* HWWA-Hamburg Institute of International Economics, Neuer Jungfernstieg 21, 20347 Hamburg, Germany, e-mail: weinert@hwwa.de

Figure 1

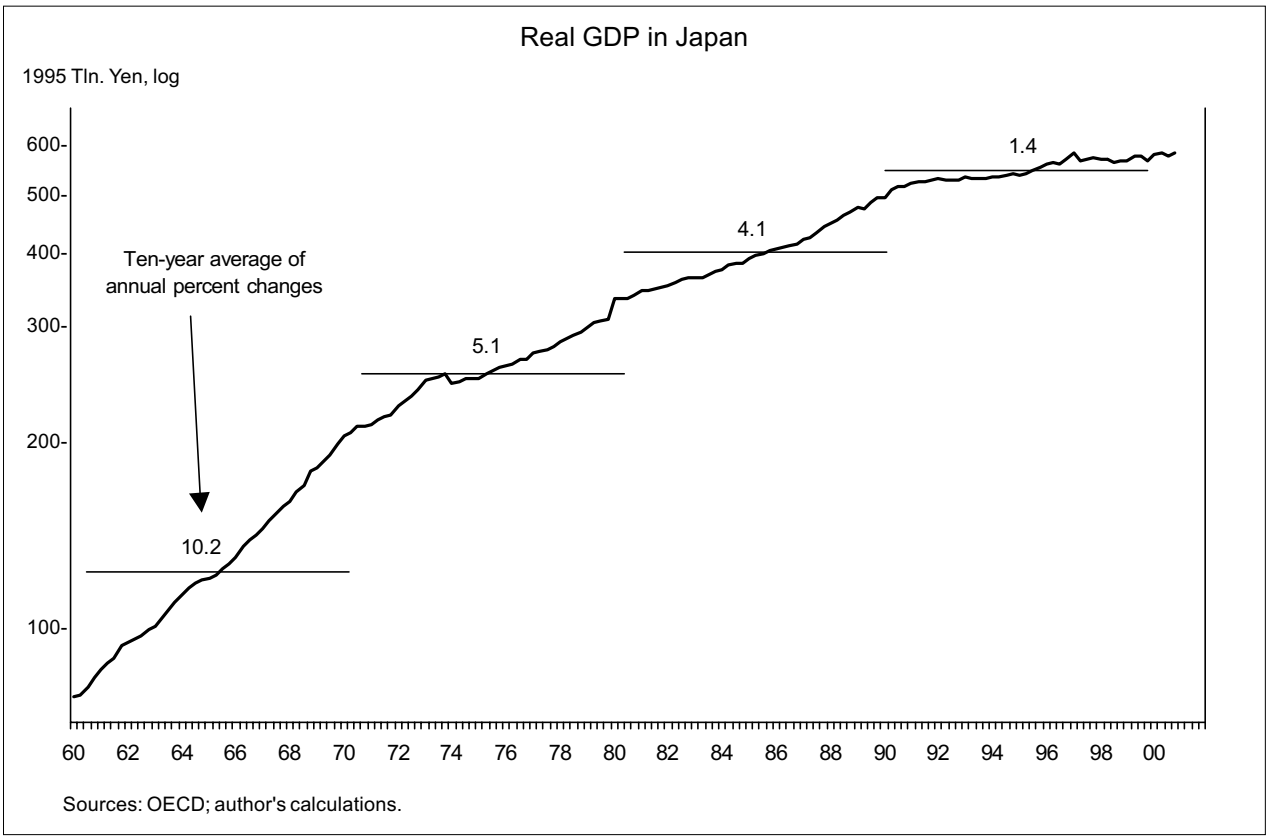
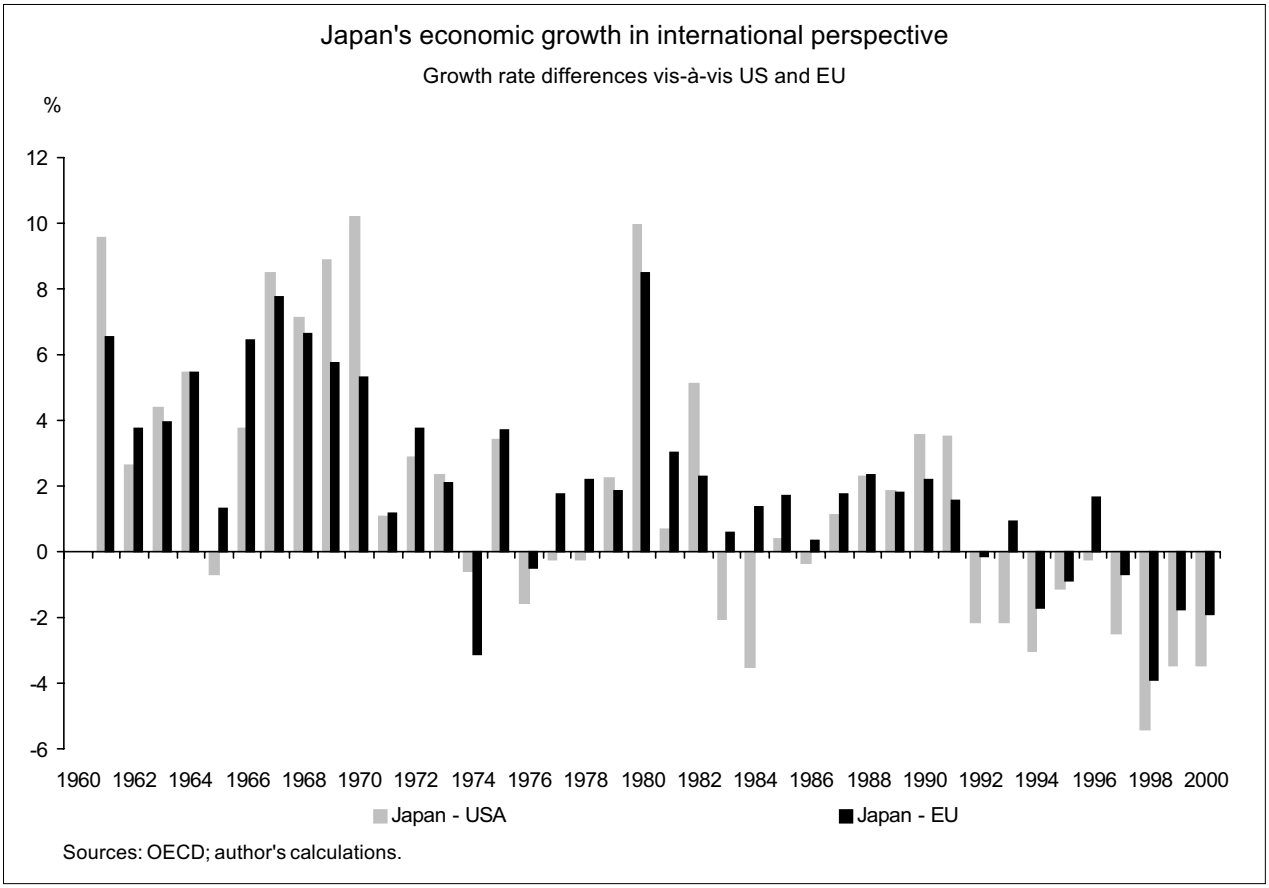



Figure 2



### 1. The Start of the Slowdown

The period of economic weakness started with the bursting of the bubble in asset prices at the beginning of the nineties, with a restrictive macroeconomic policy triggering a recession. The bubble had emerged in the second half of the eighties. There is a general consensus that it developed due to a lax monetary policy. Ample extension of money supply had translated into little inflation on the goods markets, but much on the asset markets. Especially land prices and share prices had increased extremely quickly, losing contact with developments of the real economy. They both dropped rapidly, when monetary policy changed its stance (Figure 3).

The bursting of the bubble coincided with a slowdown of economic activity at the beginning of the nineties, following a swing of monetary policy towards a more restrictive stance to prevent inflationary risks, strengthened by a loss in international competitiveness of the export sector as a result of a sharp appreciation of the yen. From a cyclical point of view, after years of strong expansion, the recession starting in 1992 was not an unusual consequence. It was, however, the deepest recession in Japan since the first oil price crisis.

What until then seemed to be a normal, albeit harder than expected cyclical downswing raised more serious concerns because of the faltering of the recovery of 1994 to early 1995. But in 1996 the recovery gained momentum, with business investment strengthened by firms' restructuring to cut costs, fostered by fiscal impulses, low interest rates and improved competitiveness due to a significant depreciation of the yen. The recovery even seemed sufficiently robust to start fiscal consolidation in spring 1997. Its underlying strength, however, was overestimated. It proved to be only temporary. From spring 1997 trend growth was near zero again. Significant fluctuations around the flat growth trend mainly reflect the influence of fiscal packages, with additional outlays concentrated on some quarters. But a self-sustaining recovery did not materialize. Periods of recovering business investment were only short, notwithstanding several strong fiscal impulses.

