

THE COST OF INTERVENTION

10 December 1993

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Issue

Detail of the Bank's estimates of the cost of intervention last autumn, as mentioned in submission today on publication of UK borrowing under the VSTF.

Summary

The main problem is specifying a counterfactual against which to measure the cost. The Bank have analysed various counterfactuals for the reserves on the assumption that interest and exchange rates would not have turned out differently from the way they actually evolved. If there had been no intervention, the total worth of the reserves (including the large part that was converted into sterling) would have been around £3½ billion higher by April 1993. The actual loss could have been as large as £5 billion. But it was reduced because we chose not to follow the usual currency mix guidelines for the reserves, and because deutschemark borrowing under the VSTF was valued in ECU which had depreciated against the deutschemark by the time of repayment.

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Background

(i) methodology

At the beginning of August 1992 we had \$23 billion net reserves; two months later we had around \$16 billion negative net reserves. Following sterling's withdrawal from the ERM, many commentators started trying to estimate first the total intervention, and secondly the losses on that intervention.

2. Our standard line on the "cost of Black Wednesday", then and since, has been that such calculations are very uncertain and depend on lots of unknown factors, including the exchange rate at which we eventually repay our borrowings. It is indeed difficult to work out quite how to set about estimating the cost of intervention. Even specifying the dates over which to do the calculation can be problematic. And there is the separate question of the effect on the public finances.

3. We asked the Bank to do some counterfactual analysis, using their day by day record of reserve holdings, exchange rates and interest rates. The results of their calculations are given in the attached paper, and summarised below. All the calculations are presented in dollar terms, but this does not significantly affect the results.

4. Intervention is viewed, for the purposes of the calculations, simply as an exchange of foreign currency for sterling. We need to look at the values of both the part of the reserves that we continued to hold in foreign currency and the part that we converted into sterling.

5. The calculations are based on daily figures for reserve holdings between 3 August 1992 and 1 April 1993. They take account of the currency composition of the foreign exchange component, and of the interest payments and receipts on our liabilities and assets. The choice of start and end dates is rather arbitrary. Early August 1992 represents a date before serious intervention commenced; in April 1993 we still held

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negative net reserves, although by then the currency composition had been restored to the mix indicated by our normal investment strategy for the reserves. Since then sterling has appreciated a little, so the estimated cost would be reduced a little.

6. Arguably the calculation should start rather earlier, perhaps in 1987 so that it spans the time from when we started building up the net reserves to when we sold everything back. This is discussed later. We could equally choose a later date to end the calculation - arguably we should wait until all debt has been repaid and the net reserves restored to their August 1992 level. This would not make much difference to the overall results unless there were a marked strengthening or weakening of sterling.

(ii) August 1992 to April 1993, main estimates

7. The results come from comparing actual reserve holdings in April 1993 with estimates of what they would have been on various counterfactual scenarios. It is assumed throughout that the alternative hypotheses have no effect on either interest or exchange rates. This is most unlikely, but it is difficult to think of a better assumption.

8. The main counterfactual question (the Bank's case B) is how much would the reserves have been worth if we had not intervened at all, and we had simply held onto the foreign currency that we had at the start of August. The answer is that the total stock would have been worth \$4.9 billion more than our actual holdings. This, in our view and that of the Bank, is probably the best estimate of the cost of the intervention undertaken last August and September.

9. This is a large number, but it could have been much worse. The Bank identify two significant factors which offset part of the potential cost:

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- The massive net outflow of deutschemarks from the reserves, left us holding far fewer deutschemark bloc assets in the reserves than we would have under the normal strategic guidelines. We did not seek immediately to correct this position, and only did so by March 1993 by which time the dollar had appreciated against the deutschemark (so it cost fewer of our dollars to regain the required deutschemark).

The Bank estimate that the first of these saved us around \$0.6 billion. To restore currency composition to that indicated by the guidelines at the end of September we would have had to have sold around \$17 billion of deutschemark for yen and dollars. Had we done so at that time, we would not have gained from the subsequent appreciation of the dollar, and the reserves would have been some \$2.7 billion lower.

10. We think it is legitimate to count both of these factors in calculating the cost of intervention. If we did not, then the total potential cost comes out at \$8½ billion (or around £5½ billion at current exchange rates). We arrive at this as shown below:

	<u>\$ billion</u>	<u>£ billion</u> (@ \$1.50)
Potential cost	8.2	5.5
less effects of:		
VSTF denominated in ECU	0.6	0.4
Currency composition	2.7	1.8
Actual cost	4.9	3.3

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(iii) counterfactual variants

11. The Bank also undertook three further counterfactual calculations based on alternative behaviour (cases E to G). All of these are rather artificial and not particularly illuminating:

- Putting all of August and September's intervention into early August (to show we were serious about the ERM) would have left us with around \$0.8 billion fewer reserves by late September.
- If we ceased intervention on 11 September (ie left the ERM when the Italians devalued), then the reserves would have been worth around \$3½ billion more.
- Running down our net reserves to zero at the beginning of August and keeping them there would have left us with a little under \$½ billion more reserves by April 1993.

(iv) extending back to 1987

12. The Bank have not replicated their detailed analysis back to 1987, but they estimate that holding net reserves over that period actually cost us money. This is because the capital gain from buying deutschmarks at DM3 and selling at DM2.78 (around 8 per cent over four or five years) is far outweighed by the effects of relative interest differentials: UK short term interest rates were on average around 5 percentage points higher than German and US rates between 1987 and 1992, and even higher compared to Japanese rates. Even looking at long term bond yields, over the same period UK yields averaged 2½ per cent higher than the yields we would have got by investing the reserves in long term debt.

13. Although the Bank have not done the sort of detailed exercise that is reported above for 1992-93, they have calculated that the return on our net reserves (abstracting from strategic and management returns) between 1987 and August 1992 was probably around \$3 billion less than we would have got by investing the same amount of sterling in short term assets, even allowing for

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the effects of exchange rate movements. Although we cannot put a figure on the outcome, it seems relatively safe to assume that the period of holding deutschemarks from 1987-88 to September 1992 imposed a net cost on the exchequer.

(v) public finances

14. The above figures, of course, relate to questions about how much more the foreign exchange reserves would have been worth if there had been no intervention. It does not show the effect on the PSBR. This would be an entirely different calculation. We can be relatively sure that the net effect of changes in interest payments and receipts will be considerably smaller than the "cost" suggested above. However, the interest changes will persist for future years. And if we eventually issue gilts to refinance the foreign currency borrowing then we will need to issue more gilts, with a permanently higher interest burden.