

July 15, 1992

Comment on
"Concerted Interventions and the Dollar: An Analysis of Daily Data"
by P. Catte, G. Galli and S. Rebecchini
presented at the Ossola Memorial Conference
Banca d'Italia, Perugia, Italy

forthcoming in a volume edited by F. Papadia and F. Saccomani

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The Ossola Memorial Conference was held the same week as a G-7 meeting in Munich. It was at another G-7 meeting, held precisely ten years earlier at Versailles, that the national leaders commissioned a study on the effects of foreign exchange intervention. At the time, the French were the most ardent supporters of intervention, and the Americans, under the first Reagan Administration, were opposed. The results of the study, known as the Jurgenson Report, were submitted to the subsequent G-7 summit at Williamsburg in 1983. The report said that the effects of sterilized intervention, that is intervention which is not allowed to affect money supplies, could at most be minor and transitory.

Econometric tests appeared to show that sterilized intervention was ineffective. The evident reason was that a typical investor treats bonds denominated in different currencies as perfect substitutes, so long as they pay the same expected rate of return, and thus is indifferent to the currency competition of his or her bond portfolio.¹ The results of academic research happened to coincide with the views of many practitioners, particularly the view of policy-makers in the 1981-84 U.S. Treasury that nothing needed to be done about the appreciating dollar. Thus there was a remarkable degree of consensus in the early 1980s that exchange

market intervention did not offer a useful independent policy tool.

The U.S. position changed in 1985, when James Baker and Richard Darman replaced Donald Regan and Beryl Sprinkel at the Treasury. Their policy of intervening to push the dollar down, and the subsequent policy adopted in 1987 of trying to stabilize the dollar, came to be widely perceived by practitioners to have been successful. Ever since 1985, when reports of intervention come out over Reuters, foreign exchange traders react by leaping for their terminals. Central bankers tend to be a bit more restrained than traders in their evaluations, but nevertheless share the view that intervention has often been effective.

Only among academics does the consensus remain that sterilized intervention is ineffective. I think the time is ripe for research economists to re-examine this conventional wisdom in light of the post-1985 experience, and I welcome the contribution of Catte, Galli and Rebecchini to this effort. I found their paper to be quite a persuasive accounting of the effects of intervention during this period, and I congratulate them for it.

Data and Methodology

The use of true daily data on intervention operations is key to this study, as it is to any study that hopes to find effects in the foreign exchange market. Quarterly or monthly data won't do the job; tests of such frequency tend to find the wrong correlation between asset-supply data and exchange rates. The explanation is probably the simultaneity created by the phenomenon of "leaning against the wind:" when the dollar falls in value, central banks buy dollars to support it, creating a negative correlation. It is very difficult to deal with such simultaneity bias on quarterly or monthly data. One can get some idea of daily intervention by compiling reports in the financial press. But the true intervention series is not the same as the reported series. In a study that Kathryn Dominguez and I are preparing for the Institute for

International Economics, we found that only 81 % of medium-sized and larger intervention operations by the U.S. Federal Reserve are reported in the press, and only 71 % of smaller intervention operations.² Most central banks, while sharing their intervention data with each other, have long declined to make the data public, including until recently the Federal Reserve.

The Banca d'Italia, like the Banque de France, Bank of England, and Bank of Japan, continues to keep its data confidential. Those who wish to learn about the implications of the data are thus obliged to read studies such as the one by Catte, Galli and Rebecchini.

The authors start with the observation that intervention in the period 1985-91 was concentrated in 17 episodes. Their approach is qualitative: they look at the direction of change of the exchange rate subsequent to the intervention episode. The approach and results are quite similar to a table of eight major episodes in our study for the Institute for International Economics: we found that in each of the eight episodes, the exchange rate moved during the subsequent month in the same direction as the intervention.

[TABLE GOES ABOUT HERE]

The authors' criterion for judging when intervention is successful is that the subsequent change reverses the preceding trend in the dollar or, in one case (the Plaza episode of September 1985), pushes the dollar in the downward direction that it had already been moving.

I agree that the central banks' goal most of the time is resisting the recent trend (the "leaning against the wind" pattern already noted), and that the goal in September 1985 was to continue the recent trend. There are interesting questions in explaining the pattern of intervention. Fred Bergsten has called the Plaza kind of policy "leaning into the wind," and has suggested that it might be an especially potent way to intervene. I would suggest a characterization of intervention patterns that would encompass the Plaza episode at the same time as most of the

others: central banks have tended to sell dollars when its value is above a medium-run moving average, and to buy dollars when it is below (the same strategy that one might wish private speculators to follow).