Though the crash in stock and land prices was a kind of a starting point for the slump it would be premature to conclude that the persistence of economic weakness can be attributed to the severe asset losses. Rather the emergence of the bubble could be blamed — from a retrospective point of view —, the seemingly irrational exuberance

Figure 3

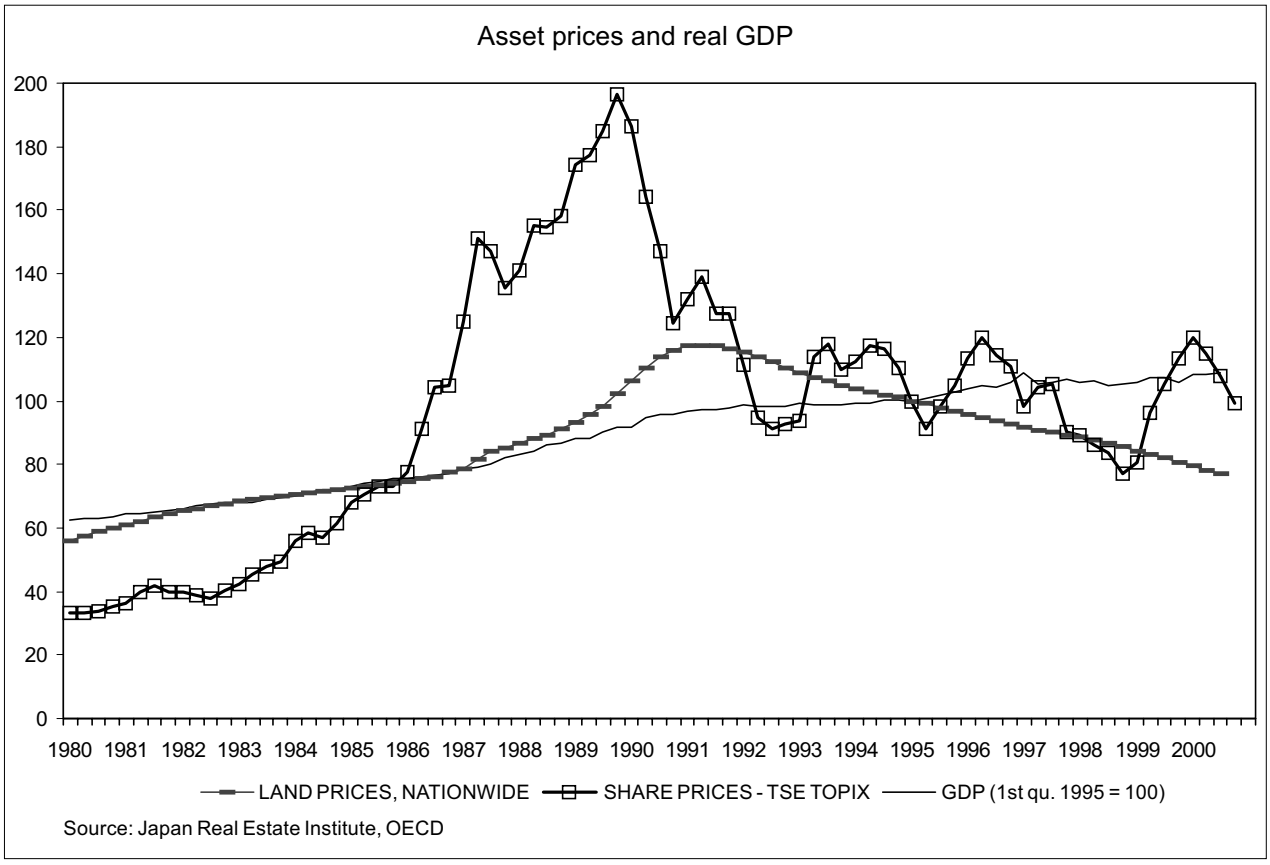
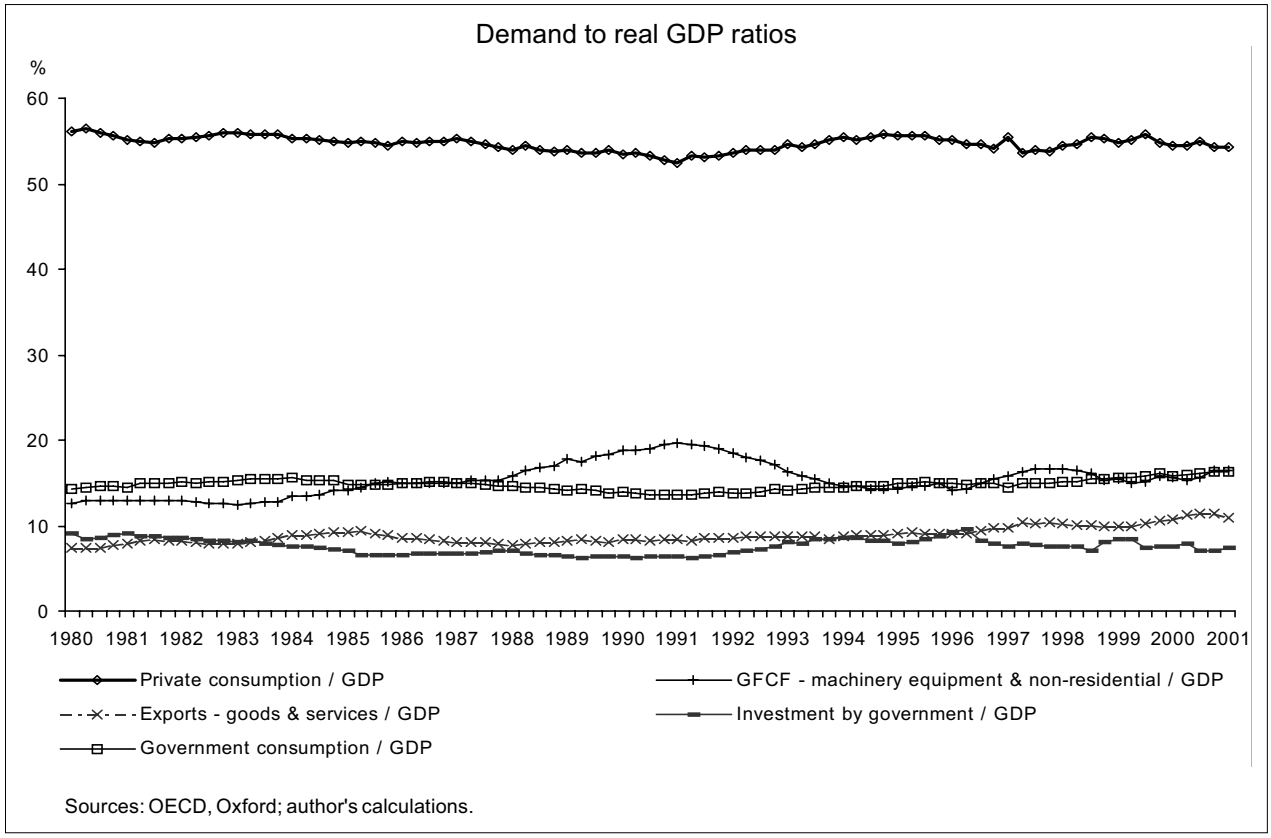


Figure 4




Sources: OECD, Oxford; author's calculations.

in asset valuation. The counterfactual assumption of the bubble being avoided, however, could mean that the slump might have happened earlier, unless it is a result of frictions on the way back to "normal" valuations. The hypothesis here is that other factors contributed significantly to the unexpectedly long slump of the real economy as well. Thus in the following we evaluate the aggregates on the demand side that contributed most to the slump and the role of monetary and fiscal policies.

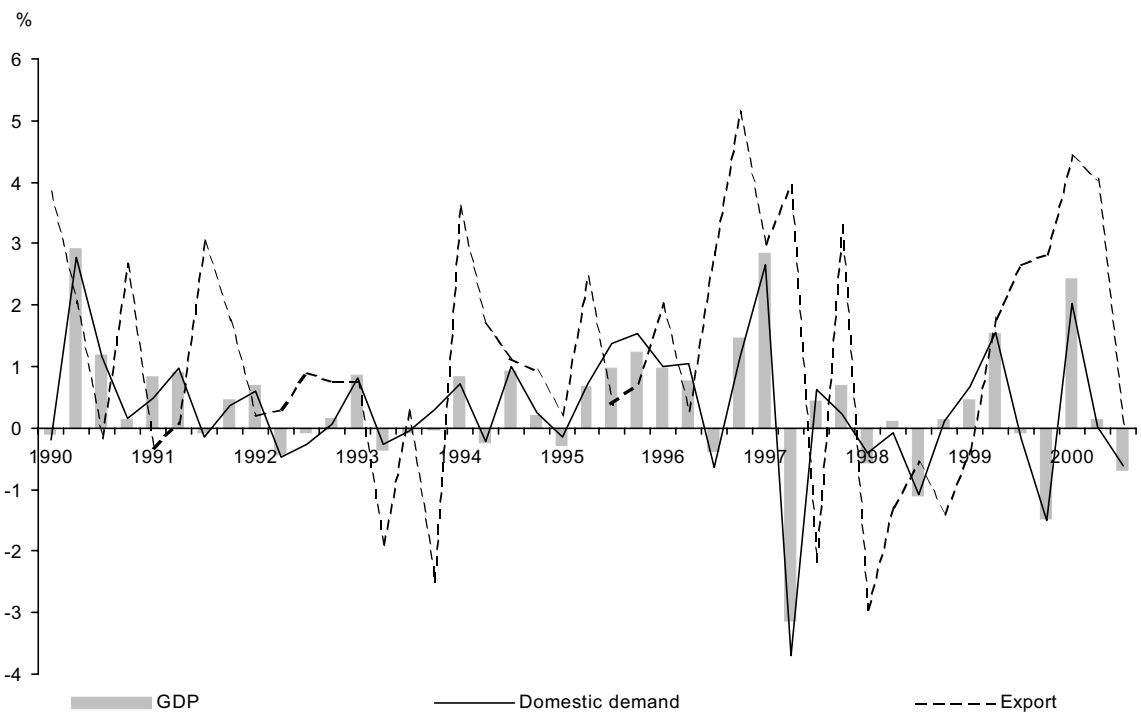
## 2. Development of Demand

To identify the causes of the persistent economic weakness, an analysis of the development of aggregate output proves to be too superficial. However, some knowledge can be gleaned from taking its expenditure side into the picture. The longer-term development of demand components is given in Figure 4, showing real demand aggregates A in relation to real gross domestic product (GDP) Y, i.e. the output produced in Japan, from the beginning of the eighties. The largest fluctuation among the demand ratios is for the private business investment ratio, i.e. private firms' investment in machinery and equipment and non-residential construction. In the wake of the asset bubble it rose from 15% in the second half of the eighties to nearly 20% at the beginning of 1991, decreased to only slightly more than 14% up to the middle of the last decade, and stabilized since then between 15 and 16½%. This is in line with the longer-term ratio since the first oil price crisis, except for the bubble period. Contrary to the range of nearly 6% in the private business investment ratio the ranges of the private consumption and export to GDP ratios were only 3½ percentage points, though exports were rather volatile as well (Figure 5).

