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Identifying Monetary Policy Shocks in Japan[1]

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It is sometimes argued that central banks influence the private economy in the short run by controlling a specific component of high-powered money, not its total amount. Using a structural VAR approach, this paper evaluates this claim empirically, in the context of the Japanese economy. I estimate a model based on the standard view that the central bank controls the total amount of high-powered money, and another model based on the alternative view that it controls only a specific component. It is shown that the former yields much more sensible estimates than the latter. *J. Japan. Int. Econ.* March 2000, **14**(1), pp. 22–42. Department of Economics, Yokohama National University, 79-3 Tokiwadai, Hodogayaku, Yokohama 240-8501, Japan. © 2000 Academic Press

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1. INTRODUCTION

There have been debates in many countries over how central banks intervene in the private economy. Standard macroeconomic theories assume that the central bank influences the private economy by changing the total amount of high-powered money. But some economists argue differently: they claim that policy

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works by changing the amount of a specific component, not the total. For example, Goodfriend (1983) and Strongin (1995) emphasize the role of nonborrowed reserves in U.S. monetary policy. Bernanke and Mihov (1997) emphasize the role of discount-window borrowing quotas in German monetary policy. There are similar arguments in Japan: some economists claim that the Bank of Japan influences the private economy through the market for Bank of Japan loans, which are a component of high-powered money. This paper investigates this claim. I estimate two structural VAR models, one that represents the standard view that the Bank of Japan intervenes in the market for (total) high-powered money, and the other that represents the alternative view mentioned above. I ask three questions:

1. Does the Bank of Japan intervene in the market for *total* high-powered money, or does *a specific component* of high-powered money composed of central bank loans play a special role in its monetary policy?
2. Is the policy rule of the Bank of Japan best characterized as an interest rate targeting rule or a monetary aggregate targeting rule, or should it be considered a partial accommodation rule (mixed targeting)?
3. How large are contributions of monetary policy shocks to variations in output, consumption, investment, and the price level in Japan?

Results are as follows. First, evidence is decisively in favor of the standard view that the central bank intervenes in the market for total high-powered money. Bank of Japan loans do not play any special role. Second, the short-run policy rule of the central bank is neither pure interest rate targeting nor pure monetary aggregate targeting but is partial accommodation. Third, identified policy shocks have important effects on quantity variables such as output, but less important effects on the price level, especially in the short run. Finally, my estimates are free from some problems that are common to many existing studies, such as the liquidity puzzle and the price puzzle.

The rest of the paper is organized as follows. Section 2 discusses related literature. Section 3 explains the empirical method. Section 4 explains data. Section 5 describes the models. Section 6 discusses the results. Section 7 concludes.

2. OVERVIEW

2.1. Debate over the Role of the Bank of Japan Loans

There is a long-standing debate over the short-run behavior of the Bank of Japan. A good survey can be found in Iwata (1993). Some argue that the Bank intervenes in the market for *high-powered money* (hereafter H). Others argue the Bank intervenes in the market for *Bank of Japan loans* (hereafter BL) (Yokoyama (1977)). BL is a part of high-powered money that is supplied in the form of lending from the central bank to large commercial banks through the discount window.