But the proper criterion for judging whether the subsequent movement in the exchange rate is what was desired by the central banks is simple. One has only to ask whether the direction of the movement is the same as the direction in which they were intervening: Does the value of the dollar increase after dollars are purchased? For this question, it is not necessary to know why the central banks were intervening.

Some Episodes

I will discuss several of the authors' 17 episodes that seem to me of particular interest, before moving on to broader lessons.

Episode 1 took place in February 1985. Almost everyone accepts the Plaza Accord of September 1985 as the big turning point in intervention policy. But January or February of that year seem to me more accurate, and I am glad to see the authors concurring. There are four reasons for dating the shift from early in the year. (1) Messrs. Baker and Darman took office in late January, (2) the communique from the January G-5 meeting in Washington (which Baker attended in part) uses language that sounds at least as pro-intervention as that in the later Plaza Accord, (3) substantial intervention took place, particularly by the Bundesbank in late February but also by the Federal Reserve (the magnitude of sales of dollars for marks was almost as great as in the Plaza episode), and (4) newspapers at the time reported both the view that the new Treasury officials might be more receptive to proposals to intervene to bring down the dollar, and the fact that dollar sales were taking place.³

If one accepts the idea of dating the change in intervention policy from February rather

than September, then a widely-cited argument of Martin Feldstein's is turned on its head. Feldstein argues that, because the rate of dollar depreciation during the period after the Plaza (excluding the drop on the day of the announcement of 4 % or so) was no greater than the rate of depreciation from March to September, intervention must not have been effective. But if the policy shift is dated from February then, contrary to Feldstein, the timing is perfect to explain the reversal of the 1981-85 dollar appreciation. In this case one has to give more credit to the Germans, who were the strongest interveners in the earlier episode, than to the U.S.

Episode 4 in March-April 1987, and *episodes 6* and *7*, both in the aftermath of the October 1987 stock market crash, illustrate the importance of using daily data. The authors find greater evidence that intervention had the desired effects, even if they were short-lived, than have other observers using only publicly available data.

Episode 9, in the summer of 1988, occurred in the midst of a U.S. presidential election campaign. Rumors at the time had the Bank of Japan and other foreign central banks buying dollars to help President Bush. There is also a view, now held fairly widely in Japan, that the Japanese authorities were buying dollars throughout 1987-89 to help the United States, and that the effect of these dollar purchases on the Japanese money supply were a prime cause of the 1987-89 bubble in stock prices and land prices. But the actual intervention data show that the Bank of Japan was not intervening at all in the summer of 1988, and the Federal Reserve and Bundesbank were actually selling dollars. *Episode 10*, November 1988, does show dollar purchases, but *episodes 11-14* in 1989 all show dollar sales again. How can these data be reconciled with the story of Japanese support for the dollar and the asset-price bubble? One possible hypothesis, attributable to David Hale, is that the Japanese authorities did not so much intervene themselves as pressure Japanese institutional investors to buy dollar assets. Another --

not inconsistent -- hypothesis is that Japan undertook more rapid monetary growth in 1987-89 than it otherwise would have, in order to fulfill its obligations under the Louvre Agreement, but that the growth primarily took the form of domestic credit expansion rather than purchases of foreign currency. If these actions are still thought to have been motivated by a desire to help the United States, there remains the puzzle of why the U.S. itself would have been intervening to push the dollar down in mid-1988 and 1989.

Episode 16 took place in February 1991, when the authorities intervened to reverse a dollar depreciation. This is another occasion when the timing is crucial, and the authors' interpretation might be gainsaid by others, who have attributed the turnaround in the dollar to the success of Operation Desert Storm in Kuwait. The U.S. started to buy dollars on February 4, and continued for 7 days in conjunction with other central banks. The depreciation halted on February 11, intervention was ceased the next day, and a strong dollar appreciation then commenced. The authors attribute the exchange rate reversal to the intervention because Desert Storm did not end until later (February 24). But others would argue that the success of the military operations had become clear earlier, and that it explains the reversal.