The ranges mentioned above hint at the contribution of individual demand components to GDP changes ($\Delta$ A/A) * (A/Y). Table 1 shows that business investment was the main force behind cyclical fluctuations. It contributed most to both the decreases of GDP in 1992–93 and in 1998 and to the increase in 1996.

Stronger ups and downs in private investment, compared to other components of demand, however, are normal. Therefore it is of interest to see whether its or other components' behaviour have changed in the last decade compared to developments before the bubble burst. As a reference the standard deviation of the growth contribution $\sigma$ of individual aggregates from their mean $\mu$ in the period 1992 to 2000 vis-à-vis the corresponding values in the period of 1973 to 1991 can be taken. Table 2 shows how many $\sigma$'s the growth contributions of individual

Figure 5




Sources: OECD, Oxford; author's calculations.

demand components differed from the reference values. Anomalous developments, according to usual standards, are indicated by absolute values close to two. Such anomalies are found especially for private business investment in 1992–93 and in 1998, i.e. investment was reduced unusually severely in these phases of recession. Private consumption changed unusually significantly in 1997 as well. However, this can be explained in general terms by a significant increase in the consumption tax distorting private households' purchasing behaviour in that period. Another feature of private consumption, but also of exports and even of residential construction deviations is the persistent minus sign, indicating a dampening role of most components.

The result of a limited contribution of private consumption to the slump is at odds with the previously widespread view that a decrease of private households' propensity to consume was an important factor in explaining the economic weakness because of a low propensity to consume. The long stagnation of private consumption is also related to job insecurity and uncertainties with respect to the system of public pensions (Nakayama, 1996, in: Motonishi and Yoshikawa, 1999, 183) that may have contributed to a higher savings ratio. It is true that the level of private households' savings-to-disposable-income ratio is high by international standards, even when purging from statistical and conceptual differences to other coutries. But the high savings ratio is a structural phenomenon, due to tax incentives to save, the high cost of housing and the need to provide for old age. Decisive for the contribution of private consumption to growth is the change in the savings ratio. This, however, was rather small.

Notwithstanding a savings ratio that was relatively stable in the nineties, private consumption was more volatile in the same period compared to the decades before. This corresponds with estimates that, from the perspective of the permanent income hypothesis, the propensity to consume changed. While the long-term propensity remained fairly stable in the period from 1974 to 1998 as well as in subperiods, the short-term propensity increased considerably (Table 3). This means that the impact of present income on permanent income was clearly higher than in the pre-bubble period.

The relatively small change of the consumption to GDP ratio also indicates that the emergence and the bursting of the asset bubble influenced private households' demand and savings behaviour only slightly. One reason for this can be seen in the fact that private households hold only about 5% of their financial assets in stocks, with a declining tendency since the mid-eighties (Ramaswamy

Table 1

**Contributions to growth**

| | Private final consumption expenditure | Government final consumption expenditure | Gross fixed capital formation | Machinery equipment and non-residential | Construction investment, residential | Change in stocks (including statistical discrepancy | Exports – goods and services | Imports – goods and services |
|---|---|---|---|---|---|---|---|---|
| Q1 92 | 0.70 | –0.01 | –0.18 | –0.44 | –0.01 | 0.07 | 0.02 | –0.09 |
| Q2 92 | 0.25 | –0.16 | –0.14 | –0.57 | 0.13 | –0.42 | 0.02 | –0.03 |
| Q3 92 | –0.06 | 0.24 | –0.30 | –0.37 | –0.08 | –0.14 | 0.08 | –0.11 |
| Q4 92 | 0.05 | 0.31 | –0.30 | –0.52 | –0.08 | 0.00 | 0.07 | –0.05 |
| Q1 93 | 1.05 | 0.00 | –0.19 | –0.65 | –0.12 | –0.07 | 0.07 | 0.01 |
| Q2 93 | –0.38 | 0.11 | –0.57 | –0.51 | 0.08 | 0.57 | –0.17 | –0.07 |
| Q3 93 | 0.19 | 0.09 | 0.35 | –0.40 | 0.34 | –0.67 | 0.02 | 0.06 |
| Q4 93 | 0.54 | 0.05 | –0.26 | –0.47 | 0.11 | –0.04 | –0.22 | 0.10 |
| Q1 94 | 0.82 | 0.12 | –0.17 | –0.15 | –0.23 | –0.05 | 0.30 | 0.18 |
| Q2 94 | –0.52 | 0.16 | 0.21 | –0.19 | 0.41 | –0.05 | 0.15 | 0.18 |
| Q3 94 | 0.91 | 0.07 | –0.17 | –0.11 | 0.19 | 0.15 | 0.10 | 0.14 |
| Q4 94 | 0.36 | 0.10 | –0.37 | 0.05 | –0.32 | 0.16 | 0.08 | 0.13 |
| Q1 95 | –0.33 | 0.30 | –0.38 | –0.07 | –0.06 | 0.28 | 0.02 | 0.17 |
| Q2 95 | 0.36 | 0.09 | 0.23 | 0.34 | –0.27 | 0.03 | 0.22 | 0.27 |
| Q3 95 | 0.52 | 0.19 | 0.47 | 0.17 | –0.10 | 0.16 | 0.04 | 0.41 |
| Q4 95 | 0.20 | 0.02 | 1.21 | 0.56 | 0.23 | 0.11 | 0.06 | 0.36 |
| Q1 96 | 0.58 | 0.15 | 0.12 | –0.78 | 0.25 | 0.14 | 0.18 | 0.20 |
| Q2 96 | 0.01 | 0.05 | 1.04 | 0.40 | 0.29 | –0.05 | 0.02 | 0.30 |
| Q3 96 | –0.24 | 0.07 | –0.47 | 0.63 | 0.18 | 0.01 | 0.26 | 0.01 |
| Q4 96 | 0.28 | 0.24 | 0.61 | 0.74 | 0.07 | 0.00 | 0.48 | 0.14 |
| Q1 97 | 2.86 | –0.09 | 0.10 | 0.73 | –0.41 | –0.24 | 0.29 | 0.07 |
| Q2 97 | –3.51 | 0.01 | –0.41 | 0.06 | –0.52 | 0.26 | 0.39 | –0.12 |
| Q3 97 | 0.52 | 0.03 | –0.03 | 0.30 | –0.34 | 0.09 | –0.23 | –0.06 |
| Q4 97 | 0.32 | 0.17 | –0.13 | 0.15 | –0.16 | –0.13 | 0.34 | –0.13 |
| Q1 98 | 0.27 | –0.03 | –0.27 | –0.08 | –0.02 | –0.35 | –0.31 | –0.13 |
| Q2 98 | 0.18 | 0.17 | –0.23 | –0.16 | –0.11 | –0.19 | –0.13 | –0.32 |
| Q3 98 | 0.26 | 0.04 | –1.17 | –0.54 | –0.14 | –0.19 | –0.06 | –0.02 |
| Q4 98 | –0.10 | 0.12 | 0.20 | –0.73 | –0.10 | –0.10 | –0.14 | –0.16 |
| Q1 99 | –0.15 | 0.21 | 0.51 | 0.14 | 0.04 | 0.10 | –0.04 | 0.16 |
| Q2 99 | 1.06 | 0.18 | 0.26 | –0.17 | 0.27 | 0.03 | 0.18 | 0.17 |
| Q3 99 | 0.74 | 0.20 | –1.01 | 0.10 | –0.03 | –0.11 | 0.26 | 0.16 |
| Q4 99 | –1.87 | 0.05 | 0.40 | 0.39 | –0.08 | –0.04 | 0.29 | 0.29 |
| Q1 00 | 1.09 | 0.16 | 0.59 | 0.29 | 0.18 | 0.15 | 0.47 | 0.03 |
| Q2 00 | 0.07 | 0.19 | –0.20 | –0.39 | –0.21 | 0.05 | 0.44 | 0.32 |
| Q3 00 | 0.02 | 0.09 | 0.36 | 1.19 | 0.02 | –0.13 | 0.00 | 0.10 |

Source: OECD; author's calculations.

and Rendu, 2000, 266). This even holds despite similarly strong capital losses resulting, as mentioned, from land and other non-reproducible tangible assets having much more weight in the households' balance sheets. The asset deflation for these two categories, however, was considerably stronger than that of other assets. This is reflected clearly in the receding land- and stocks-to-total-assets ratio. Nevertheless the asset deflation also contributed to private households' high liabilities-to-assets ratio in the nineties (Tomita and Ando, 2000, 14 f.). Its near-stability in the last decade, however, prevented pressure on households to increase their propensity to save.

