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The Exchange Rate and Monetary Policy in the United Kingdom

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This talk will focus on one issue for current monetary policy: what should, and probably will, be done by the Monetary Policy Committee when otherwise desirable monetary policy has a perverse effect on the exchange rate. Recently, this has been a problem for Euroland and Japan, as well as the United Kingdom. Life has been made uncomfortable for UK policy makers because of the strength of the pound. Although sterling has weakened recently, in May it was up by over 20 percent against the euro since the latter's inception. If inflation is to be contained, it is not possible to reduce interest rates to put downward pressure on sterling. How can the Monetary Policy Committee meet its mandated inflation target without worsening the exchange rate?

Swings in exchange rates can do real damage to the economy. A stronger domestic currency increases the foreign-currency prices of exported domestic goods, making them less attractive to foreign purchasers. For any home-currency price, it also increases the foreign-currency price of imported goods. This allows foreign producers to lower their domestic-currency prices and foreign goods become more attractive relative to domestic goods. The strong currency lowers competitiveness and workers and firms are hurt. A weaker currency increases the prices consumers and firms pay for foreign goods. This causes damage by increasing consumer price inflation and the prices domestic firms pay for imported inputs.

In addition to a too high or a too low exchange rate causing harm, volatility of exchange rates may be injurious. The empirical evidence is inconclusive, but it seems reasonable that exchange rate uncertainty reduces international trade and investment. Expressions of sympathy and regret to those in the internationally exposed sector are standard fare in MPC members' speeches.

The current economic scenario in the United Kingdom has led a number of people to come up with the same idea. *Financial Times* columnist Martin Wolf, Gerald Holtham of Norwich Union Investment Management and University of Warwick Professor Marcus Miller

have all suggested that the Bank of England should conduct sterilised intervention in the foreign exchange market.

Foreign exchange intervention is within the Bank's remit. The Bank has a stock of foreign exchange reserves and the Chancellor's May 1997 letter to the Governor of the Bank of England states that the Bank is allowed, "... at its discretion to intervene in support of its monetary policy objective". The Bank could also act as agent for the Treasury, using the government's stock of reserves. At least one MPC member, Sushil Whadwani is not averse to the idea, stating in a 31 May speech that sterilised intervention, "can sometimes be helpful in achieving our monetary policy objective." He sees no problem justifying the intervention in terms of the inflation mandate, saying, "anything that pricked the "bubble" in sterling now would, both, reduce the current inflation undershoot and prevent the UK economy from receiving a significant inflationary impulse at some future, uncertain date when the inflation rate may well be above target." According to the May 3 and 4 minutes of the MPC, the Committee has discussed, but not decided to, intervene.

Foreign exchange intervention works as follows. Suppose that the UK wanted to lower the strength of sterling against the euro. It would buy euro-denominated securities from the private sector, selling sterling in return. This would appear to increase the supply of pounds. However, the Bank of England sets its short-term interest rate. To maintain this rate, it will automatically act to *sterilise*, or undo, the effect of the foreign exchange intervention on the domestic money supply by performing an open-market operation.

The open-market operation will take the form of selling sterling-denominated securities such as UK Treasury bills. Thus, there will be no effect on the supplies of pounds or euros. The supply of sterling-denominated securities in the hands of the private sector will rise, however, and the supply of euro-denominated securities in the hands of the private sector will fall.

In practice, the Bank may not actually go through this whole two-part procedure to affect the supply of sterling- and euro-denominated debt. Countries often effect a more rapid transformation of debt denominated in one currency into debt denominated in another through the use of derivatives, especially forward contract and swaps. Thus, sterilised

intervention is achieved synthetically.

The idea of sterilised foreign exchange intervention is not new. European countries and Japan bought dollars in an attempt to slow the dollar's decline in the late 1970s and they sold them to stem its rise in the early 1980s. In September 1985, the United States – scared of rising calls for protectionism – joined the other G-5 countries in signing the Plaza Accord and took part in the resulting concerted intervention to further the dollar's fall. In February 1987, G-6 finance ministers agreed at the Louvre on cooperative intervention to stabilise exchange rates. Most of this intervention, as well as the Bank of England's disastrous 1992 effort to stave off the collapse of the pound -- which resulted in a (reported) $5 billion capital loss in only a few hours -- was sterilised.

The French have been among the most enthusiastic supporters of sterilised intervention and, as a sop, at the 1982 Versailles Summit the much-less-enamoured United States agreed to coordinate a vast international study of the effectiveness of sterilised intervention. The study concluded that the consequences for the exchange rate of changing the relative supplies of bonds are, at most, ephemeral.

