Inflation Targeting and the Exchange Rate in Thailand

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Abstract

Thailand officially adopted inflation targeting in May 2000 after adopting managed floating on July 2, 1997. This paper examines stylized facts and performance under inflation targeting. Thailand has succeeded in implementing inflation targeting over the medium term. This paper also considers a pass-through effect from the baht/$U.S. exchange rate to inflation. Although the pass-through effect is low, the Bank of Thailand is reluctant to freely float the exchange rate because the depreciation of the baht might affect financial solvency of the real sector and the financial sector, which, in turn, would affect the growth rate.
1. Introduction

Inflation targeting has recently been adopted by a number of both advanced and developing countries. Under this framework, the long-run objective is price stability. Credibility is a crucial component in inflation targeting and often determines whether or not a country will be successful in adopting this framework. Emerging market economies that have adopted inflation targeting generally experience a lack of credibility. This is because they also indirectly adopt an intermediate exchange rate target to prevent exchange rate volatility, which causes inflation to deviate from their official target.

This paper examines stylized facts and performance under inflation targeting in Thailand. Thailand adopted inflation targeting in May 2000 after changing its exchange rate regime to managed floating on July 2, 1997. In the medium term, Thailand has succeeded in keeping core inflation within its official targeted range of 0-3.50 percent after the adoption. The reason is excess capacity can offset inflationary pressure resulting from increased domestic demand induced by fiscal policy.

Next, this paper examines a pass-through effect from the baht/US$ exchange rate to inflation using vector autoregression (VAR) impulse response functions. The results show that the pass-through effect from an innovation in the exchange rate to core inflation is very low and not significant. As a result, this would imply that the significant depreciation of the baht during June-December 2000 did not cause inflation to deviate from the targeted range. Moreover, the effect of the innovation on the key policy interest rate: the 14-day repurchase rate, is very low and not significant. This implies that the Bank of Thailand (BOT) did not adjust the interest rate in response to the depreciation of the baht.

Although Thailand has experienced a low pass-through effect, the BOT has shown some degree of fear of floating. A decrease in exchange rate volatility after adopting managed floating and inflation targeting would imply that the BOT exhibits fear of floating. A crucial reason is high exchange rate volatility would affect financial solvency of the real
sector and the financial sector, which, in turn, affects the growth rate. Furthermore, the results show that the foreign exchange intervention conducted by the BOT might mean a change in policy variable from the interest rate to international reserves after adopting inflation targeting.

The paper is organized as follows. Section 2 describes characteristics of inflation targeting. Section 3 reviews inflation targeting experiences in emerging countries. Section 4 discusses stylized facts and performance under inflation targeting in Thailand. In addition, we analyze the pass-through effect from the exchange rate to inflation under inflation targeting. Section 5 concludes.

2. What is Inflation Targeting?

Inflation targeting has increasingly been adopted by both advanced and developing countries. The reasons for adopting it vary across countries. For example, Thailand adopted this framework because the relationship between output growth and the money supply was unstable under a monetary targeting framework adopted in July 1997. Israel adopted inflation targeting because it faced an episode of high inflation. Generally, inflation targeting is based on the public announcement of the inflation target (point or range) over a period of time. This framework is also based on the belief that low and stable inflation could help to stimulate economic growth in the long run. In addition, monetary policy can only affect inflation in the long run while it can affect output just in the short run. Therefore, the key feature of inflation targeting is setting price stability as the long-run objective and hitting forecasted inflation as the short-run objective. Besides price stability, monetary authorities conduct monetary policy to make inflation converge to low levels. Moreover, monetary authorities generally use interest rates as monetary instruments to achieve both the short-run and the long-run objectives.