Most important for the economic weakness in the nineties, however, was business investment, with anomalous behaviour in some periods, as shown in Table 2.[1] Motonishi and Yoshikawa examined the question of whether the causes for weak business investment are due to real or to financial factors. Using the short-term Tankan surveys of the Bank of Japan and disaggregating data for small and for large firms in manufacturing and in other sectors they found financing constraints of significant importance only for the investment behaviour of small firms. Much more important for the development of private business investment were real factors, while financial determinants had been supportive on the whole over the years up to 1997 (Motonishi and Yoshikawa, 1999, 193 f.). Weak business investment in the aftermath of the bubble burst reflected for example worse profit opportunities in the recession of 1992 to 1994 and high overcapacities as a consequence of the strong growth of investment in the second half of the eighties, driven by high expectations on sustained economic growth and easy access to finance. With the

[1] This was even more the case on the basis of national account data in prices of 1990, used in Motonishi and Yoshikawa (1999, 185).

Table 2

**Growth rate deviations**

| | Private final consumption expenditure | Government final consumption expenditure | Gross fixed capital formation | Machinery equipment and non-residential | Construction investment, residential | Change in stocks (including statistical discrepancy | Exports – goods and services | Imports – goods and services |
|---|---|---|---|---|---|---|---|---|
| 1973–91 | | | | | | | | |
| μ | 0.511 | 0.194 | 0.281 | 0.214 | 0.023 | –0.002 | 0.110 | 0.054 |
| σ | 0.732 | 0.589 | 0.650 | 0.350 | 0.340 | 0.480 | 0.268 | 0.381 |
| Q1 92 | 0.27 | –0.34 | –0.71 | –1.87 | –0.09 | 0.15 | –0.34 | –0.37 |
| Q2 92 | –0.35 | –0.60 | –0.65 | –2.24 | 0.31 | –0.88 | –0.32 | –0.23 |
| Q3 92 | –0.78 | 0.08 | –0.89 | –1.66 | –0.31 | –0.29 | –0.12 | –0.44 |
| Q4 92 | –0.63 | 0.19 | –0.90 | –2.09 | –0.30 | 0.01 | –0.16 | –0.26 |
| Q1 93 | 0.74 | –0.33 | –0.72 | –2.46 | –0.41 | –0.14 | –0.16 | –0.12 |
| Q2 93 | –1.21 | –0.14 | –1.31 | –2.06 | 0.18 | 1.20 | –1.03 | –0.33 |
| Q3 93 | –0.44 | –0.18 | 0.10 | –1.75 | 0.95 | –1.39 | –0.32 | 0.01 |
| Q4 93 | 0.04 | –0.24 | –0.83 | –1.96 | 0.27 | –0.08 | –1.22 | 0.13 |
| Q1 94 | 0.42 | –0.13 | –0.70 | –1.05 | –0.76 | –0.10 | 0.72 | 0.33 |
| Q2 94 | –1.41 | –0.06 | –0.12 | –1.14 | 1.13 | –0.11 | 0.13 | 0.33 |
| Q3 94 | 0.54 | –0.20 | –0.69 | –0.91 | 0.49 | 0.33 | –0.04 | 0.24 |
| Q4 94 | –0.21 | –0.17 | –1.00 | –0.47 | –1.00 | 0.33 | –0.10 | 0.19 |
| Q1 95 | –1.15 | 0.18 | –1.02 | –0.80 | –0.25 | 0.59 | –0.34 | 0.32 |
| Q2 95 | –0.20 | –0.17 | –0.08 | 0.36 | –0.87 | 0.06 | 0.41 | 0.57 |
| Q3 95 | 0.01 | 0.00 | 0.29 | –0.12 | –0.36 | 0.34 | –0.28 | 0.93 |
| Q4 95 | –0.43 | –0.30 | 1.42 | 0.98 | 0.61 | 0.23 | –0.17 | 0.79 |
| Q1 96 | 0.09 | –0.07 | –0.24 | –2.84 | 0.68 | 0.30 | 0.26 | 0.39 |
| Q2 96 | –0.69 | –0.25 | 1.17 | 0.52 | 0.79 | –0.10 | –0.32 | 0.65 |
| Q3 96 | –1.02 | –0.21 | –1.15 | 1.19 | 0.45 | 0.02 | 0.55 | –0.11 |
| Q4 96 | –0.31 | 0.07 | 0.51 | 1.49 | 0.14 | 0.01 | 1.39 | 0.22 |
| Q1 97 | 3.21 | –0.48 | –0.28 | 1.48 | –1.27 | –0.49 | 0.67 | 0.05 |
| Q2 97 | –5.49 | –0.31 | –1.06 | –0.43 | –1.59 | 0.54 | 1.03 | –0.45 |
| Q3 97 | 0.01 | –0.27 | –0.48 | 0.23 | –1.07 | 0.18 | –1.26 | –0.29 |
| Q4 97 | –0.26 | –0.05 | –0.63 | –0.18 | –0.55 | –0.26 | 0.84 | –0.48 |
| Q1 98 | –0.33 | –0.38 | –0.85 | –0.83 | –0.12 | –0.74 | –1.57 | –0.49 |
| Q2 98 | –0.45 | –0.05 | –0.78 | –1.08 | –0.39 | –0.39 | –0.90 | –0.98 |
| Q3 98 | –0.35 | –0.26 | –2.23 | –2.16 | –0.49 | –0.40 | –0.62 | –0.18 |
| Q4 98 | –0.83 | –0.13 | –0.13 | –2.70 | –0.35 | –0.21 | –0.95 | –0.57 |
| Q1 99 | –0.90 | 0.03 | 0.35 | –0.21 | 0.04 | 0.21 | –0.55 | 0.27 |
| Q2 99 | 0.76 | –0.03 | –0.03 | –1.11 | 0.72 | 0.06 | 0.24 | 0.30 |
| Q3 99 | 0.32 | 0.00 | –1.98 | –0.34 | –0.15 | –0.22 | 0.57 | 0.29 |
| Q4 99 | –3.24 | –0.25 | 0.18 | 0.51 | –0.30 | –0.09 | 0.66 | 0.63 |
| Q1 00 | 0.79 | –0.05 | 0.47 | 0.23 | 0.45 | 0.32 | 1.34 | –0.05 |
| Q2 00 | –0.60 | 0.00 | –0.74 | –1.73 | –0.69 | 0.11 | 1.22 | 0.71 |
| Q3 00 | –0.67 | –0.18 | 0.12 | 2.79 | –0.02 | –0.27 | –0.39 | 0.12 |

Sources: OECD; author's calculations.

Table 3

**Estimates of changes in the propensity to consume on the basis of the permanent income hypothesis**

| Period | Propensity to consume | |
|---|---|---|
| | short-term | long-term |
| 2/74 – 1/98 | 0.0952 | 0.7755 |
| 2/74 – 1/91 | 0.0547 | 0.7881 |
| 2/74 – 1/97 | 0.0716 | 0.7799 |
| 2/91 – 1/98 | 0.3244 | 0.7864 |

Source: Jindo and Yamamoto (2000, 12).

slump of demand, capacities in the manufacturing industry were utilised even less than in the aftermath of the first oil price crisis of 1975. Due to low investment the vintage of the capital stock increased to 10 years from 8.75 years in 1991 (Tomita and Ando, 2000, 22).

All this indicates that the slump in business investment was not a cyclical phenomenon but the manifestation of structural changes. A major force behind these was the unwinding of the overhang of the production capacities, reflecting revisions of exuberant growth expectations that had driven strong investment growth in the second half of the eighties. While these downward adjustments of growth expectations and unfavourable developments in profits dominated the slump in business investment, the slump

may also have been exacerbated by financial problems. Equity financing for example , which had been a source of cheap funding for many concerns until the bubble burst, was much harder to get afterwards. Many firms especially in the “bubble sectors”, mainly the construction and the real estate sector, suffered from the burden of high debt, rendering new investments more difficult. Similar applies for the small and medium sized enterprises. As the bulk of financing in Japan is via bank credit, financing problems were aggravated in the wake of the banking crisis in 1997–98 and the necessities for reforms in the financial sector that manifested themselves then. At least at that time mainly small and medium sized enterprises suffered from a credit crunch.