In recent years, many central banks of industrialised nations – perhaps convinced of the ineffectiveness – have done little intervention. The United States, which intervened in foreign exchange markets on average one out of four business days between February 1987 and July 1990, has intervened only once since August 1995-- in June 1998, when it sold dollars for yen in a concerted action with the Bank of Japan. The Bank of England has not intervened since the unfortunate incident in 1992 and the European Central Bank has yet to report any intervention.

The recent resurgence in interest in the instrument in the United Kingdom and elsewhere again raises the question of whether it works. Clearly, *unsterilised* intervention works. All sensible theories of exchange rates predict that a -- if not the -- most important determinant of an exchange rate is the relative size of the two relevant countries' money supplies. If the supply of sterling rises relative to the supply of euros, the value of the pound can be expected to fall relative to the value of the euro. The effect of an increase in the supply of *securities* denominated in pounds relative to the supply of *securities* denominated

in euros on the exchange rate is less clear. But, in theory, it might cause the pound to depreciate.

If financial assets denominated in different currencies have different risk characteristics, then the private sector will want to diversify their portfolios between securities denominated in sterling, euros, and other currencies. If the supply of pound securities rises relative to the supply of euro securities, investors will find themselves holding a greater fraction of the real value of their portfolio in sterling bonds than they want and a smaller fraction than they want in euro bonds. Equilibrium can be restored if the pound depreciates, lowering the real value of their sterling bonds relative to euro bonds.

In practice however, an enormous body of empirical work, including and after the Versailles report, is nearly unanimous. Intervention cannot work by altering the relative supplies of bonds.

Why does sterilised intervention fail to work? The usual reason given is that investors do not regard bonds denominated in different currencies as having substantially different risk characteristics. In economic jargon, they are nearly *perfect substitutes*. Equilibrium in international bond markets requires securities to have similar returns on average, when expressed in a given currency. Given that, investors do not care much how their portfolios are allocated. If the relative supplies of bonds denominated in different currencies change, investors are happy to hold the reallocated portfolio.

This explanation is at odds, however, with another even more colossal empirical literature which shows that assets denominated in different currencies are very *poor* substitutes. Risk premia in foreign exchange markets are puzzlingly large and investors do care about how their portfolios are allocated.

Perhaps another explanation for the ineffectiveness of foreign exchange intervention is that it changes governments' budget constraints and, thus, future fiscal policy. Consider again the example of intervention in support of the pound against the euro. The supply of outstanding UK Treasury bills rises. UK residents realise their taxes will be higher than they otherwise would have been to retire these obligations. In effect, they are the issuers of this debt. The government's action effectively reduces the net share of the real value of UK

portfolios allocated to sterling.

Thus, by reallocating portfolios, the intervention increases the demand for sterling bonds. The change in relative demands for securities denominated in different currencies may nearly offset the change in relative supplies. Little change in the exchange rate may be required to restore the desired portfolio balance.

It has been suggested that even if relative bond supplies have little effect on exchange rates, foreign exchange intervention might work through a *signalling* channel. If the private sector is uncertain about future monetary policy, a central bank purchase of foreign currency signals easing of future monetary policy; a sale signals a tightening. Credibility of the signal arises because the intervention creates an open position for the central bank. If the central bank purchases foreign exchange it makes a profit only if its own currency weakens; hence, it pays to ease monetary policy. If the central bank sells foreign exchange it gains only by following a tight monetary policy to induce an appreciation of the domestic currency.

There are a couple of problems with this idea. The first is that for the story to be sensible, private sector beliefs must be rational; hence, on average they must be validated. Thus, it must be that the central bank's incentive to make a profit is strong enough that a purchase, or sale, of foreign exchange is indeed followed by the expected loosening, or tightening, of monetary policy. This is not likely to be true, the profits involved in any reasonable amount of foreign exchange intervention are tiny compared with, say, tax revenues. Moreover, the intervention only works if future monetary policy is directed at influencing the exchange rate. This certainly does not qualify as sterilised intervention and for the United Kingdom it is unlikely to be generally compatible with meeting the inflation target.

The second problem is that a number of empirical studies suggest that intervention does not work through this channel. The evidence that intervention helps predict monetary policy is weak; indeed, one paper which did find some predictive power found it went the wrong way![1] A purchase (sale) of foreign exchange was followed by a tightening

[1]Kaminsky, G. and K Lewis, "Does Foreign Exchange Intervention Signal Future Monetary Policy," *Journal of Monetary Economics* 37 (1996), 285 - 312..

