



vol.91 (12.October.2010) Another kind of sterilization

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Yen-selling intervention increases the dollar funds in our FX reserves. In the past, its majority was quickly used to buy UST. In the short term, such purchases risk undermining the interventions by reducing the interest rate differentials. Neutralizing the side effect requires the sterilization of dollar funds. In theory, Treasury sales and FX swaps between the US and Japanese authorities could be used. But these are not realistic given the cost to the US. In the long-run, meanwhile, the decline in US interest rates could support the US economy and thereby curb downward pressure on the dollar. Thus, the use of Japan's FX reserves to buy UST effectively could become an element of US monetary policy.

## Introduction

The Japanese government intervened in the currency markets on 15 September. As the yen ended the week above 85 after falling below 83, the government would appear to have met its goal, at least at this stage. Within Japan, views on the sterilization of such intervention appear to be converged. Key to understanding this point is the fact that our interventions are carried out by the government (ie the Ministry of Finance) using its own funds. The Bank of Japan is the agent responsible for executing the trades. To intervene, the MOF takes yen procured by issuing TBs and uses those funds to buy dollars. If the BOJ then mops up yen funds from the market, it will leave fewer yen outstanding than there were before the intervention. Only by leaving those funds in the market can the BOJ achieve a neutral sterilized intervention. If an unsterilized intervention is desired, the BOJ needs to supply funds separately from the intervention. As noted in a book by BOJ Governor Shirakawa, whether an intervention is unsterilized or not depends solely on the Bank's monetary operations.

Conversely, what is the market impact of the US dollars bought? In this report I examine the impact on the financial markets of the US dollar resulting from such interventions.

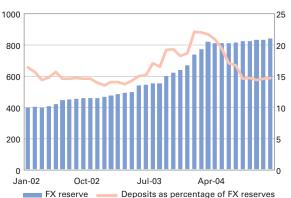
# Japan's FX reserve management and US rates

USD funds acquired by the MOF in interventions become part of our FX reserves. USD payments in interventions

represent a transfer of deposits from financial institutions to the MOF and increase the amount of USD deposits. Such absorption of funds generally tightens US money markets, but it would not matter when the Fed maintains massive amount of excess USD funds in the markets.

The MOF can choose to hold on to those deposits. With the Fed committed to keeping interest rates at extremely low levels, they carry a minimal yield. But inasmuch as FX reserves are a "reserve asset" to be used in the event of exchange rate misalignments and other problems, it is not simply a matter of investing them in the highest yielding assets. Other factors that must be taken into account include the liquidity of the asset and the safety of principal. US Treasury notes offer both safety and high liquidity.

Although the MOF does not provide detailed information about its reserve assets, past statements suggest that a substantial portion of our FX reserves have (at least up to now) been invested in UST. If this policy is to be



#### Exhibit 1. FX reserves and deposit ratio (\$ bn, %)



maintained, it means that a majority of the dollar deposits acquired in the recent intervention will eventually be used to purchase UST.

The market impact also depends on the pace at which UST are purchased. An examination of the MOF data shows that when the "massive intervention" produced a sharp increase in reserves, deposits as a percentage of total reserves also rose, but reverted to its original level (about 15%) relatively soon afterwards (Exhibit 1). In other words, the MOF bought UST relatively soon after acquiring the USD deposits.

If the government takes the same approach this time as it did in the past, the majority of the USD deposits acquired in the operation will presently is expected to be used to buy Treasury securities. This will contribute to lower US rates.

Some readers may argue that no intervention by Japan could move prices given the size of the UST. While that may be true, we also need to keep in mind the following points.

First, any purchases of UST by the MOF must be added to purchases by other Asian governments. Unlike Japan's intervention this time, launched to great fanfare with interviews with the MOF and statements by the governor of the BOJ, these tend to be low-key events. Nonetheless, it appears that other Asian countries are intervening on the FX market to sell their currencies, and their FX reserves are increasing. TIC data from the US Treasury are also consistent with the inference that at least some of the increase in Asian FX reserves is used to purchase UST. In effect, by buying UST the MOF joins our Asian colleagues.

Second, Treasury market participants tend to emphasize the impact of such purchases by the MOF. After the latest intervention on September 15, short- and medium-term Treasury yields fell in spite of weakness in USD/JPY as expectations of increased buying by the MOF was seen as positive. Of course this kind of sentiment can change quickly. But the view that government purchases will lower Treasury yields is shared by a wide spectrum of individuals beyond the market. Many experts and academics alike strongly support the view that this contributed to the financial crisis, and the Fed itself has repeatedly suggested the validity of this interpretation based on past empirical analysis.

