Financial Strains and the Zero Lower Bound: The Japanese Experience

Discussion

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Professor Fukao's interesting paper tells three main stories. The first is about gradually accelerating deflation in Japan. Professor Fukao explains that deflation is caused by a persistent and negative output gap, which should be closed by stimulating aggregate demand. The second story is about the Japanese banking sector. Professor Fukao argues that Japanese banks are structurally depressed and that the central bank should try to raise interest rates by raising the rate of inflation, which would give banks larger profit margins. The third story is a program to save the Japanese economy. Professor Fukao explains that conventional open market operations have become ineffective as zero interest rates make bonds and base money perfect substitutes. The remedy is, therefore, to undertake open market operations in real assets and, if that does not work, to impose a Gesell tax on money. Tying these stories together is a macro model that focuses on the output gap to explain deflation and on the resulting low interest rates to explain the problems in the banking sector.

A. Does the Output Gap Explain Deflation in Japan?

Professor Fukao estimates a production function to derive potential output, which is then used to calculate an output gap. The output gap, in turn, is used in an equation explaining deflation in Japan. Thus, the validity of the output gap estimates is critical. Table 1 provides some information

Table 1

	Average 1991-2000	2001	2002
Growth rate of capital stock	4.0	3.5	2.8
Growth rate of labor force	0.4	-0.2	-0.9
Growth rate of potential output	1.4	0.9	0.2
Growth rate of actual output	1.5	-0.3	-0.7
Rate of inflation	0.1	-1.2	-1.0
Output gap (Fukao)	-1.5	-2.0	-5.0
Output gap (OECD)	-0.09	-1.5	-2.9
Deflationary effect (Fukao)	-0.6	-0.6	-1.2
Deflationary effect (OECD)	-0.02	-0.25	-0.62

Data source: OECD Economic Outlook, October 2002

Table 1 collects data for the capital stock and the labor force from the OECD and uses it to calculate first the output gap using Pofessor Fukao's production function and then the deflationary effect using his model. It also takes output gap data as provided by the OECD as an alternative. A first point is that the output gap derived from Professor Fukao's production function is –1.5 percent on average over the 1990s. Since, by definition of the concept, actual output and potential output should grow at similar rates over the medium and long run, this large and persistent negative gap seems puzzling. The OECD output gap does not have the same property. Secondly, the output gap calculated from Professor fukao's model yiel;ds a deflationary effect of –0.6 percent annually on average over the 1990s. This is clearly at oods with the average inflation rate, which was zero. Again, the OECD output gap performs better. Finally, the deflationary effect of the output gap derived from Professor Fukao's model is too

small compared to actual inflation in 2001 but it works well in 2002. In contrast, OECD output gaps give too small deflationary effects in both 2001 and 2002. My conclusion is that this is not a good way to explain deflation in Japan.

Table 2

Growth rate	Average 1991-2000	2001	2002	St. Dev. 1991-2002
Potential output	1.4	0.9	0.2	
Private Consumption	1.6	1.4	0.8	
Non-residential Investment	0.45	-0.1	-6.8	7.9
Residential Investment	-2.2	-5.6	-4.0	8.7

Data Source: OECD Economic Outlook October 2002

Table 2 provides some additional macro economic data for the Japanese economy in the 1990s. It shows, first, that consumption in the 1990s grows in line with potential output growth. There is little evidence suggesting that Japanese households are hoarding money, the point Gesell was worried about when proposing his tax on money. Second, what is striking in Japan is the very low investment rate and its very large volatility. Table 1 implies that capital productivity is falling by 2.5 percent on average over the 1990s. This raises the question of what is behind this very weak and volatile investment performance. Whatever the answer may be, if one thinks that deflation in Japan is due to a lack of aggregate demand, a policy to overcome it must address investment, not consumption.

B. Banking problems

Professor Fukao claims that Japanese banks are suffering from low profits due to the fact that interest rates are close to zero. Persistent problems of large non-performing loans have eaten up the banks' capital. An immediate question here is, obviously, why banks do not seek more profitable lending opportunities abroad, especially if the yen is expected to depreciate against the dollar. Furthermore, Table 2 in the paper indicates that the banks' gross profit rate on total assets (loans) was 0.4% (0.7%) on average in 1990-92, a period of moderate inflation, and 0.7% (1.2%) on average in 1999-2001, a period of deflation. Gross profits indeed seem to rise with deflation.

That there is a severe problem of non-performing loans is indicated by Table 2 in the paper. But it must be remembered that this is a stock problem, not a flow problem. To solve it, it takes a restructuring of bank portfolios. Germany's currency reforms in 1948 and 1990 show how this can be done (see e.g. Deutsche Bundesbank, 1990). The main point is to clean the bank balance sheets of non-performing loans by writing them off (which makes the corporate sector viable again) and replacing them with government securities that must be bought back by the central bank over a long time period. Replacing bad loans by low-interest bearing government securities makes the banks viable again. Of course, such an operation is not without cost to the government, hence the tax payer. But this is a sunk cost already. Injecting government-provided fresh bank capital into the banking industry, in contrast, is a much worse remedy creating severe adverse incentives. New capital gives the owners temporary relief, allowing them to continue that bad lending practices.

C. Monetary Policy

To remedy Japan's economic woes, Professor Fukao proposes to undertake large-scale open market operations in real assets and real estate. It is not clear, however, whether that would do the trick. In the conventional Keynesian macro economic framework, bonds and real assets are perfect substitutes. In the liquidity trap, where money and bonds become perfect substitutes, money and real assets are perfect substitutes by implication. Hence open market operations in real assets cannot have any effect. In other frameworks, such as Tobin and Brainard's (1970) portfolio model or Brunner and Meltzer's monetarist frameworks, the Keynesian assumption is dropped and imperfect substitutability of bonds and real assets assumed. But, unfortunately, these models make very ambiguous predictions only about the effects of open market operations in real assets. They depend on a large set of cross-derivatives of the net asset demand functions with regard to all rates of return, which means that the relative degree of substitutability between money, bonds and real assets matters critically. Without empirical information about these derivatives, nothing can be said with any confidence.

At the same time, it is interesting to observe the large difference in the growth rate of base money and M3 in Japan. While the first is large, the latter is rather low and stable in recent years. This suggests that the Japanese economy has not responded to previous open market operations, because the banks' demand for reserves has absorbed any additional base money. If the Bank of Japan wishes to take unconventional measures to overcome the deflationary tendency, it might consider bypassing the banking sector in an effort to raise M3 growth, e.g. by handing out checks to Japanese households.

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