

ECONOMIC COMMENTARY

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Exchange-Market Intervention and U.S. Monetary Policy

by Owen F. Humpage

The United States often buys or sells foreign currencies, hoping to influence dollar exchange rates. The most visible result of these transactions, however, seems to be a continuing debate about their appropriateness.

Many economists contend that central banks can influence foreign exchange rates only by altering the relative money-growth rates among countries. If, for example, the United States wishes to depreciate the dollar relative to the German mark, either the United States must loosen its monetary policy, or Germany must tighten, or both. This can pose a problem, however, if domestic monetary policy objectives, such as price stability, are not conducive to an easing in the United States or a tightening in Germany.

The potential for conflict between intervention and monetary policy arises because intervention generally does not afford central banks an additional policy instrument with which to pursue an exchange-rate target independent of domestic monetary policy objectives. Consequently, the implied willingness of central banks to trade off among possible conflicting objectives could reduce their overall credibility. When, for example, the Federal Reserve sells dollars in exchange markets while attempting to eliminate inflation, it risks weakening the credibility of its price-level objective.

The controversy also extends to the institutional arrangements for intervention. In the United States, the Treasury

Department and the Federal Reserve System share responsibility for intervention, with primary authority vested in the former. Some fear that because the Treasury and the Federal Reserve often disagree about monetary policy, their common responsibilities for intervention could compromise the Fed's monetary policy independence and lessen its credibility.

This *Economic Commentary* reviews the debate about intervention and draws three conclusions: First, with few exceptions, central banks cannot divorce their intervention activities from their monetary policies. Second, exchange-rate stabilization does not always conflict with price stabilization; their compatibility depends on the nature of the underlying economic disturbance. Third, because of the monetary nature of exchange rates, the Treasury has strong incentives both to encourage the Federal Reserve's participation in intervention and to seek international cooperation for the effort.

■ Definitions and Distinctions

Debates about intervention center on an important distinction between *non-sterilized* and *sterilized* intervention. When, for example, the Federal Reserve buys German marks with dollars, the transaction increases the supply of dollars, other things being equal. Economists refer to intervention that alters a country's money supply as non-sterilized intervention. A central bank can, however, neutralize the effects of

Exchange market intervention divorced from monetary policy is usually ineffective, but intervention linked to monetary policy can interfere with domestic policy objectives. The author argues that a central bank interested in maintaining price stability gains little from intervening, particularly when it intervenes jointly with fiscal authorities.

its foreign-currency transactions on the nation's money supply by simultaneously undertaking offsetting open market operations. In our example, the Fed could sell U.S. Treasury securities to offset the greater supply of dollars resulting from purchases of marks. Economists refer to foreign-currency transactions that do not alter a country's money supply as sterilized intervention.

This distinction is an important one because if sterilized intervention could alter exchange rates, central banks could pursue exchange-rate objectives independent of their domestic monetary policy goals. The Federal Reserve, for example, could depreciate the dollar relative to the German mark without the danger of increasing U.S. inflation.

Most countries, including the United States, do not completely divorce their exchange-rate decisions from their monetary policy decisions. The Federal Open Market Committee (FOMC) sometimes weighs an exchange-rate objective in its

monetary policy decisions, typically when dollar exchange rates have become the focus of public concern.¹

In this paper, intervention is defined as any central-bank action to influence exchange rates. Central banks can undertake intervention through the purchase of foreign exchange or through more conventional monetary policy channels. The monetary effect of buying German marks is no different from the monetary effect of buying Treasury securities. I define sterilized intervention as intervention with no domestic monetary policy implications, and domestic monetary policy as central-bank actions to influence national goals (such as the price level) but not exchange rates. Using these definitions, I examine not only whether the United States can successfully pursue intervention independent of its domestic monetary policy goals, but also whether such intervention is effective.

■ Sterilized Intervention

Economists have offered theoretical explanations of how sterilized intervention might affect exchange rates and have attempted various empirical tests of the relationships that these theories imply.² Although most of the tests show that sterilized intervention is ineffectual, a few do find statistically significant and quantitatively important relationships between intervention and exchange rates.

Two broad conclusions seem to emerge from these studies. First, with near unanimity, the findings suggest that sterilized intervention does not have a permanent effect on exchange rates. This implies that central banks cannot use sterilized intervention either to chart a particular course for an exchange rate, to smooth long-term movements in an exchange rate, to establish target zones for an exchange rate, or to peg an exchange rate at a particular value. To have a lasting effect on exchange rates, central banks must alter their relative monetary policies.

Second, although sterilized intervention does not have a lasting impact, under some circumstances it can have a

temporary influence on exchange rates. Investigators believe that in these cases, sterilized intervention might influence exchange rates by altering market expectations or perceptions.

Economists like to characterize foreign exchange markets as operating on the basis of full knowledge about all relevant fundamentals. But information is costly, and relevant data — for example, domestic and foreign price indexes — are often available only after a delay. Thus, many traders predicate their short-term forecasts of exchange rates on a “technical analysis” of recent market trends and patterns, instead of on a fully informed review of economic fundamentals. Some economists maintain that under these circumstances, sterilized intervention can temporarily influence markets either by altering traders’ expectations or by influencing their assessment of current market conditions.³

To exploit such conditions successfully, with any hope of improving the market’s functioning, central banks must routinely have better information than the market. They must be able to distinguish between exchange-rate movements that somehow impede the efficient use of economic resources and those that are consistent with it. Given that economists have never been able to specify a set of fundamentals that satisfactorily defines such an exchange-rate path, the task of accurately distinguishing desirable from undesirable exchange-rate movements seems formidable, if not impossible. Moreover, when markets do not base their short-term expectations solely on economic fundamentals, a central bank cannot be certain about how intervention might affect exchange rates. The market could view intervention purchases of dollars as a sign that the dollar is fundamentally weak, instead of as a signal that the central bank will tighten its monetary policy to appreciate the dollar. If so, intervention purchases of dollars might induce further dollar sales.