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1 Since the definition of inflation targeting has developed over time, the exact definition is debatable. See Amato and Gerlach (2002).
The inflation targeting framework requires monetary authorities to have more credibility by communicating their policies and objectives to the public. The monetary authorities, for instance, routinely announce the inflation target and the forecast of inflation at the target horizon, i.e. eight quarters, to the public. By doing so, the monetary authorities create more transparency and greater accountability. Fraga, Goldfajn, and Minella (2003) point out that the adoption of inflation targeting could represent an effort to create the credibility of the monetary authorities because they have to conduct policies to retain committed price stability. Therefore, when actual inflation deviates from the committed target, the monetary authorities should explain the reason for its deviation to maintain their credibility. In sum, the credibility of monetary authorities is a crucial issue for achieving success in adopting inflation targeting.

In general, there are two targeted variables: core inflation and headline inflation. Core inflation is widely used as a targeted variable because it excludes the first-round effects of price changes in narrowly defined sectors, i.e. foods and energy. By using core inflation that excludes more volatile components, monetary authorities could predict inflation more accurately, thereby conducting policy to maintain forecasted inflation, the short-run objective, and to efficiently attain price stability, the long-run objective. Some countries, i.e. Canada and Sweden, choose headline inflation as their targeted variables.

The announced target can be in terms of either a point or a range. Choosing between a targeted point and a targeted range creates a trade-off between flexibility and credibility. If the monetary authorities set a point as their target, they receive more credibility from the public than if they choose the targeted range. Nevertheless, they would lose flexibility in conducting policy to cope with some shocks, which may lead to deviations from their targeted point. On the other hand, the monetary authorities could increase flexibility in implementing policy by announcing the target as a range, but then they sacrifice some level of credibility. Moreover, how high the point should be and how narrow the range should be are questionable for those countries who implement inflation targeting. The broader range of the target weakens the main objective of inflation targeting while the narrow range induces officials to correct their policy stance more frequently. Bernanke,
Laubach, Mishkin, and Posen (1999) state that missing the targeted point creates a smaller loss than missing the targeted range does.

Time horizon is another essential issue for implementing inflation targeting. In choosing the time horizon to meet the target, there is also a trade-off between flexibility in conducting monetary policy and the credibility of monetary authorities. Setting shorter horizons may lead to higher credibility; however, an inability to reach the goal will deteriorate the reputation of the monetary authorities. In contrast, choosing longer horizons may make the public curious about the central bank’s commitment and efficiency. Lastly, Mishkin (2000) mentions that to achieve a success in implementing inflation targeting the country must support independence of the central bank as well as the country must have good financial system and a strong fiscal position.

3. Inflation Targeting in Emerging Market Countries

Amato and Gerlach (2002), Fraga, Goldfajn, and Minella (2003), and Hoffmaister (1999) mention that many emerging countries such as Mexico, South Korea, and Thailand have been successful in adopting inflation targeting.\(^2\) For instance, Fraga, Goldfajn, and Minella (2003) show that average inflation in emerging market countries dramatically declines from 13.11 percent before adopting inflation targeting to 5.95 percent afterwards.\(^3\) In addition, Hoffmaister (1999) concludes that South Korea has successfully adopted inflation targeting over the medium term.

The most common situation in emerging market countries adopting inflation targeting is the deviation of inflation from their target. For example, Mexico set its inflation target at 4.50 percent for 2002 and 3.00 percent for 2003 while actual inflation was 5.35 percent and 3.97 percent in 2002 and 2003, respectively. Fraga, Goldfajn, and Minella (2003)

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\(^2\) Mexico, South Korea, and Thailand adopted the inflation targeting framework in January 1999, in April 1998, and in May 2000, respectively.

\(^3\) Eleven countries are incorporated in this paper: Brazil, Chile, Columbia, Czech Republic, Hungary, Israel, Mexico, Peru, Poland, South Africa, South Korea, and Thailand.
argue that such deviation is usually significant and occurs frequently because these
countries experience more volatile macroeconomic environments and weaker institutions.
The latter would lead to less efficient policies to cope with shocks. In emerging market
countries whose credibility is low, inflation will converge to the target gradually. In contrast,
in the countries whose credibility is high, inflation will meet the official target more rapidly.

