Committee of Governors of the Central Banks of the Member States of the European Economic Community

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CENTRAL BANK INTERVENTION IN THE EXCHANGE MARKET

Central bank intervention in the exchange market can take place either in the spot market or in the forward market. This note briefly describes the effects of intervention in the spot market (Section I) and in the forward market (Section II), in particular on the exchange rate and on the domestic interest rate. The foreign interest rate is taken as given and covered interest parity is assumed to hold, i.e. arbitrage ensures that the forward exchange rate premium reflects the difference between the domestic and foreign interest rates. Under these assumptions, the note suggests that when downward pressure is exerted on the domestic currency *central bank intervention in either the spot exchange market or in the forward market can offset the pressure on the exchange rate.* However, *intervention will temporarily result in a lower domestic interest rate if it takes place in the forward market rather than in the spot market.*

1. Effects of central bank intervention in the spot exchange market to support the domestic currency

Consider a situation where market participants sell the domestic currency due to a change in exchange rate expectations. As a result, the exchange rate will tend to depreciate and the domestic interest rate to rise.[1] Central bank intervention to support the domestic currency through sales of foreign currency in the spot exchange market will have the following effects:

- it will counter the tendency for the domestic currency to depreciate;
- will lead to a fall in the net foreign reserves of the central bank;
- will cause a liquidity contraction in the money market, which will reinforce market pressure on the domestic interest rate. As a result, the domestic interest rate will rise by more than if the exchange rate had been allowed to depreciate.

In sum, when downward market pressure is exerted on the domestic currency, central bank intervention in the spot exchange market will offset the market pressure on the exchange rate and reinforce the upward pressure on the domestic interest rate. At the same time, the forward exchange rate will depreciate, reflecting the higher domestic interest rate.

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[1]A tendency for the exchange rate to depreciate need not always be associated with upward pressure being exerted on the domestic interest rate. Suppose, for instance, that there is a shift in portfolio preferences whereby the public increases the demand for domestic bonds at the expense of the demand for domestic currency. This will exert downward pressure on the domestic interest rate and on the exchange rate. In this instance, in the absence of central bank intervention a depreciation of the exchange rate would be associated with a lower domestic interest rate.

II. Effects of central bank intervention in the forward market to support the domestic currency

Alternatively, the central bank can intervene in the forward exchange market to counter market pressure on the exchange rate. In this case, the central bank intervenes by selling to a commercial bank foreign currency in exchange for domestic currency with delivery, say, in one month. If the commercial bank covers its open position in the forward market it will immediately sell foreign currency for domestic currency in the spot market. This transaction will counter market pressure on the exchange rate, as would direct intervention by the central bank in the spot market.

The spot exchange transaction enables the commercial bank to balance its currency position. However, the commercial bank will be confronted with a "maturity mismatch". Indeed, the bank will receive the domestic currency in two days[2] but it has to deliver it to the central bank only in one month. Conversely, the commercial bank has to deliver the foreign currency in two days but it will receive it from the central bank only in one month. To offset the maturity mismatch, the commercial bank will seek to make a one-month loan in the domestic currency in the interbank market. This will exert downward pressure on the domestic interest rate, which will offset the upward pressure from the exchange market tension. At the same time, the commercial bank will seek to take a one-month loan in foreign currency. No upward pressure, however, will be exerted on the foreign interest rate.[3] This rests on the assumption that the foreign money market is sufficiently large relative to the domestic market or that the foreign central bank accommodates the higher demand for credit in the foreign currency.

In sum, central bank intervention in the forward exchange market to counter market pressure on the domestic currency would offset the pressure on both the exchange rate and on the domestic interest rate. Under these circumstances, the forward exchange rate would remain unchanged. However, central bank intervention in the forward market will offset market pressure on the domestic interest rate only temporarily. When the forward transaction with the commercial bank matures, the central bank will sell foreign currency in the spot exchange market. This will cause a liquidity contraction in the money market, which will exert upward pressure on the domestic interest rate.

III. Conclusions

The above discussion suggests that central bank intervention in the forward exchange market may play a useful role when the authorities expect pressure on the domestic currency to be temporary and do not wish monetary conditions to become tighter. Indeed, such intervention would

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[2] A spot exchange transaction is typically settled the second working day after the transaction is made.

[3] Alternatively, the commercial bank could lend the domestic currency and borrow the foreign currency by entering into a swap transaction, through which it would sell domestic currency in exchange for foreign currency in the spot exchange market and repurchase the domestic currency in the forward market. This swap transaction would have the same payment implications for the commercial bank as a one-month loan in the domestic currency in the interbank market.

offset market pressure on both the exchange rate and on the domestic interest rate. By contrast, central bank intervention in the spot market would reinforce market pressure on the domestic interest rate. In this case, the central bank would have to supplement intervention in the exchange market with an expansionary open market operation, if it wishes to maintain an unchanged domestic interest rate.

Central bank intervention in the forward market also offers the advantage of having no immediate impact on the foreign reserves of the central bank, which may be a desired objective if discretion is sought. On the other hand, by countering market pressure on the domestic interest rate such intervention would not increase the cost of hedging or speculating against the domestic currency and this might encourage pressure on the currency. To prevent this, the central bank would have to supplement intervention in the forward exchange market with a contractionary open market operation.