

ASYMPTOTIC ANALYSIS OF MONETARY TRANSMISSION MECHANISM

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ABSTRACT. *Monetary transmission mechanism in Japan is investigated in two kinds of time intervals [1981-1990] and [1992-1999] associated with the burst of the bubble economy in 1990. The VEC model is constructed for nonstationary $I(1)$ variables (gdp, money supply, bank loans, price) combined with stationary or nonstationary real interest rate $r(t)$. The principal line of attack is to use impulse responses in the growth rate model and accumulate them to obtain impulse responses of level variables. This accumulation gives us convergence property of level variables to non-zero asymptotic states. We can calculate contributions to the asymptotic gdp from asymptotic money supply, bank loans and price in cointegrated and/or non-cointegrated systems. We show that the money channel has a stronger influence to gdp in [1981-1990] compared with credit one, while in [1992-1999] containing the period "after the bubble" the importance of credit channel dramatically increases. Furthermore, by introducing real interest rate instead of nominal interest rate, a strange behavior of the price called "price puzzle" was resolved.*

Keywords: Monetary transmission, Impulse response, Unit root, Price puzzle

1. Introduction. There exist two competing views of the transmission mechanism of monetary policy. The first view is a traditional textbook description in which changes in money supply affect the economy through changes in interest rates. The other view stresses the importance of the bank lending to affect the economy. The former is called the money view while the latter is called the credit view or the bank lending view.

Bernanke [1] showed, in his pioneering work, that shocks in the bank loans have strong effects on aggregate demand by using a method of the structural VAR model. Bernanke and Blinder [2] indicated that the structural model is very vulnerable to the identifying assumption. They concluded that bank loans are an important component of the monetary transmission mechanism from the fact that unemployment and bank loans move together after changes in the federal funds rate.

Gertler and Gilchrist [3] got the result to support the credit view. They disaggregated bank loans and compared the behavior of small and large firms. They showed that large firms issued commercial paper during the time of tight monetary policy, while small firms and consumers that had no access to the CD market, reduced the bank loans.

Romer and Romer [4] used the model to get the evidence on the relative importance of the money channel and credit channel. They focused on the period of the tight monetary policy to avoid the confusion between the effect of money and lending on the economy