In general, economic growth in most emerging countries depends on capital
inflows; consequently, their economies are more exposed to external shocks. In Brazil, for
example, the volatility of capital inflows resulted in the depreciation of the Brazil real by
52.24 percent in 2002. This, in turn, resulted in high inflation of 10.64 percent, which
deviated from the targeted range of 1.50-4.50 percent. Thus, the monetary authorities in
these countries may adjust monetary instruments, i.e. short-term interest rates, to stabilize
exchange rates and to maintain their official target. In other words, while emerging market
countries adopt inflation targeting, they would also target intermediate exchange rates at
the same time. Such behavior was termed “fear of floating” by Calvo and Reinhart (2002).

According to Calvo and Reinhart (2002), after some economic crises in the
developing world intermediate exchange rate targets may have been adopted less often.
However, it is still used indirectly in developing countries, in particular, countries that
adopt inflation targeting with a lack of credibility. Calvo and Reinhart (2002) also mention
that many countries adopting inflation targeting generally use interest rates to dampen
exchange rate fluctuations; although they officially adopt freely floating or managed floating.
Moreover, fluctuations in interest rates are negatively correlated with credibility: higher
fluctuations in interest rates imply lower degrees of credibility. Nevertheless, the
fluctuations are positively correlated with a pass-through from exchange rates to the
domestic price level. In other words, a country that has a high pass-through from exchange
rates to prices will have large fluctuations in interest rates, which is the obvious case in
emerging markets.

Calvo and Reinhart (2002), for example, show that in the period of December 1994-
November 1999 there was about a 63.50 percent probability that changes in the monthly
Mexican peso/US$ exchange rate would stay within a plus/minus 2.50 percent band. This probability is comparable to that of a benchmark country, Australia, which was about 70.30 percent. However, there was only a 28.30 percent probability that foreign exchange reserves changes were inside the band while the benchmark of Australia was about 50.00 percent. In addition, Mexico exhibited fear of floating and used interest rates as a means to dampen exchange rate fluctuations because the probability that interest rates changes by 400 basis points or more was about 37.70 percent for Mexico while it was about zero for Australia. Ball and Reyes (2004) argue that Mexico did not exhibit fear of floating in that period because Mexico unofficially implemented inflation targeting in 1996. By unofficially implementing inflation targeting, Mexico considered lowering inflation the primary monetary objective in the short run. To achieve the short-run objective, Mexico adjusted its monetary policy to prevent an excessive and/or sudden depreciation of the Mexican peso, which, in turn, might result in a big surge in inflation.

Amato and Gerlach (2002) mention that in reality many emerging market economies such as Chile, Mexico, and Peru commit to both inflation targets and intermediate exchange rate targets because the exchange rate plays a crucial role in these economies. In addition, when the countries adopt these two objectives, monetary authorities could effectively cope with inflationary pressure and capital inflows/outflows. However, achieving these two goals at the same time are difficult tasks for them. Fraga, Goldfajn, and Minella (2003) explain that emerging market economies fear to freely float their exchange rate because they commonly have high levels of external debt and their foreign exchange markets are less developed. In sum, emerging countries adopting inflation targeting and a freely-floating regime are more likely to have intermediate exchange rate targets at the same time.

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4 Mexico freely floated the peso in December 1994.
5 In Mexico, the year-on-year inflation rate is 51.72 percent in January 1996.
4. Inflation Targeting in Thailand

4.1 Stylized Facts

Thailand changed its monetary policy framework from a pegged exchange rate regime to a monetary targeting regime (July 1997-May 2000) after adopting managed floating on July 2, 1997. In May 2000, Thailand again changed its monetary policy framework to inflation targeting. The crucial reason for the last switch was an unstable relationship between output growth and the money supply under monetary targeting. By adopting inflation targeting, the objectives of monetary policy are the long-term sustainable economic growth and price stability.

