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Japan's Recessions

The recession and sluggish growth that have marked the U.S. economy for the last eighteen months have heightened efforts to understand cyclical behavior. One potentially fruitful approach involves comparing business cycles in the U.S. with those abroad. By highlighting similarities and contrasts in cyclical behavior, such a comparison may help identify factors that may be particularly important in influencing business cycles.

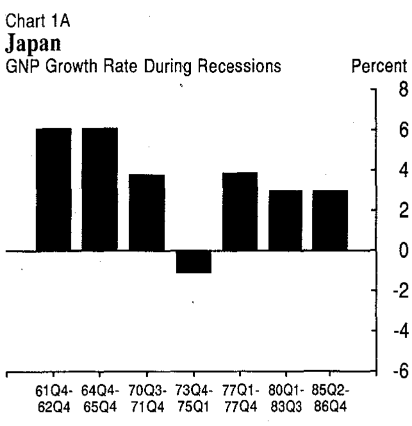
This *Weekly Letter* compares recessions in Japan to those in the U.S. and looks at some factors that may explain why Japan's recessions appear to be less severe. Aside from shedding light on possible sources of business cycles, the comparison is of interest because the U.S. and Japanese economies are now highly interdependent, so that cyclical developments in Japan can affect U.S. economic performance.

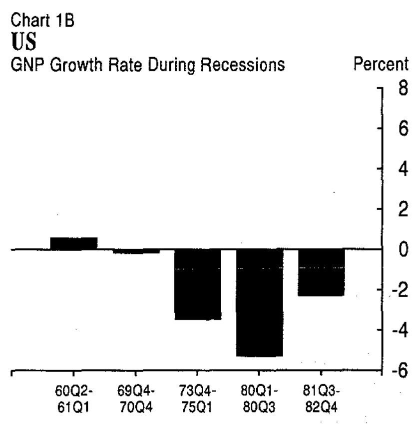
Milder recessions in Japan

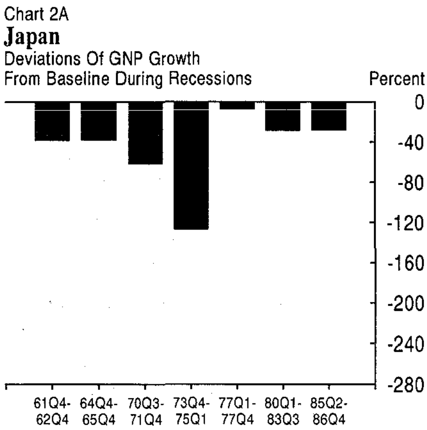
Charts 1 and 2 present two ways of looking at GNP growth in the U.S. and Japan during recessions. Recessions in both the U.S. and Japan are defined as the periods between business cycle peaks and troughs, as measured by a set of economic indicators. Chart 1 compares the compound annual growth rate of GNP, while Chart 2 compares how much GNP growth deviates from its baseline. The baseline for Japan had to be split because research indicates that there was a permanent decline in the average growth rate of its economy in the early 1970s: the growth rate for 59:Q1-71:Q4 (9.9 percent) is used as the baseline for the first three Japanese recessions, and the growth rate for 72:Q1-89:Q4 (4.2 percent) is used as the baseline for the next four recessions. The baseline for the U.S. (3.1 percent) is not split, because recent research shows that there was no statistically significant break in the growth of U.S. GNP in the postwar period.

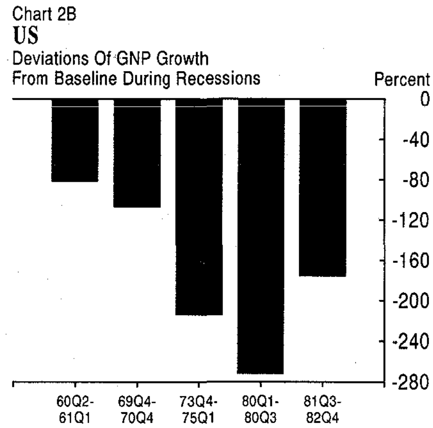
Inspection of the charts reveals a number of striking contrasts between recessions in Japan and the U.S. First, *recessions are more frequent in Japan than they are in the U.S. and they last longer*. Japan experienced seven recessions between 1959:Q1 and 1989:Q4, while the U.S. experienced five. Over the sample period, Japanese recessions have lasted nearly six quarters on average, whereas U.S. recessions have lasted less than four.

Second, *recessions are much less severe (as measured by GNP growth) in Japan than they are in the U.S.* Except for the downturn after the first oil shock of 1973, recessions in Japan have been associated with positive GNP growth rates that would not be considered recessionary in the U.S. GNP growth during recessions in Japan averaged 5.3 percent prior to 1972 and 2.2 percent subsequently (Chart 1a). In contrast, in the U.S., all recessions except one have been associated with declines in GNP that averaged 2.8 percent (Chart 1b). Such frequent declines may









account for the informal definition of a U.S. recession as two successive quarters of negative GNP growth.

