Monetary policy, structural break and the monetary transmission mechanism in Thailand

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Abstract

The paper studies monetary policy and the monetary transmission mechanism in Thailand in light of the Asian crisis in 1997. Existing studies that adopt structural VAR approaches do not give a clear and agreed-upon view how monetary shocks are transmitted to the Thai economy that is subject to structural breaks. In our study, we explicitly model a pre-crisis and post-crisis cointegrated VAR model. We support the arguments of Corbett and Vines [Corbett, J., & Vines, D. (1999). Asian currency and financial crises: Lessons from vulnerability, crisis and collapse. The World Economy, 22(2), 155–177] as well as Phongpaichit and Baker [Phongpaichit, P., & Baker, C. (2002). Thailand: Economy and politics (2nd ed.). Oxford: Oxford University Press] that the trinity of open capital markets, pegged exchange rate regime and monetary policy autonomy is inconsistent in the pre-crisis period. In contrast, the model points to an effective monetary policy in the post-crisis period. Further, we analyse the common driving trends of the model.

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1. Introduction

Thailand has undergone some rapid changes in its monetary policy framework in the last decade. The collapse of its exchange rate, the baht, in 1997 led to the abandonment of the pegged exchange rate regime and movement towards a monetary targeting regime implemented through the IMF program. Following the end of the IMF program an inflation targeting regime was introduced in 2000 where targeting of domestic money supply was replaced by an explicit inflation objective.
Given these regime shifts and structural break of the Asian crisis, existing work on the monetary transmission mechanism in Thailand has been unsatisfactory. Many studies such as Patrawimolpon, Rattanalankar, Charumilind, and Ngamchant (2001), Fung (2002), Disyatat and Vongsinsirikul (2003) and Hirunraengchok (2004) build structural VAR models in order to analyse the responses of Thai economic variables to monetary policy shocks. These studies often face econometric deficiencies insofar as they do not deal adequately with the structural break of the Asian crisis, lack the property of a well-specified model or do not account for the nonstationarity of their macroeconomic data. The bottom line is that many of such studies using the structural VAR approach to the Thai economy fail to render a clear and agreed-upon view of how monetary policy shocks are transmitted to that economy.

In our study, we propose a different way of studying the monetary transmission mechanism in Thailand based on the cointegrated VAR model. We first estimate an unrestricted VAR model and then determine the relevant long-run cointegrating relationships. Following an identification of the cointegrating vectors, we are able to identify the short-run structure of the cointegrated VAR model and use the model to illuminate the patterns with which monetary policy shocks are potentially affecting key macroeconomic variables in the Thai economy. Hereby, we make usage of the difference between common stochastic trends that have permanent effects on the system variables and shocks to endogenous variables that are only transitory in character.

A major challenge to the analysis is that Thailand has been seriously hit by the Asian crisis in 1997. This will make the specification of a model a very difficult task because the relevant variables of the model exhibit jump-like behaviour around the crisis. We anticipate that the underlying stochastic process in the Thai economy has changed following the crisis. Similar to Patrawimolpon et al. (2001) and Fung (2002), we implement a subsample-based analysis, that is, a pre- and post-crisis model but with the novel approach to rationalize and synthesize the differences between both models.

Our results for the pre-crisis model reveal that unlike many studies on Thailand, we cannot recoup an interest rate policy function and that the central bank had difficulty controlling money. These findings support Corbett and Vines (1999) and Phongpaichit and Baker (2002) who state that Thai monetary policy was immobilized in the period before the devaluation of the baht in 1997. They put forward the Mundell–Fleming type argument that the trinity of open capital markets, pegged exchange rate regime and monetary policy autonomy is inconsistent.

Regarding the Thai monetary transmission mechanism we find that monetary shocks have permanent positive effects on inflation. We do not obtain a Phillips curve relationship for the pre-crisis model but inflation appears to be a monetary phenomenon and caused by excessive liquidity in the economy. In addition, interest rate shocks have consistently negative effects on output. This could be due to a possible financial accelerator explanation (Bernanke, Gertler, & Gilchrist, 1996).

For the post-crisis model, we observe that the cointegrating rank of the model increases. Monetary policy becomes an effective tool to steer the economy by virtue of the fact that the exchange rate becomes flexible, and we are able to obtain an interest rate policy function. We also find a type of money demand function in which money supply is related to the output gap and the exchange rate which could proxy as an opportunity cost.

We organize the paper as follows: Section 2 gives a brief literature overview whereas Section 3 provides an overview of the Thai economy as well as the data used in our study. In Section 4, we analyse the long-run relationships in a cointegrated VAR model using a pre-crisis and post-crisis subsample. Section 5 provides evidence for the hypothesis that a full sample model that includes the Asian crisis is unstable. Following the long-run analysis we focus on the short-run dynamics
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