If Japanese government purchases of Treasurys with dollar deposits did have the effect of lowering US interest rates, that would not be a negligible matter. It would mean that such purchases, at least in the short term, could weigh on USD/JPY by reducing the interest rate differentials. Given the strong correlation between USD/JPY and the interest rate spread between 2-year government bond yields (Exhibit 2), I do not think this risk can be dismissed out of hand.





## Sterilization of dollar funds

If a situation like the one described above were to materialize, the investment of FX reserves could ironically undermine the effectiveness of the intervention. If so, the MOF needs to consider something to do about it.

One option would be a communication policy designed to keep the market from overestimating the impact of Japanese government purchases of UST following a currency intervention. As noted above, however, a broad range of individuals in the US emphasize the impact of FX reserves on interest rates. Even the Fed itself tends to support this view. Accordingly, I think there are limits to what can be achieved with this approach.

A more fundamental answer would be to cut off the transmission by which FX reserve management influences



US markets. This would involve sterilizing the USD deposits acquired through interventions. In theory, at least, there exist a few ways to accomplish this.

First, the MOF could convert its dollar into yen via a FX swap with the US government. During the recent financial crisis, the Fed entered into such swaps with a number of central banks to reduce liquidity risk for USD funds. With these swaps, the Fed supplied dollars, and the BOJ supplied yen. Under the plan being discussed here, however, Japan would need to supply dollars while the US supplied yen. The most appropriate US partner for the swap would not be the Fed but rather the Treasury, which is responsible for managing US FX reserves. Unfortunately, the US has only \$130bn in FX reserves, of which SDRs account for more than \$50bn. That means the plan would probably run up against its limits in short period of time.

A second option would be for the MOF to buy UST in off-market transactions. This could be achieved, for example, by having the Treasury issue bonds directly to the Japanese government. While this might facilitate the funding of US fiscal deficits, there is a suspect the US has few incentives to establish such a program solely for Japan's benefit. Another possibility would be for the MOF to purchase Treasury bonds directly from the Fed. In August the Fed resumed its purchases of Treasury bonds using the proceeds of MBS redemptions, and with such purchases expected to increase, it is not difficult to envision the Fed selling Treasury bonds to the MOF. Of course, in exchange, this would expose the Fed to exchange rate risks on the yen it received.

In summary, while it is possible in theory to sterilize US dollar deposits, as a practical matter it would entail substantial costs for the US and therefore may not be realistic. Another possibility would be for the MOF to mitigate the impact of its UST purchases by investing the dollar deposits in a more diversified portfolio. Many believe that the MOF has gradually altered the USD's share of FX reserves, based on the fact that Japan's FX reserves in dollar terms frequently changed even after the government's large-scale interventions ended in 2004. However, I am skeptical about the efficacy of greater investment diversification on this issue. Assume, for example, that the MOF used some of the USD funds

obtained in interventions for the purchase of EURdenominated assets. Regardless of the magnitude, such a move would put upward pressure on EUR/USD. And at least some of the resulting dollar weakness would almost certainly weigh on USD/JPY. Once again, this would undermine the intervention to some extent.

# Conclusion

While the purchase of UST with FX reserves poses some problems for the MOF, there is much to recommend it from a US standpoint. As noted above, investors willing to buy UST should be welcomed at a time of widening US fiscal deficits. Furthermore, the MOF is a "good customer" that will maintain a relatively conservative investment strategy and is unlikely to engage in its large and abrupt sales. And keeping long-term interest rates in check can be expected not only to facilitate business investment but also to reduce the burden on mortgaged homeowners and encourage refinancings in the housing market, which is at the center of their problems. The Japanese government's use of FX reserves to purchase UST should provide some support for the US economic recovery in the long-run.

If the MOF were to take the USD funds acquired in its interventions and use the majority to buy UST, a potential short-term effect would be a narrowing of the interest rate spread, which would undermine the impact of the intervention. In the longer term, however, such a policy could be expected to support the US economic recovery and therefore mitigate dollar weakness. What I find interesting is that these mechanisms would be driven not by exchange rates but rather by US interest rates. In other words, FX interventions by the MOF—regardless of their intention—would, via the purchase of UST with the FX reserves, effectively contribute to US monetary policy conducts. This is identical to the impact on the US economy of the Asian "savings glut" frequently cited by Fed Chairman Bernanke.

It remains unclear just how large Japan's recent intervention will result in, but many in the market expect continued heavy upward pressure on the yen. If they are right, it may no longer be an exaggeration to talk about



"policy coordination" between the Japanese government (the MOF rather than the BOJ) and the Fed.

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