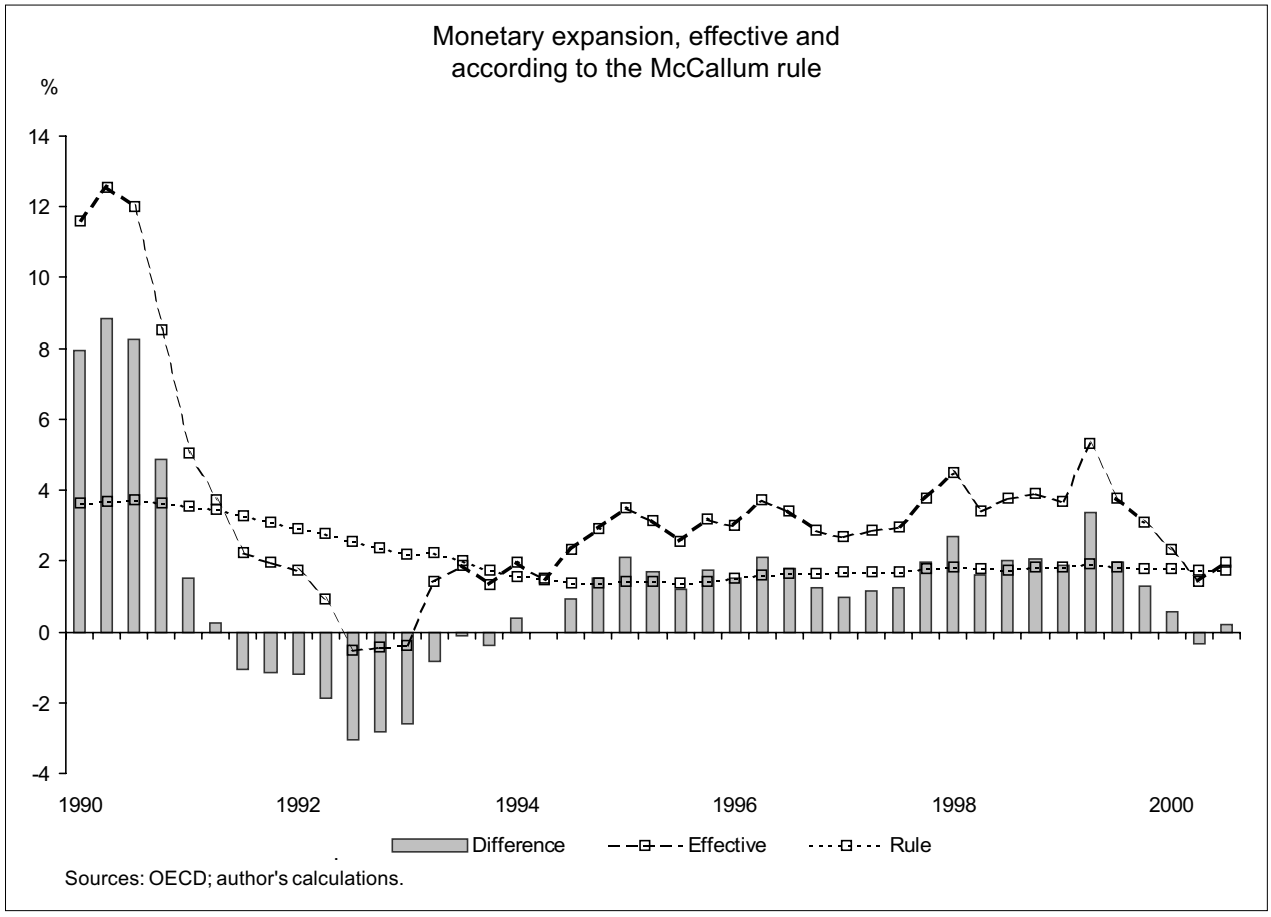
### 3. Stagnant Nineties — Failure of Monetary Policy …

The weakness of economic acitivity in Japan and especially low desired investment spending by firms raises the question of whether or not its persistence could have been reversed. There might have been self-fulfilling elements of unfavourable growth expectations that would have escaped suitable measures. This brings into focus the potential contributions of macroeconomic policy. Assessments of the appropriateness of monetary and/or fiscal policy will be based here on both rules for macroeconomic policies and VAR-analyses.

“Monetary policy has played a crucial role in the Japanese business cycles”, concluded David Flath (2000, 116) from several empirical studies on post-war Japan. This is in line with the experiences of other countries for decades. For Japan, however, this evaluation is determined by developments that took place up to the early nineties. If it held for the last decade as well, this would mean that monetary policy or its failures had contributed to the slump.

The orientation and appropriateness of monetary policy can be evaluated on the basis of different indicators. The Bank of Japan followed a monetarist concept for several years in the eighties, with M2+CD being the most closely monitored monetary aggregate. In a few other countries, the monetaristic approach collapsed, with the relationship among money, prices and output proving to be unstable. The same thing happened in Japan. The strategy was abandoned when the demand for money proved to lack adequate stability, a key condition of the Friedman rule.

Figure 6




Sources: OECD; author's calculations.

The McCallum rule tries to overcome this flaw without abandoning the conceptual basis, the quantity theory of money, by capturing trend changes in the velocity of money (McCallum, 1987). The bulk of short-term cyclical changes of the velocity are excluded for example by a four-year moving average.[2] With m for M2+CD in period t, $\pi^*$ for the target rate of inflation, v for velocity of money and y for output, the McCallum rule is given by

$$\Delta m_t = \pi^* - 1/16\,(v_{t-1} - v_{t-17}) + 1/16\,(y_{t-1} - y_{t-17}).$$

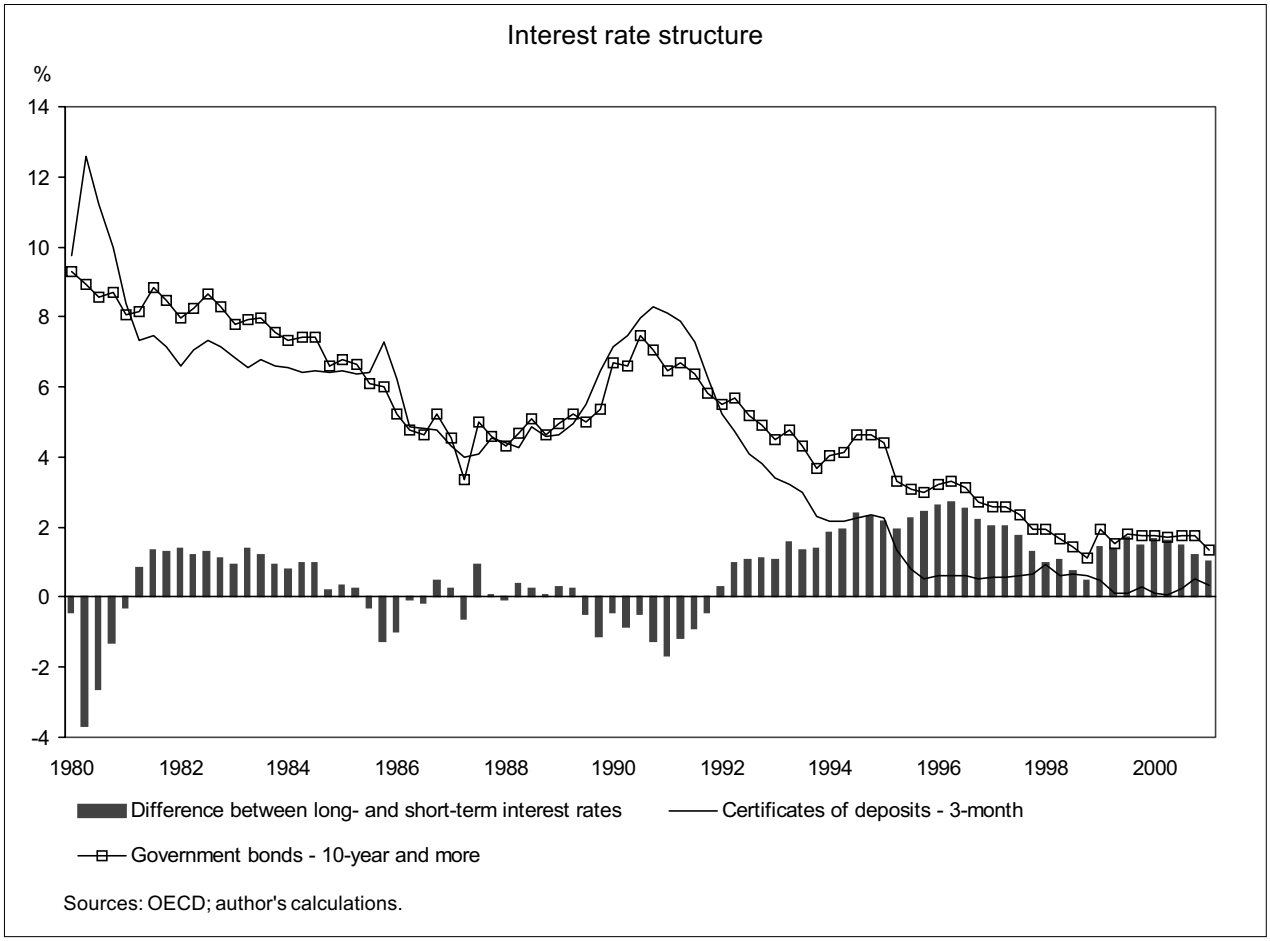
Comparing effective monetary expansion with the growth rates "recommended" by the McCallum rule indicates a tight monetary policy in the recession years 1992 and 1993. In the second half of the nineties, however, with effective growth rates of money significantly higher than the rates derived according to the rule, this indicator hints at an expansionary monetary policy stance (Figure 6).

As relationships of a monetaristic kind seem to be uncertain and unreliable for Japan, other indicators for assessing the monetary stance should be applied. Another strategy-independent indicator of monetary policy often used for this is the interest rate structure. As a rule, the larger the positive difference between long- and short-term interest rates, the more expansionary the stance of monetary policy. As shown in Figure 7, the difference between the interest rate for 10-year government bonds and the interest rate for 3-month certificates of deposit changed to the positive at the beginning of the nineties, after years of having been negative, and it increased to about 2.7 percentage points in the first half of 1996. Both the following decrease to and the near-stagnation below 2 percentage points in recent years was a result of swings in the long-term rate, with the short-term rate remaining at a level of around half a percent and even less. This shows for monetary policy a clearly, though not overwhelmingly expansionary course. By traditional standards, with the target interest rate near zero, the room for interest rate policy to manoeuvre was nearly exhausted.