However, looking simply at GNP growth during recessions may be misleading. Japan's economy has grown much faster than the U.S. economy on average over the past 30 years, so Japan's GNP growth might fall a lot during recessions and still remain positive. This can be taken into account by measuring how much GNP declines during recessions in comparison to an average or benchmark rate of growth. Such a measure, provided in Charts 2a and 2b, also suggests that recessions in Japan are less severe than in the U.S. Real GNP growth during recessions on average drops 48 percent below the baseline in Japan (Chart 2a), compared to a 170 percent drop in the U.S. (Chart 2b).

To identify the possible causes for the more moderate downturns in Japan, I compared the growth in real consumption and real fixed investment (two important components of GNP) in both economies during recessions to their respective baseline growth rates. The comparison suggests that Japanese GNP growth is more stable during recessions because of greater stability in both consumption and investment spending. Real consumption growth in Japan on average falls 45 percent below baseline during recessions, whereas it falls 94 percent in the U.S. Total fixed investment in Japan declines 135 percent below baseline, while non-residential fixed investment in the U.S. declines 457 percent.

The greater stability of Japanese GNP growth during recessions is consistent with three structural features of the Japanese economy: (1) more flexible compensation arrangements, (2) more stable employment during recessions, and (3) more stable financing arrangements.

Flexible compensation

One remarkable characteristic of Japanese labor markets is the importance of large bonuses in total compensation. These bonuses, which are paid twice yearly, account for over a quarter of total compensation (about 3½ months of base pay on average in the 1980s), and decline during recessions (Freeman and Weitzman (1987)). Theory suggests that such flexibility may contribute to the greater output stability of the Japanese economy during recessions. If compensation falls in response to declining demand, as in Japan, the associated declines in prices will tend to offset the initial declines in demand. In contrast, if compensation is more rigid, as it appears to be in the U.S., producers will be unable to lower prices in order to offset declining demand. It should be noted, however, that some Japanese researchers believe that the downward flexibility in compensation arrangements is at times overstated. For example, Japanese unions significantly drove up their total compensation during the recessions that followed the first oil shock in 1973.

Stable employment

It is well known that large Japanese employers adopt policies of "lifetime employment," which means that companies commit themselves not to lay off workers until they retire. Such an arrangement is feasible partly because of flexible compensation arrangements and because overtime is extensively used and is cut back during recessions. During recessions, Japanese workers experience a temporary loss of income (lower bonuses and overtime), but keep their jobs and are more certain of their permanent income prospects. In contrast, U.S. workers who are laid off during recessions face greater uncertainty about their income prospects. The lower uncertainty about permanent income may stabilize the consumption of Japanese households during recessions, in comparison to U.S. households. In this manner, lifetime employment arrangements may stabilize Japanese GNP during recessions.

The importance of lifetime employment arrangements in dampening recessions is unclear. On the one hand, only a small proportion of the labor force is explicitly covered by lifetime employment arrangements (Freeman and Weitzman (1987)). On the other hand, long-term commitments appear to be a characteristic of the relationship of Japanese businesses with employees, even when workers are not explicitly covered by lifetime employment arrangements.

However, informal examination of the data suggests that these institutional arrangements indeed have tended to stabilize employment in Japan. On average, declines in employment during recessions in Japan have been much smaller than in the U.S., respectively 32 percent and 146 percent below baseline. Also, employment does not always decline during recessions in Japan, whereas it consistently does so in the U.S.

Stable financing

It is well known that major Japanese firms rely heavily on bank financing (see *FRBSF Weekly Letter*, 3/29/91), and that their banks are intimately familiar with their corporate strategy and operations. For example, Japanese banks hold equity in the firms they lend to and are represented on the boards of these firms. As a result, Japanese banks appear to be relatively unperturbed by short-term setbacks in the earnings performance of their borrowers, which may make it easier for Japanese firms to raise funds during recessions. This contributes to greater stability in investment spending during recessions in Japan.

In contrast, U.S. firms appear to have a more distant relationship with their creditors, which may mean that they find it more difficult than their Japanese counterparts to raise funds during recessions and to avoid sharp reductions in investment spending. For example, U.S. firms tend to raise a larger proportion of funds in the open market. Creditors in the open market are less familiar with long-term strategy or day-to-day operations of the firms they lend to than are banks. This lack of familiarity may prompt them to react more sharply to short-term fluctuations in earnings, for example, by changing the interest rates charged or withdrawing credit. Furthermore, U.S. firms' relationships with their banks appear to be more distant than that between Japanese firms and banks. U.S. banks typically do not hold significant amounts of equity or have representatives on the boards of firms they lend to, as in Japan.

The hypothesis that differences in funding arrangements affect investment is supported by an analysis of Japanese data by Hoshi, Kashyap, and Scharfstein (1991). These authors find that investment is much less sensitive to a firm's cash flow position when a firm has close ties to a bank than when a firm does not enjoy such a close relationship.

Conclusion

The analysis here suggests that flexible wages, more stable employment, and more stable financing in Japan have moderated the impact of recessions on Japanese GNP by stabilizing consumption and investment spending during cyclical downturns. However, the explanations for milder recessions offered in this *Weekly Letter* are not exhaustive. The behavior of inventories, and the impact of government policies need to be examined carefully to provide a fuller assessment of the determinants of Japan's recessions.

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