Episode 18 does not exist in the authors' list, but I would add it. The authors show July 1991 as the only one of nine turning points in the exchange rate that was **not** accompanied by coordinated intervention. I don't have the true daily intervention data for 1991. (The Federal Reserve and Bundesbank have agreed to release data only with a year lag.) But I know that intervention to cap the dollar appreciation was reported in July 1991. So I would add this dollar turning-point to the list of successes.

Conclusions

The authors draw a number of conclusions from their analysis of the 17 episodes. Three of the conclusions warrant particular comment. First, they find that all of these episodes were successful in achieving their goals. Second, they find that seven out of eight turning points coincide exactly with episodes of concerted intervention. (Their one exception is July 1991, the one that I would count as a success.) Even a more skeptical view that judged some of their successes to be so short-lived as not to be successes at all, might still see the overall record as an impressive one.

The authors last conclusion regards contemporaneous monetary policy. It is that interest rate differentials moved so as to help pull the exchange rate in the desired direction in a majority of intervention episodes, but in many cases did not. This is not surprising. There are many ways to explain such episodes, where the value of the currency moves in the desired direction but the interest rate moves in the opposite direction. One explanation is simply that the dollar sales are sterilized (even if less than 100%), implying that the supply of bonds increases, driving up interest rates, and thus moderating the resulting fall in the value of the dollar. As the authors note, these episodes are evidence that intervention potentially offers a tool distinct from monetary policy. The authors go so far as to reverse the conventional view that intervention is effective only to the extent that it constitutes a change in monetary policy; instead monetary policy seems effective only to the extent that it takes the form of intervention.

I am a fan of simple charts, tables, and recounting of historical events. These modes of analysis are useful, both when taking a first look at the data, and when presenting conclusions to a general audience. But in between, it is usually desirable to do some more complete econometrics. There are at least three reasons why this is called for in the context of intervention. First, to avoid ex post rationalization of exchange rate movements. These three authors are fairly careful about defining uniform criteria for central bank goals and success or

failure. But the number of weeks over which subsequent performance is measured is arbitrary.

Second, a number of studies (e.g., Loopesko, 1984, and Dominguez, 1990⁴) have already found an effect from daily intervention data. One would like to disentangle the "signalling effect" (and other varieties of effects via expectations) from the "portfolio effect." One possibility is to use news reports to identify which interventions were known to the public, and to use survey data to measure the reactions of participants in the foreign exchange market.

Perhaps the most important reason for undertaking careful econometric analysis is the problem of simultaneity. Some readers are suspicious of results like those in the Catte, Galli and Rebecchini paper and the IIE study, because they indicate that the effect on the exchange rate appears only after intervention stops. Look at the second-to-last column in the Table. During the period of intervention, the exchange rate is almost always moving in the same direction as in the preceding period, the opposite of the direction desired. Some say demand for dollars appears to increase when the central bank is selling dollars; only when the authorities stop and the private market is left to clear on its own does the dollar fall. Now compare the last two columns in the Table. The change after intervention stops is often not enough to outweigh the change during the period of intervention. Some might claim that the total effect is zero. One would like to know what would have happened in the absence of intervention. Theory says the effect of intervention should be instantaneous (if not sooner). But then simultaneous equation techniques are called for.⁵

Notes

. E.g., Kenneth Rogoff, 1984, "On the Effects of Sterilized Intervention: Analysis of Weekly Data," Journal of Monetary Economics 14, 133-150; and Frankel, "Test of Perfect Substitutability in the Foreign Exchange Market," Southern Economic Journal 46, no. 4 (April 1980).

. "Intervention Policy Reconsidered," Institute for International Economics, Washington, D.C., November 1991.

. Frankel, "The Dazzling Dollar," Brookings Papers on Economic Activity (1985), 199-217.

. Kathryn Dominguez, 1990, "Market Responses to Coordinated Central Bank Intervention," Carnegie-Rochester Series on Public Policy vol. 32. Bonrpesko, 1984, "Relationships Among Exchange Rates, Intervention and Interest Rates: An Empirical Investigation," Journal of International Money and Finance 7-77.

. In Dominguez and Frankel (1992), we estimate two simultaneous equations, expectations equation and a portfolio equation, and use news reports and survey data alongside the true daily intervention data: "Does Foreign Exchange Intervention Matter? Disentangling the Portfolio and Expectation Effects for the UK" (with Kathryn Dominguez), NBER Working Paper No. 3299; Revised, February 1992.