While the measures mentioned hint at an expansionary course of monetary policy since the early nineties, other indicators cast doubt on this assessment. One of them is the monetary condition index[3], taking into account not

[2] A four-year average originally was suggested by McCallum with regard to the US.

Figure 7



only the short-term level of the real interest rate r, i.e. the nominal interest — in the following the 3-month certificates of deposit rate is used — purged by inflation (GDP deflator), but also changes in the real effective exchange rate e. The index values are the weighted sum of the absolute change of the real interest rate and the relative change of the real effective exchange rate at time t towards a constant basis period $t_0$. The weights, here 0.8 and 0.2, are to reflect the relative effects of the components on aggregate demand. Thus

$$MCI = 0.80\ (r_t - r_0) + 0.20\ (e_t - e_0).$$

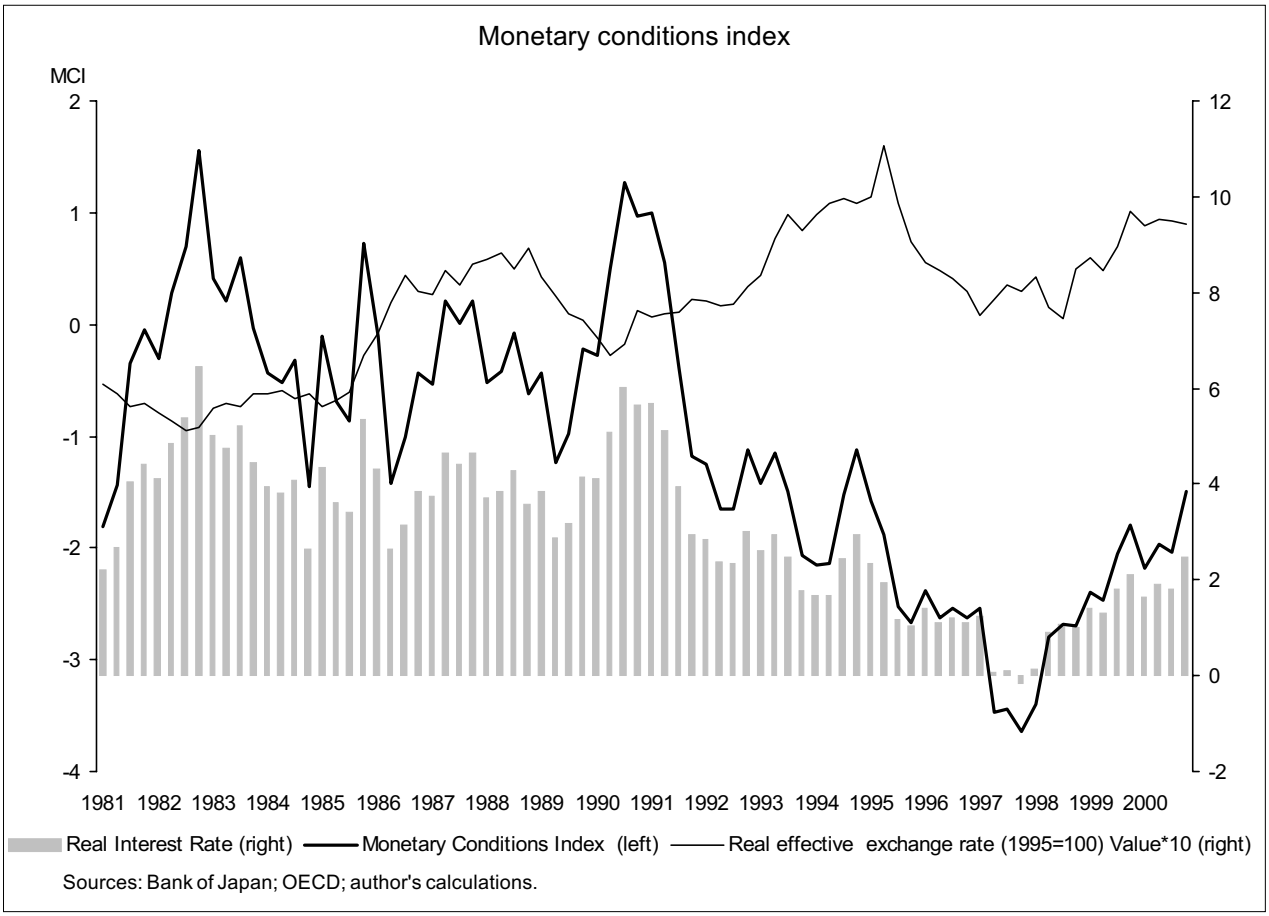
Figure 8 shows that monetary conditions were very tight from 1990 into 1991, but then eased rapidly due to the real interest rate falling steeply. This tendency continued until early 1998, when the decreasing real interest rate was partly compensated by a receding real effective yen rate. From 1998 on, monetary conditions became more unfavourable again, with the real interest rate increasing significantly despite very low nominal interest rates. Much of this increase reflects deflation, but there was also some real effective appreciation. Although even in 2000 monetary conditions were more favourable than throughout the eighties, they were less so than intended by interest rates of nearly zero. Thus demand stimuli from that side remained limited.

A hint at a monetary stance that was less supportive to GDP growth is given by real interest rates. Both short-term and long-term rates were significantly higher for some years than the nominal ones, due to a decreasing price level. Principally, levels of interest rates — both nominal and real — tell little about a policy's stance. But real rates above nominal ones for a few years and higher than the growth rate over several years indicate a monetary policy stance that contributes little to stimulating GDP growth.

Although the results of alternative indicators for assessing monetary policy orientation are mixed, the majority hint at an expansionary stance. However, the question arises as to whether they are able to capture the influence of monetary policy in Japan since the start of the nineties adequately. They may explain why specific monetary policy decions were made in some periods, and why they were often unduly upbeat as a result of output expecta-

[3] The monetary conditions index was created by the Bank of Canada, as outlined by Freedman (1994).

Figure 8



tions. But this assessment is at odds with developments from a longer-term perspective, especially with the combination of low growth and decreasing prices.

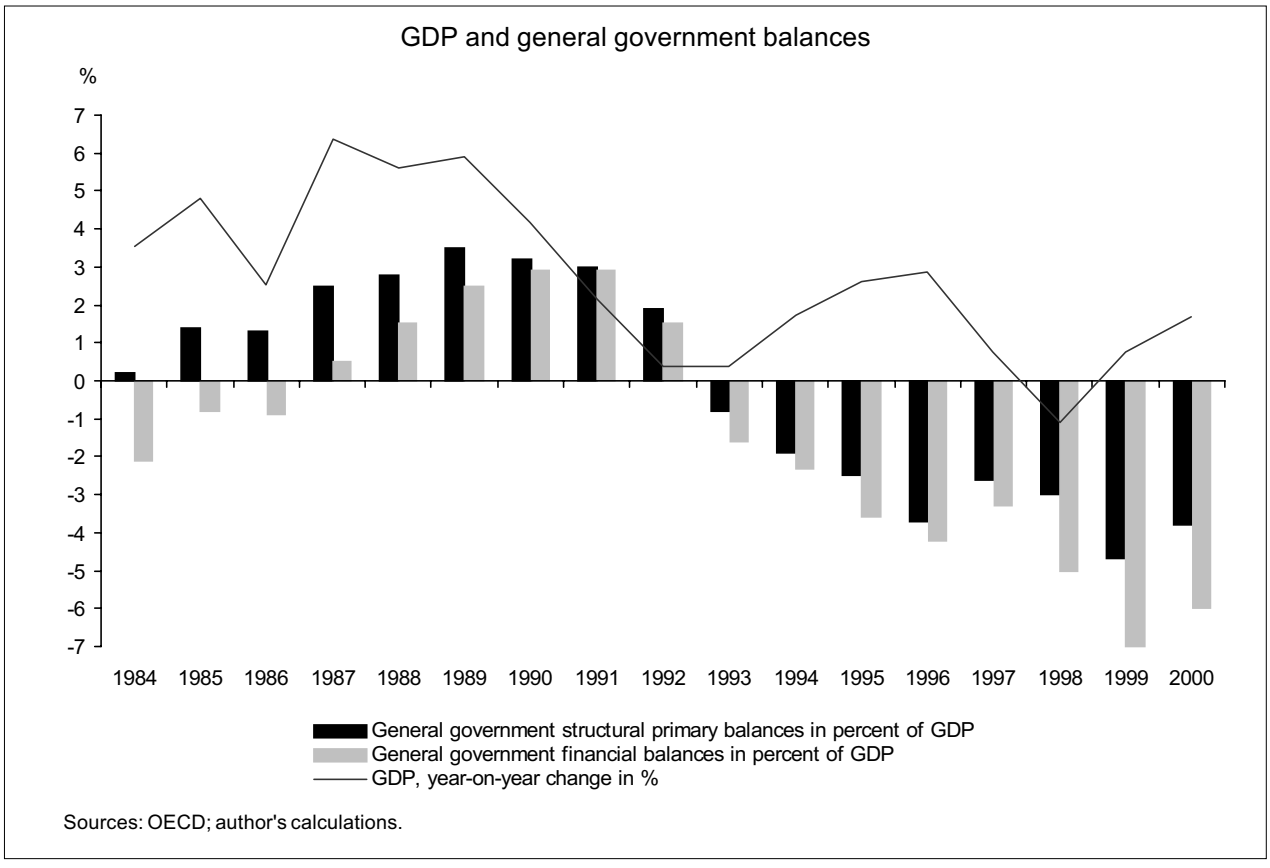
Krugman (1998) concluded from the economic development — up to 1997 — that Japan is stuck in a liquidity trap. The most important indicator for this — in his view — is the output gap, i.e. the difference between potential and effective production being much higher than in most estimates. Widely used methods for quantifying potential output tend to underestimitate this unobservable variable, for example estimates based on Hoddrick-Prescott filter procedures, at least for periods of sustained slump, or OECD estimates, which interpret possibly cyclical changes as being structural.[4] Krugman estimated the output gap for 1998 to be at least 5% (Krugman, 1998, 171), i.e. the weakness of economic activity is regarded as a cyclical phenomenon.