The Monetary Policy Committee (MPC) who monitors and implements policy targets core inflation that excludes raw food and energy prices. Originally, the MPC set a targeted range of 0-3.50 percent for core inflation over the next eight quarters. The quarterly average of core inflation is considered to be a short-run objective. The MPC meets every six weeks to assess the short-run objective whether it will stay in the official targeted range over the next eight quarters. Moreover, the MPC uses the 14-day repurchase rate as a policy instrument to keep core inflation staying within the targeted range. To create transparency, the MPC communicates with the public by publishing quarterly Inflation Reports and reporting the minutes from every meeting.

4.2 Performance under Inflation Targeting

As shown in Figure 1, core inflation has been in the targeted range of 0-3.50 percent since the adoption of inflation targeting in May 2000. In addition, headline inflation has also been within the official targeted range, except in September 2004. Although a substantial increase in oil prices during the period of December 2002-January 2003 did not cause headline inflation to deviate from the targeted range, the hike in oil prices in the

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6 The Bank of Thailand argued that core inflation is accounted for 81.00 percent of the information used to calculate the consumer price index (CPI).
second half of 2004 pushed headline inflation to 3.57 percent in September 2004 which is out of the targeted range. Indeed, since adopting this framework, Thailand has not faced inflationary pressure. Importantly, such excess production capacity could offset inflationary pressure induced by increased domestic demand stimulated by fiscal policy. This would explain why the Thai economy could recover without inflationary pressure.  

Figure 1: Core Inflation and Headline Inflation, 1997:01–2004:11 (Annual rate, in percent)

In addition, low core inflation staying within the official targeted range allowed the BOT to have more room for easing monetary policy to stimulate economic growth. For example, in June 2003, the MPC reduced the 14-day repurchase rate by 0.50 percent from 1.75 percent per annum to 1.25 percent per annum to strengthen economic growth. However, very low core inflation, i.e. 0.10 percent in May 2003 caused the MPC to be concerned about the risk that core inflation would deviate from the targeted range of 0-3.5

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7 The Thai economy has been growing continuously with the real growth rate of 2.66 percent, 5.92 percent and 7.68 percent in 2001, 2002, and 2003 respectively.
percent. At that time, to maintain credibility the MPC announced to the public that this situation was not the beginning of a disinflation episode and headline inflation was still significantly positive.\(^8\) The MPC claimed that very low core inflation resulted from both lower housing rents and a continuous reduction in housing rents.\(^9\) Moreover, the other reason cited was the widespread of Severe Acute Respiratory Syndrome (SARS) that severely affected hotels’ rents throughout the whole country. Year-on-year inflation reached zero percent during August-October 2003. Eventually, in January 2004 core inflation of -0.10 percent deviated from the targeted range. Core inflation, however, has increased from 0.19 percent in February 2004 to 0.57 percent in November 2004.

Next, we examine the pass-through effect from the exchange rate to inflation. We claim that the depreciation of the baht had no significant effect on inflation under inflation targeting. For instance, in the second half of 2000, the baht depreciated around 10.61 percent (39.12 baht/US$ in June 2000 and 43.27 baht/US$ in December 2000) but this did not put significant pressure on either headline inflation or core inflation. On the other hand, headline inflation declined from 2.01 percent in June 2000 to 1.39 percent in December 2000. Similarly, core inflation reduced from 1.18 percent in June 2000 to 0.78 percent in December 2000. This may be the case because the pass-through effect from the exchange rate to inflation would be low and not strong enough to offset the disinflationary impact from excess production capacity. However, the depreciation of the baht around 5.66 percent during January-September 2004 (39.23 baht/US$ in January 2004 and 41.45 baht/US$ in September 2004) would cause headline inflation to be 3.57 percent.