(loosening).

Another way foreign exchange intervention might work through a signalling mechanism is if the central bank has better knowledge of the current and future economic fundamentals than the private sector and it can use intervention to signal this knowledge. A central bank which is better informed than the public can signal knowledge that its currency is "overvalued" by selling the currency. This signal might be believable, where simply trying to "talk" the currency down might not be, because the central bank will only make money if the currency depreciates. There is some evidence that central bank intervention is profitable, which is consistent with the central bank having better information.[2] However, there is little evidence that foreign exchange intervention has forecasting value and this casts doubt on the theory.

Although intervention only has short-run effects, perhaps it can be used to reduce temporary fluctuations in exchange rates. Empirical research on the ability of intervention to do this is mixed. One recent empirical study found little evidence that central bank intervention decreased volatility during the second half of the 1980s and evidence that it increased it in 1987 - 1989.[3]

There is a widespread belief that sterling is overvalued relative to the euro. The May 3 and 4 minutes of the MPC suggest the committee is baffled by the pound's strength and the May *ECB Monthly Bulletin* (p. 32) says the euro's weakness appears to be, "increasingly inconsistent with underlying economic developments and prospects... ". In his speech, Sushil Whadwani referred to the sterling-euro exchange rate as a "bubble". What economists mean by a "bubble" is an increase in a financial asset price that is not justified by the economic fundamentals alone. Instead the rise is driven solely by investors' expectations that the price is likely to go continue to go up. Investors are rational, their expectations are self-fulfilling and indeed it is likely the price will continue to rise.

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[2]Leahy, M., "The Profitability of U.S. Intervention in the Foreign Exchange Market," *Journal of International Money and Finance* 12(6), 1995, 644-53.

[3]Bonser-Neal, C., "Does Central Bank Intervention Stabilize Foreign Exchange Rates," *Economic Review*, first quarter 1996.

All bubbles must burst eventually, and some observers have suggested that, even if the intervention is ineffective, it ought to be undertaken for speculative purposes. Thus, the view of some is that now is an ideal time for the British government to take a speculative position in the foreign exchange market by buying euro securities.

There are two problems with this. First, it is not obvious sterling's strength against the euro is a bubble and if it is, it is not clear when it will pop. Buying euro securities is not a sure bet or the private sector would have already reallocated their portfolios and the euro would be stronger than it is. It should be remembered that the dollar was widely believed to be overvalued in 1982 and the US stock market has been regarded as unsustainably high for years. Second, it is not clear that operating a hedge fund for tax payers is a proper function of a government.

Gerald Holtham's proposal for sterilised intervention has an additional wrinkle. He calls for the government to issue *long-term* sterling debt and buy euro bonds. The UK yield curve has typically tended to slope down at the long end and, in recent months, long-term sterling yields have fallen below long-term euro yields. Holtham, and others as well, argue that lengthening the maturity of sterling debt has the benefit of reducing government debt service costs.

Holtham=s argument that issuing long-term sterling debt is a cheap means of financing relies on anecdotal evidence that the UK sterling debt market is segmented because of the demand from pension funds for long-dated government debt. The Minimum Funding Requirement requires that in determining the rate of return on annuities, actuaries have to use the yield on very long gilts as a benchmark. It does not actually require them to hold significant amounts of these securities, but for some reason fund managers have chosen to do so anyway. As the government has not issued large amounts of very long-maturity debt in recent years, there is a shortage of this type of asset and long interest rates are artificially low. Thus, the story goes, the government can have a free lunch if it issues long-term rather than short-term debt.

In a recent article, Willem Buiter and I express scepticism. We agree that in the presence of a regulation-induced market failure, the term structure of interest rates might

depend upon relative financial asset supplies. In choosing a debt-management strategy, the government might not face a purely market-determined trade off between risk and return. However, if Holtham=s story is right, why are other potential suppliers of very low-risk long-term sterling bonds, such as the World Bank, other central banks or perhaps even high-grade private institutions, not taking advantage of the situation? However, even if the story is correct, it is only an argument for changing the maturity structure, not the currency composition of the government=s debt.

Given the ineffectiveness of foreign exchange intervention, what can monetary policy do about exchange rate "misalignments"? Under the current arrangements, the MPC can do nothing; it has only one instrument, a short-term interest rate, and that must be used to meet its inflation target. Foreign exchange intervention cannot, should not, and probably will not be used as means to bring down the pound.