To escape the liquidity trap, Krugman drew the widely respected conclusion that a significant inflation rate must be "produced" to regain effectiveness for monetary policy. With short-term interest rates very low since 1995, the zero bottom for possible reductions of nominal interest rates was nearly reached. Even worse, with consumer prices falling, real interest rates became even higher in some periods than nominal ones, while the equilibrium real interest rate obviously was negative. With the impossibility of nominal interest rates being negative, the consequence for monetary policy is to create inflationary expectations. Significant inflation and inflation expectations would result in lower (short-term) real interest rates, helping to overcome the liquidity trap.

Krugman's arguments persuaded a wide community of economists. A retreat of the price level clearly indicates that there was not only scope for the Bank of Japan to induce a stronger expansion of liquidity, even without inflationary risks, but also a need to persecute a more expansionary line. He saw two strategic options, extending open market operations to assets like government bonds or foreign exchanges to raise their prices, or setting an inflation target. By realizing an inflation target of at least 3 to 4%, real interest rates could be driven down or even become negative (Krugman, 1998). The Bank of Japan, however, chose not to adopt one of these strategies due to legal, institutional and economic problems (OECD, 1999, 68). It was only recently that it with untraditional measures of the kind suggested in 1998 by Krugman to accelerate the expansion of money supply supporting the policy of zero interest rates.

[4] This applies for example for normal worker hours and worker productivity, see Krugman (1998, 170).

Figure 9




Sources: OECD; author's calculations.

There were, however, indicators showing that Japan was not only in a liquidity trap. The economy also suffered phases of a credit crunch, especially intensifying the recession of 1997–8. Motonishi and Yoshikawa (1999, 15) estimate the dampening effect of the credit crunch on GDP growth in 1998 at 1.6 %. But the credit crunch is hardly an explanation for the weakness of private non-residential investment throughout most of the nineties. On the whole, the liquidity trap hypothesis seems to be more in line with the fundamental weakness of investment.

### 4. … or Fiscal Policy?

Though monetary policy generally dominates the effects on macroeconomic development, an economy caught in the liquidity trap often is regarded as being in a Keynesian situation, with recession and slump warranting and requiring significant fiscal demand stimuli. Thus in the following fiscal policy in Japan since the beginning of the nineties is to be assessed.

The fiscal policy stance can be seen in budget balances and their changes. In 1978, when the general government deficit — in relation to GDP — was 5.5%, its reduction started, and continued in the first half of the eighties. The change to surpluses, increasing to nearly 3% up to 1990, reflected dampening effects from the public sector during the boom. In the wake of the following downswing and the long economic weakness that followed, balances became negative again, with deficits rising up to 7% of GDP in 1999 (Figure 9). On the whole, changes of general government balances indicate fiscal policy having been countercyclical.

General government budget balances, however, are influenced by the effects of automatic stabilisers, by changes in interest payments due to public debt, by structural changes like non-adjustment to a lower growth path, and by fiscal policy in a strict sense, i.e. by discretionary measures. Therefore more information on the stance of fiscal policy is given by the development of the structural primary balances, i.e. the cyclically adjusted general government balances, excluding interest payments on public debt.

In the second half of the eighties, structural primary surpluses[5] were rising and remained permanently higher than general government financial balances, indicating a countercyclical role of fiscal policy. In 1993 a structural primary deficit emerged. Its increase to nearly 5% of GDP in 1999 reflects governments' growing endeavours to induce a recovery fiscally — though strong impulses from fiscal policy like those in 1993 when the structural primary balance changed by 2.7 percentage points, were not repeated with regard to public debt soaring. With very low multiplier effects, however, the stimulative effects were only limited, with the exception of those in 1995.

According to crude indicators like changes of balances — as in the case of monetary rules — fiscal policies supported economic activity in the years up to 1996, and in 1998 and 1999. Nevertheless Posen argues that the stagnant nineties in Japan are due to a failure of fiscal policy. The packages, he asserts, contained too few measures with a direct impact on economic activity (see Posen, 1998), with the stimulus package of autumn 1995 being the main exception. This implies that fiscal policy per se could have been effective, provided it had been sufficiently bold. Even worse, the renewed downswing starting in 1997 was partly due to fiscal policy. The change to a tight policy of consolidation, which included, for example, raising the consumption tax, proved to be too early; as the recovery obviously was too weak to withstand the fiscal tightening, with a spending volume reduction of about 2% of GDP (OECD, 1998, 3). This is even more the case because the situation was intensified by the detrimental external shock of the Asia crisis in the second half of that year and several bankruptcies in the financial sector. Especially the latter shock, manifesting a fundamental problem if not a systemic risk of the financial sector, may have contributed to the low multipliers of the aggressively expansive fiscal policy.

Nevertheless fiscal policies of recent years seem to oppose Posen's view that the development in Japan does not reflect the ineffectiveness of fiscal policy per se, but a lack of boldness. Raising public deficits to 5 to 7 percentage points of GDP — except in 1997 — and thus increasing gross public debt by one-half to more than 120% of GDP from 1995 to 2000 seems to be a bold fiscal policy. However, it does not repudiate the criticism that many outlays for so-called public infrastructure made little or no contribution to growth, such as the building of bridges not really needed.

Notwithstanding these critiques of fiscal — and above all — of monetary policy, the persistent economic weakness in Japan need not indicate a failure of policies. Without the expansionary stance of macropolicies over much of the nineties, economic conditions might have been more dismal.

### 5. Underlying Causes According to VAR

Opposing views and findings on the influence of macroeconomic policies on the near-stagnation in Japan in the nineties call for additional analysis. Furthermore it might be interesting to see which — if either — of the two, monetary or fiscal policy, played a role more detrimental or more beneficial to a sustainable recovery. For this purpose a VAR analysis is useful.

[5] The structural primary balance is derived from OECD data; being based on the organisation's estimates of potential output the critics mentioned above in the context with monetary policy apply for fiscal policy, too.

Ramaswamy, for example, augmented a baseline VAR analysis to detect the shock reactions of demand components by variables to capture both the influence of monetary and fiscal policies, and the net worth of household wealth. According to this analysis (Ramaswamy and Rendu, 2000), monetary policy, represented by changes of the real three-month interest rate on certificates of deposit, had only a very minor effect on private consumption. This result is plausible for two reasons. Wealth effects of interest rate changes can be expected to be small, not least of all because stocks and land were, as mentioned above, only part of total wealth, and real estate as collateral was of minor importance for the expansion of consumer credit. Fiscal stimuli did not give a significant impetus to private consumption either. The analysis also comes to the conclusion of low multiplier effects due to the expansion of outlays focussed on public work projects and on purchase of land support. Tax reductions did not trigger a spending spree either, as a considerable part thereof was only temporary; furthermore these reductions were ad hoc. With regard to private investment, the influence of macro policies is different in residential and non-residential areas. For the first component, the analysis hints at a positive relationship with fiscal stimuli, with loan subsidies for investment in residential property, construction projects, and purchases of land. In contrast to this, private non-residential investment, suffering from the overinvestment of the eighties, reacted positively to changes in the monetary stance, with fiscal policy causing few changes.

Taken altogether, this VAR analysis is in line with Posen's hypothesis of a relatively ineffective fiscal policy. The results of the multivariate vector autoregression are, however, in contrast to Krugman's assertion of an insufficiently expansionary stance of monetary policy. These positions might be less opposing than they seem to be, if failures and the relative ineffectiveness of macroeconomic policies were not only due to shortcomings in the design and implementation of expansionary measures (Ramaswamy and Rendu, 2000, 276), but also to other, non-macropolicy factors. There might have been fundamental impediments in Japan preventing macro policies from working as they otherwise would have. Thus it would be premature to conclude a general ineffectiveness of macroeconomic policies from the Japanese experience of the nineties.

Especially structural impediments might have hindered a sustainable recovery. One important hypothesis in this respect is that the rate of return to capital was low because overinvestment in the second half of the eighties (Ando, 1998, cited according Bayoumi, 1999, 4) pulled Japan into a vicious circle. Negative wealth effects as a consequence of the bubble burst impaired the corporate balance sheets, with the overhang of debt being an obstacle to investment. Furthermore, low returns on saving contributed to the structural imbalance between savings and investment. It was this kind of effect of asset deflation that caused the government in the late nineties to support for instance the stock market.

Another hypothesis regresses the slump to disturbances in the process of financial intermediation. Enterprises in Japan obtain financing mainly through bank credit. In the late eighties, credits were strongly expanded, with land as the main form of collateral. With the bursting of the asset price bubble, many credits became non-performing. Nevertheless bankruptcies in the financial sector did not happen until the second half of the nineties because of generous accounting rules. However, there was a need to write off non-performing loans. The room for giving new credits was further narrowed by the reduction in bank capital that resulted from the fall in stock prices, as banks' capital consists largely of stocks.[6] Under these circumstances, scarce financing might have impeded a recovery limiting the effectiveness of fiscal and monetary policy as well.