The BOT also led a successful “planning and preparatory” period prior to adopting inflation targeting. Schmidt-Hebbel and Werner (2002) mention that inflation targeters generally prepare for the new framework by lowering inflation around the target before the date of adoption. This is also the case in Thailand. Table 1 depicts inflation in Thailand, Mexico, and South Korea three years before they adopted inflation targeting (t-3 to t-1), the

\(^8\) Headline inflation was 1.90 percent in May 2003.
\(^9\) Monetary Policy Committee Decision on December 12, 2003 and January 21, 2004.
In the year of adoption ($t$), and the following year ($t+1$). In Thailand, inflation decreased dramatically by 5.84 between the years $t-3$ and $t$. Like Thailand, Mexico reduced inflation from the year $t-3$ to the year $t$ by 14.44. Mexico continued to reduce inflation from 13.70 percent to 8.91 percent between the years $t$ and $t+1$. This is in line with the Mexican story mentioned by Ball and Reyes (2004). In South Korea, inflation in the years $t-3$ and $t$ are not much different. However, inflation reduced significantly between the years $t$ and $t+1$. In sum, these countries succeeded in preparing for adopting inflation targeting by significantly lowering inflation.

**Table 1: Inflation in Three Years before the Year of Adopting, the Year of Adopting, and the Following Year of Adopting Inflation Targeting** (Annual rate, in percent)

<table>
<thead>
<tr>
<th>Country</th>
<th>$t-3$</th>
<th>$t-2$</th>
<th>$t-1$</th>
<th>$T$</th>
<th>$t+1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>6.62</td>
<td>4.97</td>
<td>0.69</td>
<td>0.78</td>
<td>1.17</td>
</tr>
<tr>
<td>Mexico</td>
<td>28.14</td>
<td>17.22</td>
<td>17.56</td>
<td>13.70</td>
<td>8.91</td>
</tr>
<tr>
<td>South Korea</td>
<td>4.76</td>
<td>4.68</td>
<td>6.57</td>
<td>3.97</td>
<td>1.36</td>
</tr>
</tbody>
</table>

### 4.3 The Exchange Rate under Inflation Targeting

This section examines the pass-through effect from the exchange rate to inflation under inflation targeting by employing vector autoregression (VAR) impulse response functions. In addition, we compare these effects in Thailand, Mexico, and South Korea. Finally, we examine whether Thailand exhibits fear of floating by considering the volatility of the baht/US$ exchange rate, the ratio of exchange rate volatility to the volatility of interest rates, and the ratio of exchange rate volatility to the volatility of international reserves.

The BOT has had more independence in conducting monetary policy since switching from a fixed exchange rate regime to a managed-float regime. As a result, the BOT could implement its monetary policy more effectively. Consequently, monetary policy
could be transmitted through both domestic and external channels. Figure 2 shows the possible monetary transmission mechanism under managed floating. As can be seen, the monetary instrument is the 14-day repurchase rate and the ultimate objective is the inflation and output. In addition, the effect of changes in the key policy rate could be transmitted through five channels: the interest rate channels (short-term interest rates and long-term interest rates), the credit channel, the asset prices channel, the expectation channel, and the exchange rate channel. This implies that a change in the 14-day repurchase rate could affect the exchange rate in the short run, which in turn, transmits to inflation in the long run. As a result, the BOT could use the 14-day repurchase rate to stabilize the exchange rate to keep inflation within the official targeted range. Generally, the transmission process from the monetary instrument to the ultimate objective would take no more than eight quarters.

**Figure 2: Monetary Policy Transmission Channels**

![Monetary Policy Transmission Channels Diagram]

Source: The Bank of Thailand: [www.bot.or.th](http://www.bot.or.th)
To monitor inflation, the MPC also considers the risk of inflation from the depreciation of the baht. However, such risk has not been significant, which will be shown later. In addition, a strong international reserves position has led to the stability of the baht. This international reserves position allows the MPC to have more room in implementing the 14-day repurchase rate for other purposes, i.e. to eliminate misalignment of interest rates in the money market, with less concern about high fluctuations in the exchange rate. In other words, this strong international reserves position could be used to lessen exchange rate fluctuations without adjusting the interest rate.

We now examine the pass-through effect using vector autoregression (VAR) impulse response functions of core inflation to an innovation in the exchange rate. Variables used in the VAR model are chosen by considering previous empirical work. The VARs include five endogenous variables: core inflation, the policy interest rate, money growth, the nominal exchange rate, and real GDP growth. In addition, the VARs incorporate a constant as an exogenous variable. The lag length for the VARs is chosen by considering the Akaike Information Criterion (AIC).

