Monetary policy and the first- and second-moment exchange rate change during the global financial crisis: Evidence from Thailand

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ABSTRACT

Using a sample of monetary policy announcements in Thailand over the period 2003–2011, I show that a monetary policy surprise tends to affect the return and volatility of the Thai baht. In the full sample, a 1% unexpected increase in the policy rate leads to an about 1.8% depreciation of the baht against the Japanese yen. During periods of high interest rate differentials, an unexpected increase in the policy rate leads to a substantial depreciation of the baht against the US dollar (about 1%) and the British pound (about 2.6%). While Thai monetary policy surprises have no effect on the baht against the dollar in the spot market, they have a significant effect on the baht against the dollar in the forwards market. During the non-financial crisis period, an unexpected increase in the policy rate on average results in a large depreciation of the baht/dollar forward rates: 6.6% and 13.7% for two-month and three-month forward rates, respectively.

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1. Introduction

Do monetary policy decisions affect the first- and second-moment exchange rate change differently during financial crises in the context of emerging market countries? While this question is of...
importance to both investors and policy makers as monetary policy can be implemented together with foreign exchange interventions to manipulate exchange rate movements, it has rarely been examined together in detail. In one of the earlier studies on the relation between monetary policy and exchange rate volatility, Jansen and De Haan (2005) show that the European Central Bank’s comments have a substantial effect on the volatility of the euro-dollar exchange rate and exert only a relatively small effect on the mean of the euro-dollar exchange rate.

As this paper is perhaps one of the first studies in this line of research in the context of developing countries in Asia, I choose Thailand, a medium-sized developing country, as a sample setting for at least five reasons. First, Coudert and Mignon (2013) show that the Thai baht is one of the most rewarding currencies for carry-trade strategies, and as such, a better understanding of how Bank of Thailand’s actions affect exchange rates is beneficial to both investors and policy makers. Second, the Bank of Thailand has been conducting its monetary policy under an inflation-targeting, relatively high capital mobility, and a de facto managed-floating exchange rate regime since 2000, and so the findings of this study will shed light on the impact of monetary policy actions on the return and volatility of exchange rates in Thailand during tranquil and 2007–2009 global financial crisis periods. Third, to some extent, the findings may be generalizable to other developing countries in Asia (such as India and Indonesia) that have recently begun to conduct their monetary policy under similar frameworks. Fourth, in terms of size and economic significance, Thailand is not only a gateway to markets in Southeast Asian countries but also is a major production base of small and large multinational corporations (e.g., all major Japanese automobile manufacturers have had their assembly/production facilities in Thailand). Last but not least, the initiative for ASEAN integration (e.g., the establishment of an ASEAN Economic Community (AEC) by 2015) that gradually results in a greater level of economic integration among the ASEAN members provides both investment opportunities and challenges to the private sector.

In this paper I therefore examine whether the Bank of Thailand’s monetary policy (i.e. repurchase rate) announcement has an impact on the return and volatility of the Thai baht (THB) against four major currencies: the US dollar (USD), the euro (EUR), the Japanese yen (JPY), and the British pound (GBP). Using a sample of the Bank of Thailand’s 66 repurchase rate (hereafter, policy rate) announcements during 2003–2011, I show that, to some extent, it does. Over the full sample period, an unexpected change in the policy rate has a negative effect on the THB/JPY exchange rate return after controlling for term spread, interest rate differential, foreign exchange reserves, stock market attractiveness, and past exchange rate volatility. But the response of the THB/JPY exchange rate return to an unexpected change in the policy rate is asymmetric with respect to the direction of a policy rate change. An unexpected tightening monetary policy action has a positive effect on the THB/JPY exchange rate. That is, the Thai baht depreciates against the yen as a response to a tightening monetary policy surprise: depending on specifications, an unexpected 1% hike in the Thai policy rate was associated with about an almost 1.81% depreciation in the Thai baht against the yen. A monetary policy surprise has no effect on the return of the Thai baht against the euro, the US dollar, and the British pound over the full sample period.

My results indicate that the THB/JPY exchange rate return reacts asymmetrically to monetary policy surprises during the 2007–2009 global financial crisis period in relation to the non-financial crisis period. Furthermore, the interaction between an interest rate differential and an unexpected change in the policy rate has a negative effect on the return of the Thai baht against the US dollar and the British pound. In a high interest rate subsample, an unexpected hike in the policy rate resulted in a large appreciation of the Thai baht against the US dollar (about 1.08%) and the British pound (about 2.63%). Prior studies, such as that of Fatum and Scholnick (2008) and of Rosa (2011), do not examine the asymmetric effect of Federal funds target rate changes on exchange rates.

While the THB/USD exchange rate in the spot market does not seem to react to a Thai monetary policy action in the full sample, I find that an unexpected change in the policy rate has a negative effect on the THB/USD exchange rate in the forwards market. That is, an unexpected increase in the policy rate has a negative effect on the return of the THB/USD forwards at three horizons: one-month, two-month, and three-month. My results further show evidence of an asymmetric response of the return

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1 For instance, Bank Indonesia, which is the central bank of Indonesia, adopted an inflation targeting regime in July 2005.
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