The importance of these alternative explanations for the development of output was identified by Bayoumi, using a VAR analysis — with real M2+CD, the real short-term interest rate and the real effective exchange rate as monetary variables, with general government structural primary balances as the fiscal variable, with real stock prices and real land prices as domestic asset prices, and with real bank lending to the private sector capturing financial intermediation.

Similar to Ramaswamy's analysis the results of the more extended VAR analysis indicate that all these factors played some role in the persistent weakness in Japan. Regarding the fundamendal slowdown, a one-factor causality really would have been a surprise. But the importance of the individual explanations is different. According to Bayoumi's analysis, non-macropolicies factors explain the slump to a large degree. Especially domestic asset prices contributed considerably, with land prices being the main factor. These results are inconsistent with both the explanation of the slump via the declining rates of return on reproducible capital (Bayoumi, 1999, 17) and with the Motonishi/Yoshikawa finding that real factors explain the weakness of investment to a much higher degree than financial factors do. However, the difference between these findings might seem too large regarding the endogeneity and interdependence of the explaining variables. With asset prices largely "determined" by expectations on growth and profits, they often move in the same direction as investment.

The effects of these factors — contrary to the Motonishi/Yoshikawa findings as well — were decisively strengthened by financial intermediation. Restraints designed to maintain standards of capital adequacy, which was endangered by the fall in asset prices and by other influenc-

[6] On the effects of asset losses on the balance sheets of the financial sector and their repercussions on banks' credit policy see Kwon (1998) and Ogawa and Suzuki (1998).

es unfavorable to banks' balance sheets, contributed to triggering reductions in bank lending. Falling asset prices and the importance of financial intermediation according to this analysis played a key role in the weak effectiveness of traditional macroeconomic policies.

All these analyses, however, suffer from flaws due to methodological problems. They are not capable of capturing structural impediments to growth resulting from a lack of flexibility, or the role of demographic changes, especially with regard to Japan's position as one of the most advanced countries in terms of the society's aging. The differences in economic developments in the triade since the end of the nineties seem to stress the importance of flexibility of the economic system and of the capacity to innovate (Weinert 2000, 39). The outperforming Anglo-Saxon economies are clearly more flexible in numerous fields of economic activity than the Japanese system.

The terms flexibility or rigidity refer to the approach governments choose to overcome a mess. It is questionable whether a more expansionary policy stance would have contributed to a solution to structural problems. Monetary policy may smooth out unfavourable short-term macroeconomic effects of structural changes, fostered by structural economic policy, at least as long as it does not trigger an inflationary process. But this implies a presumption of the political-economic kind: will a principal reform policy, designed to tackle fundamental structural problems, be continued or even started if the macroeconomic development is less unfavorable? There are hints that doubts as to the government's willingness to pursue an adequate reform policy impeded the Bank of Japan's willingness to implement a more expansionary stance. On the other hand an inflation-prone orientation might sustain or even aggravate structural problems.

## 6. Conclusions

The long weakness of the economy in Japan is singular in the industrial world in the last decade. Its longevity reminds one of the great depression in the late twenties and early thirties, notwithstanding the fact that the weakness of real economic activity is far less pronounced and the fall in goods prices is much smaller.

But, as the singularity itself suggests, the reasons here are different. While the world economic crisis is mainly attributed to failures of monetary policy, but also to budget policy, in Japan this is less the case. Different approaches of analysis "confirm" this result. The severe and long fall of asset prices, partly the result of structural problems in the real economy and magnified by a worsening of financial intermediation, hindered traditional macroeconomic policies from being as effective as usual. This made the case for unconventional macroeconomic policies. Although the structure and the effectiveness of the increase of public outlays in recent years can be criticised, notwithstanding the considerable rise of budget deficits, it seems that under the circumstances, monetary policy in particular failed to play its role adequately for a period of several years. The dispute between the government and the central bank, which for several years has been independent, was partly on the question of who had to go first. Irrespective of the fact that a long slump is not a good environment to demonstrate independence and that the necessity of structural adjustment was evident, monetary policy should have resorted to untraditional measures at an early stage. Whatever the structural flaws, there is a scope for monetary policy to foster economic acitvity as long as inflation is not looming. Thus in this regard deflationary tendencies indicate that a monetary policy has been too timid.

On the other hand, although the structural impediments and disturbances of financial intermediation had been known for quite some time, their strength was not. The same applies to reducing these deficiencies. Knowledge on the quantitative growth effects of structural changes and their translation into macroeconomic performance is very limited. The numerous mis-forecasts for Japan since the beginning of the nineties bear witness to this lack of economic insight. This may partly explain why the persistent weakness of economic acivity specific to Japan is still a kind of enigma.

## References


*Ando*, Albert (1998): Demographic Dynamics and the Causes of the Japanese Recession. Unpublished mimeo, University of Pennsylvania, cited according to Bayoumi (1999).

*Bayoumi*, Tamim (1999): The Morning After: Explaining the Slowdown in Japanese Growth in the 1990s. IMF Working Paper WP/99/13. Washington, D.C.

*Bergsten*, C. Fred (1990): The World Economy After the Cold War. In: Foreign Affairs, Vol. 69, 96–112.

*Freedman*, Charles (1994): The Use of Indicators and of the Monetary Conditions Index in Canada: In: J.T. Tomás Balino and Carlo Cottarelli (eds.): Frameworks for Monetary Stability: Policy Issues and Country Experiences. Washington, D.C, 458–476.

*Jindo*, Hiroaki, and Yohei *Yamamoto* (2000): Destabilized Consumption and the Post-bubble Consumer Environment. In: Development Bank of Japan Research Report, No. 4.

*Krugman*, Paul (1998): It is Baaack: Japan's Slump and the Return of the Liquidity Trap. In: Brookings Papers on Economic Activity, No. 2, 137–187.

*Kwon*, Eunkyung (1998): Monetary Policy, Land Prices, and Collateral Effects on Economic Fluctuations: Evidence from Japan. In: Journal of the Japanese and International Economies, Vol. 12, No. 3, 175–203.

*Linder*, Staffan Burenstam (1986): The Pacific Century. Stanford, CA.

*McCallum*, B.T. (1987): The Case for Rules in the Conduct of Monetary Policy. In: Weltwirtschaftliches Archiv, 123 (3), 415–429.

*Motonishi*, Taizo, and Hiroshi *Yoshikawa* (1999): Causes of the Long Stagnation of Japan during the 1990s: Fiscal or Real? In: Journal of the Japanese and International Economies, Vol. 13, 181–200.

*Nakayama*, S. (1999): Why is the Household Saving Rate so High During the 1990's? In: The Bank of Japan Monthly Review, April (in Japanese), cited according to Motonishi and Yoshikawa (1999).

*OECD* (1998): Economic Survey Japan. Paris.

*OECD* (1999). Economic Survey Japan. Paris.

*OECD* (2000): Economic Outlook, No. 68. Paris.

*Ogawa*, Kazuo, and Kazuyuki *Suzuki* (1998): Land Value and Corporate Investment: Evidence from Japanese Panel Data. In: Journal of the Japanese and International Economies, Vol. 12, No. 3, 232–249.

*Posen*, Adam (1998): Restoring Japan's Economic Growth. Washington, D.C.

*Ramaswamy*, Ramana, and Christel *Rendu* (2000): Japan's Stagnant Nineties: A Vector Autoregression Retrospective. In: IMF Staff Papers, Vol. 47, No. 2, 259–277.

*Tomita*, Jideaki, and Kohichi *Ando* (2000): The Slump in Plant and Equipment Investment in the 1990s: Focusing on Lowered Expectations, the Debt Burden and Other Structural Factors. In: Development Bank of Japan Research Report, No. 3, 1–41.

Weinert, Günter (2000): Chances and Risks for the Japanese Economy. In: NIRA (National Institute for Research Advancement) REVIEW, Vol. 7, No. 4, 37–41.


## Zusammenfassung

### Das „verlorene" Jahrzehnt in Japan — Gründe der langen Wirtschaftsschwäche


*Aufgrund des schwachen Wachstums werden die 90er Jahre für das lange Zeit wachstumsverwöhnte Japan als verlorenes Jahrzehnt angesehen. Die dauerhafte wirtschaftliche Schwäche, die nach dem Platzen der Blase an den Vermögensmärkten einsetzte, hält immer noch an. Um die Faktoren herauszufinden, die maßgeblich zu der ungünstigen Entwicklung beitrugen, werden in diesem Beitrag Ursachen der Veränderung im Nachfrageverhalten analysiert. Die bemerkenswerteste Änderung vollzog sich bei den privaten gewerblichen Investitionen. Ein wichtiger Grund für den kräftigen Anstieg der Investitionsquote im Zuge der Bubble-Bildung und ihres Rückgangs in den 90er Jahren war eine Änderung der Wachstumserwartungen. Dies wirft die Frage auf, ob die Makropolitik die Erwartungen in eine andere Richtung hätte lenken können. Um die Rolle der Geld- und Finanzpolitik in diesem Prozess zu bewerten, wird die Politik an Hand einiger Politikregeln gemessen. Diese Ergebnisse stimmen für die Geldpolitik mit Resultaten vektorautoregressiver Analysen überein, nach denen eine Erholung von dieser Seite zumindest nicht behindert wurde. Gleiches gilt für die Finanzpolitik. Zahlreiche strukturelle Probleme, einschließlich der Schwäche des Finanzsystems, aber wirkten hemmend. Daher sind umfassende Reformen in vielen Bereichen der japanischen Wirtschaft erforderlich.*