The first exercise estimates the case of Thailand under a managed-float regime and one year and four months before the adoption of inflation targeting. The estimation uses quarterly data: 1999:Q1 to 2004:Q3. Based on the AIC, the lag length for the VARs is two. Figure 3 shows that an innovation had no significant effect on core inflation and the policy interest rate. This implies a low pass-through during this period. The BOT would respond to this innovation by increasing the 14-day repurchase rate if the pass-through effect were significant because the innovation tends to raise the interest rate. It is worth noting that the BOT did not significantly raise the interest rate due to excess liquidity in the financial sector, in particular, the banking sector. Importantly, an increase in interest rates would severely affect the real sector because non-performing loans are still a big problem in

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10 Definitions and sources of data are in Appendix.

11 Although Thailand officially adopted inflation targeting in May 2000, Thailand did prepare for this framework in advance.
Thailand. Moreover, the depreciation of the baht would help to stimulate exports, which, in turn, led to a positive real growth rate during the period.

**Figure 3: Effects of an Innovation in the Exchange Rate on Core Inflation and the 14-day Repurchase Rate**
Figure 4 shows the pass-through effects from innovations in exchange rates to inflation for Thailand, Mexico, and South Korea. This exercise uses headline inflation for all three countries. The sample period covers the floating regime and the regime under inflation targeting for all countries. This estimation also uses quarterly data from 1999:Q1 to 2004:Q3 for Thailand, 1998:Q1 to 2004:Q2 for Mexico, and 1998:Q1 to 2004:Q2 for South Korea. The innovations had no significant impact on headline inflation for Thailand and Mexico. However, the innovation had a brief (two quarters) significant effect on headline inflation for South Korea by raising inflation by 0.20 after a one-quarter lag. In Mexico, although the innovation had no significant effect on inflation, its effect was more likely to be persistent. Surprisingly, the pass-through effect in Mexico was not significant. One reason might be that the correlation between the exchange rate and headline inflation was -0.51 during the sample period in Mexico while such a correlation was 0.68 and 0.18 for South Korea and Thailand, respectively.

Figure 4: Effects of Innovations in Exchange Rates on Headline Inflation under Inflation Targeting

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12 South Korea officially adopted a floating regime and inflation targeting in December 1997 and in April 1998, respectively. Mexico adopted a floating regime in December 1995 and adopted inflation targeting in January 1999. We argue that South Korea and Mexico also prepared for adopting the inflation targeting regime in advance.
Although Thailand might experience a low pass-through, it may exhibit fear of floating. Table 3 shows that the volatility of the exchange rate, the interest rate, and international reserves declined dramatically from 1997 to 2000. After implementing inflation targeting, exchange rate volatility has been low, i.e. 0.75 in 2002. A significant decrease in exchange rate volatility from 5.35 in 1997 to 2.48 and 0.93 in 2000 and 2004, respectively, would imply that Thailand exhibits some degree of fear of floating.

After adopting inflation targeting, the interest rate has been much less volatile than international reserves. For example, in 2002, interest rate volatility was 0.09 while international reserves volatility was 1.92. In addition, the ratio of exchange rate volatility relative to the volatility of international reserves had a declining trend. It is worth noting that in the pre-adoption period (1997-1999) the ratio of exchange rate volatility relative to the volatility of international reserves was on average higher than the ratio of exchange rate volatility to the volatility of the interest rate (1.26 and 2.43, respectively). In contrast, the ratio of exchange rate volatility relative to the volatility of international reserves was on average much lower in the post-adoption phase. In the post-adoption phase, the ratio of exchange rate volatility relative to the volatility of international reserves on average was 2.82 while the ratio of exchange rate volatility relative to the volatility of the interest rate on average was 9.98. This would imply that intervention in the foreign exchange market shifted from using the interest rate toward using international reserves after adopting inflation targeting. In conclusion, Thailand exhibits some degree of fear of floating and Thailand copes with this fear by using international reserves instead of the key interest rate.
Table 3: Volatility of (Monthly) Exchange Rates, (Monthly) Interest Rates, and (Monthly) International Reserves in Thailand, 1997 -2004 (Standard deviation and ratio of standard deviation)

