EMEAP Study on Exchange Rate Regimes

Experience and Practical Issues
Concerning Foreign Exchange Operations

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* EMEAP (Executives' Meeting of East-Asia Pacific Central Banks) consists of Reserve Bank of Australia, People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank of Japan, the Bank of Korea, Bank Negara Malaysia, Reserve Bank of New Zealand, Bangko Sentral ng Pilipinas, Monetary Authority of Singapore and Bank of Thailand.

Contents

1. Introduction

1. This paper looks at several practical aspects concerning the operations of central banks in the foreign exchange market. It covers:

- the relationship between the operation of exchange rate regimes and why central banks may want to intervene in the market;
- coordinating intervention with monetary policy;
- measuring the success of foreign exchange operations; and
- how intervention operations are conducted.

2. Within the region, exchange rate regimes cover a wide spectrum, ranging from a currency board to maintain a fixed exchange rate against the US dollar, to freely floating rates where central bank intervention in the foreign exchange market is minimal.

2. Why central banks intervene in the foreign exchange market

1. For those countries with a fixed rate regime, operations in the foreign exchange market are largely passive, with the central bank automatically clearing any excess demand or supply of foreign currency to maintain a linked rate against the US dollar. It purchases local currency against the US dollar if there is pressure for the exchange rate to weaken and sells the local currency for US dollars when there is an increase in the demand for local currency assets. Interest rates in the interbank market adjust to clear the market. Under a currency board system, both the stock and the flow of the monetary base must be fully backed by foreign reserves. Hence, any change in the monetary base must be matched by a corresponding change in reserves and the central bank is passive in intervening in the market.

2. Central banks in countries which have adopted flexible exchange rate

regimes have all retained discretion to intervene in the foreign exchange market. Some are relatively more active than others, but there is a general consensus that intervention may be warranted to:

- stabilise the exchange rate and provide liquidity to the market; and
- correct an overshoot, in either direction, in the exchange rate.

3. Intervention is not intended to prevent the exchange rate from adjusting to a new equilibrium level. Rather it is seen as a tool used in the short-term to smooth the transition in the exchange rate by minimising overshooting when economic conditions are changing or when the monetary authority believes that economic signals have been misinterpreted by the market. In the latter case, movements in the exchange rate are not consistent with economic fundamentals and the monetary authority can play a role in massaging market sentiment to correct this, but must be careful not to find itself defending a wrong exchange rate – when in doubt, it is better to let the exchange rate adjust.

4. Limiting the volatility in the exchange rate may be important due to the adverse effects it can have on sentiment both within financial markets and the economy. This is particularly so where management of the exchange rate is the major tool for implementing monetary policy, as excessive short-term volatility can erode the market's confidence in the regime. Even if the currency has not departed significantly from its 'fundamental' value, but remains excessively volatile, foreign exchange intervention may be appropriate to calm markets. This is not to say that less volatility is preferable in all situations. Some members note that a degree of volatility is useful in discouraging 'excessive' short-term capital inflows because it imparts some 'two-way' risk into the market.

5. The extent to which a 'misalignment' of the exchange rate can be tolerated is largely determined by the objectives of the monetary

authority. In broad terms, these could be summarised as maintaining price stability and promoting sustainable non-inflationary growth. Thus, where the exchange rate's departure from fundamentals threatens these objectives – such as moving the inflation rate outside of a target range - it may be appropriate to consider intervening in the market. The stabilising role that a central bank can bring to the market may be sufficient to alter investor sentiment and move the exchange rate back towards equilibrium.

6. Evidence suggests that coordinated intervention is more effective than individual intervention. Where the monetary authorities for both the 'under-' and 'over-' valued currencies participate, the coordinated signals offered by the intervention may be viewed by the market as more credible. However, it is more likely that EMEAP members will be concerned with misalignments against currencies outside the region than with other EMEAP currencies. In part, this is because for many EMEAP currencies, misalignments often coincide with generalised strength/weakness in regional currencies. In such an instance, there could still be a role for coordinated intervention within EMEAP, as it is unlikely that direct intervention in the market by only one authority would be successful in altering market sentiment.

3. Coordinating intervention with monetary policy

1. As the ultimate objective of monetary policy is the stability of the currency's purchasing power, exchange rate policy must remain consistent with this.

2. Several EMEAP members target the exchange rate directly in order to achieve price stability. Where the exchange rate regime is a 'hard' fix (such as in Hong Kong), intervention operations are unsterilised with interbank interest rates adjusting fully. In Singapore, while pursuing a

target band for the exchange rate is the major monetary policy instrument, the central bank's decision on whether to sterilise intervention will nevertheless be made with reference to conditions in the domestic money market.

3. In other regimes where the exchange rate is not the monetary policy instrument, any liquidity impact of intervention that would cause a change in monetary conditions is generally avoided. Most foreign exchange operations are sterilised as a matter of course. Intervention may act as a signal that the authorities are prepared to change monetary policy should intervention not have the desired impact on the exchange rate. It can also be used in coordination with changes in monetary policy, giving the latter greater room for manoeuvre. For example, where a change in monetary policy is unexpected, surprising the market can erode confidence or destabilise the market. Intervention may help minimise the costs of surprising financial markets, allowing monetary policy greater capacity to move ahead of market expectations.

