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Macroeconomic impact of monetary policy shocks: Evidence from recent experience in Thailand

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Abstract

This paper investigates the monetary transmission mechanism in Thailand, employing a VAR approach. It is found that the Bank of Thailand has leverage over the real interest rate in the short run due to inflation inertia. It is also found that the Thai monetary transmission mechanism has important international dimensions. More specifically, monetary contraction has stronger negative effects on import demand in the short run even though import prices fall.
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1. Introduction

Recently, a number of central banks in developing countries have adopted inflation targeting. After the Asian currency crisis in 1997, the Bank of Thailand (BOT) shifted to floating exchange rates, and instituted inflation targeting as its new monetary policy regime. According to standard macroeconomic theories, an inflation-targeting central bank controls the expected inflation by adjusting a key policy interest rate. In the case of Thailand, it seems that the BOT's strategy is to affect private consumption through the credit channel and to maintain inflation rates within its target range (Moenjak, Imudom, & Vimolchalao, 2004).

The aim of this paper is to explore empirically the transmission of monetary policy in Thailand. More specifically, we investigate the effect that an exogenous monetary policy shock exerts to price and other domestic macroeconomic variables using a structural vector autoregression (SVAR) methodology, highlighting the credit channel. The SVAR system is also extended to incorporate international variables to explore the international dimensions of the monetary transmission mechanism. It seems that domestic inflation is often quite sensitive to import prices in small open economies such as Thailand.

The main findings of this paper are as follows. First, the BOT has leverage over the real interest rate in the short run due to inflation inertia and affects the price level through the credit channel. This result sheds light on how the BOT adjusts real interest rates for economic activity, which has important policy implications for the BOT. Second, as far as international channels are concerned, there seems to be little expenditure-switching effect in the short and medium

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runs. The volume of imports decreases quickly in the short run even though the import prices are falling at the same time.

This paper is organized as follows. Section 2 describes the monetary policy framework in Thailand. Section 3 describes our SVAR model and the corresponding identifying restrictions. Section 4 discusses the effect of monetary policy shocks on domestic macroeconomic variables and on the trade variables. Section 5 concludes.

2. Background

The BOT adopted formally inflation targeting in May 2000 when Thailand graduated from the post-Asian crisis IMF support program. Following the crisis, the BOT had first adopted monetary targeting to ensure the consistency of its macroeconomic policy with the IMF program. However, the BOT soon realized that there was no stable relationship between money and output in Thailand and switched to inflation targeting.

The BOT seems to use "flexible" rather than "strict" inflation targeting to seek balance between output and price stabilities.[1] In its inflation report published every quarter, the BOT admits that it aims to achieve both price stability and stable economic growth. Accordingly, the BOT forecasts both economic conditions and inflation outlook to make monetary policy decisions. The BOT implements its monetary policy mainly by adjusting short-term interest rates. Until December 2006, its key policy instrument has been the 14-day repurchase rate. The policy target is the inflation rate between 0 and 3.5% in terms of the core CPI exclusive of raw food and energy, with the target horizon of eight quarters.

The BOT's performance receives high marks from a number of observers (see Stone, 2003). As is shown in Fig. 1, there has so far been no deviation from the target range since the adoption of the inflation-targeting regime. It also appears that stable inflation rates have been maintained with little sacrifice in terms of output stability (Fig. 2).

Although the lack of a stable money–inflation relationship does point to the importance of credit as a channel through which the BOT influences the Thai economy (Charoenseang & Manakit, 2007), only a handful of studies rigorously investigate the country's monetary policy transmission mechanism. Disyatat and Vongsinsirikul (2002) apply a simple VAR methodology to the period of 1993–2001 and provide evidence that the interest rate effects are relevant to monetary policy transmission. Employing the Bank of Thailand's Macroeconometric Model (BOTMM), Sriphayak and Vongsinsirikul (2007) analyze the asset price channel, concluding that this channel plays a central role. Nevertheless, the majority of the existing studies either concerns the pre-inflation targeting period or imposes a number of identifying restrictions arising from a highly specific theoretical model. An important exception in this respect is Charoenseang and Manakit (2007), who apply the VAR method to more recent data. Their model, however, includes only those variables that are of immediate interest to the authors and does not necessarily represent the Thai economy as a typical macro or small open economy.

In this paper, we use only post-2000 data and take a more data-oriented approach, employing as the central analytical tool an SVAR model with little arbitrary theoretical assumption and minimum identifying restrictions. We also extend our basic SVAR model to explore the international dimensions of Thai monetary policy.

3. Basic SVAR system

3.1. Structural VAR model

Consider first the following a simple VAR system:

$$x_t = \mu + A_i(L)x_{t-n} + e_t, \tag{1}$$

where μ is an n-dimensional vector of constants, x_t is an n-dimensional vector of variables, A_i is $n \cdot n$ matrices of coefficients in the lag operator L, and e_t is an n-dimensional vector of error terms with zero means and covariance matrix Σ_e.

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[1] It is pointed out, however, that even in countries whose central bank seeks to minimize a weighted average of output and inflation volatilities, the optimal policy can be described in terms of pure inflation targeting in the long run (Svensson, 1997).