FOREIGN EXCHANGE INTERVENTION:
AN EMPIRICAL ASSESSMENT

Kathryn M. Dominguez and Jeffrey A. Frankel

Kennedy School of Government, Harvard University and NBER
and
University of California, Berkeley and NBER


October 5, 1992
I. Introduction

Can intervention policy effectively influence market expectations of current and future foreign exchange rates? The conventional wisdom offers an unequivocal answer. Intervention in the foreign exchange market has little or no effect, except to the extent that it implies changes in countries’ money supplies. In the latter case, intervention is just a particular variety of monetary policy. The conventional wisdom thus says that intervention does not offer the authorities an independent policy tool for influencing the foreign exchange market.

In the early 1980s, the belief that intervention was not an effective policy tool was widely shared among academic economists, central bankers, and market participants. In the first Reagan Administration, the ineffectiveness of intervention was an article of faith, and the U.S. government accordingly refrained from buying or selling foreign exchange (with some minor exceptions). In 1985, however, attitudes at the U.S. Treasury shifted abruptly. The U.S. authorities began to intervene again in the markets, in collaboration with other country’s central banks, most visibly as decided at the meeting of G-5 economic leaders at the Plaza Hotel in September. Since that time, intervention has taken place regularly. Foreign exchange traders have taken note of it. They are observed to react to reports of intervention as vigorously as to any other sort of news. Most traders, and most involved central bankers, believe that this intervention has at times had important effects. We believe that the time is right for a reconsideration of the conventional wisdom as to the ineffectiveness of foreign exchange intervention.

In this paper we examine the two possible channels through which intervention can influence the foreign exchange rate: the portfolio and the expectations channels. Intervention can influence exchange rates through the portfolio channel provided foreign and domestic bonds are considered imperfect substitutes in investors’ portfolios. Intervention operations that, for example, increase the current relative supply of mark to dollar assets that private investors are obliged to accept into their portfolios, will force a decrease in the relative price of mark assets.\(^1\) Intervention can also influence exchange rates, regardless of whether foreign and domestic bonds are imperfect substitutes, through the

\(^1\) The exchange rate reaction to an increase in the relative supply of outside foreign assets may be reduced if there is an increase in their expected rate of return that induces a corresponding increase in demand.
expectations channel. The public information that central banks are intervening in support of a currency (or are planning to intervene in the future) may, under certain conditions, cause speculators to expect an increase in the price of that currency in the future. Speculators react to this information by buying the currency today, bringing about the change in the exchange rate today.

While some previous empirical studies of foreign exchange intervention operations have found evidence from daily data that central banks have had a statistically significant effect on exchange rates (Loopesko (1984), Dominguez (1990,1992) and Dominguez and Frankel (1992a,b)), the studies were not able to distinguish whether the effect was coming through the portfolio or the expectations channel. The goal of this study is to disentangle the influence of the two potential channels during the most recent experience with central bank intervention operations.

II. Intervention Policy in Practice

Intervention operations by central banks involve the purchase (or sale) of foreign assets with domestic assets, which, if not sterilized will result in an increase (or decrease) in the domestic monetary base. For example, when the Fed intervenes against the dollar, the Fed’s portfolio of foreign assets (typically DM- and Yen-denominated assets) increases while its dollar deposits decrease. At the same time, dollar deposits of commercial banks at the Fed increase. As a consequence, the U.S. monetary base (commercial bank deposits at the Fed plus currency in circulation) is increased. The Fed can sterilize this increase by selling the appropriate number of dollar denominated assets in open-market operations.

The Federal Reserve Bank of New York reportedly fully and automatically sterilizes its intervention operations on a daily basis. In practice, the foreign exchange trading room immediately reports its dollar sales to the open market trading room, which then buys that many fewer bonds, so that the daily money supply is unaffected. The Bundesbank also claims to sterilize its foreign exchange intervention operations routinely as a technical matter. Nevertheless, the general view is that both banks have at times allowed intervention operations to sterilize its intervention operations on a daily basis. In practice, the foreign exchange trading room immediately reports its dollar sales to the open market trading room, which then buys that many fewer bonds, so that the daily money supply is
unaffected. The Bundesbank also claims to sterilize its foreign exchange intervention operations routinely as a technical matter. Nevertheless, the general view is that both banks have at times allowed...