4. Of the EMEAP members with flexible exchange rate regimes, some employ an inflation target as the nominal anchor in the economy, with changes in interest rates being the principal instrument of monetary policy. Intervention may be considered where movements in the exchange rate inconsistent with economic fundamentals threaten to push inflation outside the target band. However, where the exchange rate is responding appropriately to a 'real' shock, it may be necessary either to acknowledge the expected departure from the inflation target for some period of time or to offset the shock by altering monetary policy. An exchange rate target cannot be independent of an inflation target.

5. For some EMEAP members, coordinating these policies may be more difficult because foreign exchange operations are not the responsibility of the monetary authority. In such instances, the maintenance of a close

dialogue between the respective authorities is important in avoiding any conflict arising between monetary and exchange rate policies.

4. *Measuring the effectiveness of intervention*

1. Ex post, it is difficult to assess whether intervention has been effective simply because we cannot observe how the exchange rate would have behaved without intervention. Empirical evaluation is further complicated by the varying objectives of intervention.

2. Where the monetary authorities explicitly manage the value of the exchange rate, the success of interventions may be gauged by whether the currency is at, or within, its pre-determined level or band.

3. In a flexible regime, however, such a benchmark is not available. While earning profits is not likely to ever motivate intervention, it has been argued that stabilising intervention should be profitable as it involves buying the currency when it is relatively cheap and selling when it is relatively expensive. When this test is applied to Australian data, for instance, the central bank's foreign exchange operations have shown a substantial profit since the floating of the currency, implying that intervention has been stabilising. Alternatively, the effect of intervention on exchange rate volatility may sometimes be the better measure with which to gauge the success of market operations. Again, tests based on Australian data suggest that intervention has been successful.

4. In general, the empirical literature offers only mixed support for the effectiveness of sterilised intervention. Importantly, where studies do find significant effects on the exchange rate, it is generally attributed to a signalling channel, rather than any portfolio-balancing effects. Sterilised intervention works because the authorities are altering the market's expectations about future interest and/or exchange rates.

Although intervention can alter the relative supplies of domestic and foreign assets, this is not often found to have a quantitatively significant effect on the exchange rate.

5. How are foreign exchange operations in the market conducted?

1. Within the EMEAP region, most monetary authorities tend to have defined decision-making processes for deciding when intervention is appropriate. The more strictly defined is the exchange rate policy, the more structured is the process for deciding on the use of market operations.

2. The choice of financial instrument to be used for intervention largely depends upon the depth and liquidity of the markets. 'Derivative' financial instruments such as foreign exchange swaps and options can afford the monetary authority greater flexibility and allow a greater impact on the currency's value beyond that offered by their on-balance sheet reserves. They can also avoid disruptions to domestic securities markets associated with sterilising intervention. For some EMEAP members, however, forward and option markets are not sufficiently well developed so that the spot market remains the only viable tool for intervention. Even where a liquid option market exists, the delay in pricing by counterparties can render the impact of this form of intervention less immediate than operating in the spot market.

3. The size of foreign exchange operations and whether they are disclosed varies between monetary authorities and largely depends upon the motivation for the intervention. When intervention operations are undertaken to provide temporary liquidity support to the market, discretion is likely to be more appropriate in order to avoid unsettling the market. The size of the operation needed may also be comparatively small.

4. The ability of the authority to conduct discrete intervention may be limited by the degree of transparency required of central banks (given regular publication of their gross and net reserve positions). Also, it would depend on whether they have other reasons to be in the foreign exchange market. For example, where the monetary authority purchases foreign exchange on behalf of the government, a presence in the market need not imply intervention.

5. When the authority is trying to influence market sentiment because the exchange rate has overshot, intervention will need to have a greater impact. However, given that sterilised intervention is more likely to work through a signalling channel (with negligible effects on the exchange rate from portfolio-balancing), it is not clear that the scale of intervention is directly linked to the probability that it will succeed. In most cases, the optimal policy may be to ensure that the signal is as clear as possible, which may best be served by announcing the intervention (and the reasons for it). Operations in the market serve to enhance the credibility of the signal by demonstrating that the authority is prepared to put its balance sheet at risk. In some cases, however, intervention on a discrete basis may be more appropriate to turn around market sentiment.

6. Bilateral agreements that ensure that reserves can be augmented, such as those in place among some EMEAP members, also strengthen the credibility of intervention. The experiences of more developed countries tend to indicate that the effectiveness of intervention can be improved with co-ordination.

7. Under more flexible regimes, a potential problem with announcing intervention is that it may cause market participants to believe (rightly or wrongly) that the authority is defending a specific level of the exchange rate. A market which was slightly illiquid or unsettled may attract the

attention of speculators prepared to bet against the monetary authority. Where the monetary authority has a clear commitment to an exchange rate target, this would not be a problem. Hence, the HKMA announces all its foreign exchange operations as soon as possible, as this transparency serves to enhance the credibility of its commitment to the peg.

8. Similarly, the predictability of operations depends on the exchange rate regime. A commitment to a 'hard' fix is best served by consistent, predictable operations. In contrast, for other regimes, the authority may wish to avoid being tied to any specific 'commitment' and predictability may work against the operations of the central bank. Maintaining uncertainty about the central bank's position may preclude the market from taking on positions that could negate the desired impact of the intervention. Varying the rates, amount and timing of intervention may help to avoid turning an exchange rate management problem into a crisis situation where the central bank's credibility is called into question as the market tests their commitment to defending some (apparent) target or band.

9. Timely and accurate information from market contacts is essential to assess market circumstances and determine if intervention is warranted. Successful intervention is dependent on knowledge of market positions, expectations and current and prospective flows in the foreign exchange market. A web of informal contacts throughout the market ensures that the monetary authority retains a 'good feel' for market conditions.