<table>
<thead>
<tr>
<th>Year</th>
<th>Exchange rate</th>
<th>Interest rate</th>
<th>International reserves</th>
<th>Exchange rate/Interest rate</th>
<th>Exchange rate/International reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997a</td>
<td>5.35</td>
<td>3.40</td>
<td>2.28</td>
<td>1.57</td>
<td>2.34</td>
</tr>
<tr>
<td>1998</td>
<td>4.99</td>
<td>7.07</td>
<td>1.17</td>
<td>0.71</td>
<td>4.25</td>
</tr>
<tr>
<td>1999</td>
<td>1.21</td>
<td>0.80</td>
<td>1.74</td>
<td>1.51</td>
<td>0.69</td>
</tr>
<tr>
<td>2000</td>
<td>2.48</td>
<td>0.09</td>
<td>0.25</td>
<td>27.42</td>
<td>10.11</td>
</tr>
<tr>
<td>2001</td>
<td>0.98</td>
<td>0.50</td>
<td>0.54</td>
<td>1.97</td>
<td>1.83</td>
</tr>
<tr>
<td>2002</td>
<td>0.75</td>
<td>0.09</td>
<td>1.92</td>
<td>7.98</td>
<td>0.39</td>
</tr>
<tr>
<td>2003</td>
<td>1.28</td>
<td>0.25</td>
<td>1.39</td>
<td>5.05</td>
<td>0.93</td>
</tr>
<tr>
<td>2004b</td>
<td>0.93</td>
<td>0.12</td>
<td>1.14</td>
<td>7.49</td>
<td>0.82</td>
</tr>
</tbody>
</table>

a. The data in 1997 is the period of July-December (after changing the exchange rate regime).
b. The data in 2004 is the period of January-October.

5. Concluding Remarks

Inflation targeting has recently been adopted by a number of both advanced and developing countries. Under Inflation targeting, the long-run objective is price stability. This framework requires monetary authorities to maintain credibility by having more transparency and accountability to the public. Generally, emerging market economies that have adopted inflation targeting have poor credibility and indirectly adopt intermediate exchange rate targets. This is because the volatility of exchange rates would lead to deviation in inflation from their official target.

Thailand adopted inflation targeting in May 2000 after changing its exchange rate regime to managed floating in July 1997. Thailand has succeeded in maintaining core inflation within the targeted range of 0-3.50 percent after the adoption. By employing VAR
impulse response functions, we can examine the pass-through effect from exchange rate innovations to core inflation and headline inflation. The results show that the pass-through effect is low in the sample period: 1999:Q1 to 2004:Q3. Thus, the BOT did not have to respond to the exchange rate innovation by adjusting the key policy interest rate: the 14-day repurchase rate. Moreover, a decrease in exchange rate volatility may suggest that Thailand exhibits some degree of fear of floating. A decrease in the ratio of exchange rate volatility to the volatility of international reserves and a rise in the ratio of exchange rate volatility to the volatility of the interest rate after adopting inflation targeting implies that the BOT, under inflation targeting, has intervened in the foreign exchange market using international reserves instead of the interest rate.

**Appendix**

This appendix describes the data used in the study and their sources. The data was obtained from IFS: International Monetary Fund’s *International Financial Statistics* and the Bank of Thailand (BOT).

1. **Inflation** is the four-quarter (twelve-month) percentage change of CPI.
2. **Exchange rates** are obtained from IFS line AE.
3. **Money growth** is the four-quarter percentage change of Money obtained from IFS.
4. **Real GDP growth** is the four-quarter percentage change of GDP at constant price.
5. **Interest rate** is the 14-day repurchase rate for Thailand and is money market rate for Mexico, and South Korea. Source: IFS line 60B.
6. **International reserves** are foreign reserves minus gold obtained from IFS line 1L.DZF.
References