Instances may occur when the market is functioning inefficiently and when central banks have better information, but these are rare. As exchange rates drift

away from a path dictated by economic fundamentals, they offer individuals who acquire better information a chance for profits. Although central-bank traders may occasionally enjoy priority information about surprise monetary policy changes, these, by definition, occur infrequently. Generally, exchange traders at central banks have no obvious advantage over traders at commercial banks. Thus, sterilized intervention is not likely to be effective very often. Indeed, studies show no consistently significant relationship between intervention and exchange-rate movements across different time periods.

■ Nonsterilized Intervention

Lacking a consistently effective and permanent influence on exchange rates through sterilized intervention, central banks might undertake nonsterilized intervention. The extent to which this might interfere with monetary policy objectives depends on the nature of economic disturbances.⁴

Exchange-rate stability and price stability are compatible when domestic monetary shocks prove to be the source of market disturbances. In such cases, a central bank can simultaneously cause prices and exchange rates to move in the desired directions. A surprise decline in domestic money demand, for example, will tend to increase prices and depreciate the dollar. An offsetting contraction in the money supply will lower prices and appreciate the dollar. When monetary shocks predominate, nonsterilized exchange-market intervention can support price stability.

When domestic real economic shocks disturb markets, however, attempts to stabilize exchange rates can actually accentuate the price effects of those shocks. If, for example, demand for U.S. goods increases unexpectedly, prices rise and the dollar appreciates. If the Federal Reserve sells dollars to prevent a dollar appreciation, the increased money supply will push prices higher. Intervention then prevents exchange-rate movements from buffering real economic shocks, and more of the adjustment burden falls on prices.

The case for focusing monetary policy on exchange-rate objectives rests on our ability to distinguish the cause of any exchange-market disturbance. At times, this has proven to be an easy task: Most economists attributed the dollar's rapid depreciation in the late 1970s to accelerating U.S. inflation. At other times, however, the source of the disturbance is less clear. Few analysts agree about the origins of the dollar's appreciation in the early 1980s. If central banks cannot clearly identify the nature of a shock, they cannot establish the overall desirability of nonsterilized intervention.

Even when the underlying economic shock is monetary, the only advantage of targeting exchange rates rather than the domestic price level is that exchange rates might respond faster than prices to underlying monetary disturbances. Prices of goods and services are often fixed by contract and are costly to change, but traders update exchange-rate quotations continuously. If exchange rates do not respond faster than prices, they offer no clear advantage as a policy target.

Although the presence of domestic monetary shocks and sticky prices creates a case for nonsterilized intervention, as noted earlier, such intervention requires neither foreign-exchange transactions nor the holding of foreign-currency reserves.

■ Institutional Aspects of U.S. Intervention

Many observers believe that central-bank independence from governmental fiscal authorities is vital for maintaining credible price stability. Institutional arrangements for intervention in the United States, however, forge a bond between the Treasury Department and the Federal Reserve, which some observers contend is inconsistent with central-bank independence and which therefore jeopardizes monetary policy credibility.

The Secretary of the Treasury, as the country's primary financial officer, is responsible to the President and to Congress for implementing international financial policies. As the chief U.S.

representative to the International Monetary Fund (IMF) and various other international economic policy forums, he promotes U.S. interests in the world financial community.

The Secretary also establishes the country's exchange-rate regime and intervenes in exchange markets when rates seem inconsistent with national economic objectives. The Treasury conducts its exchange-market operations through the Exchange Stabilization Fund (ESF), which Congress established under the Gold Reserve Act of 1934. The primary objective of the ESF is to foster short-term exchange-market stability through purchases and sales of foreign currency, but the fund also makes temporary emergency loans to debtor countries.

The Federal Reserve System, through the Foreign Exchange Desk at the New York Fed, acts as the fiscal agent for the ESF, providing the fund's managers with current information about exchange markets and executing ESF transactions. The Foreign Desk undertakes these transactions at the Treasury's direction. The Federal Reserve also intervenes for its own account, with the FOMC bearing ultimate responsibility for System intervention. Despite the operation of separate accounts, the Federal Reserve and the Treasury typically intervene in tandem and split the intervention transaction equally.

Although both organizations intervene, primary responsibility clearly resides with the Treasury. The Foreign Desk maintains close contact with the Treasury and has never intervened without at least the Department's tacit approval. From 1981 to 1985, for example, when the Treasury argued that intervention was ineffective and sharply curtailed its operations, the Fed, which did not seem to share the Treasury's view, curtailed intervention for its own account. Nevertheless, the Treasury cannot direct the Federal Reserve either to intervene for its own account or to refrain from such intervention, because to do so would constitute a direct breach of the independence that Congress intended for the System.

The Federal Reserve is independent within the government in the sense that it need not seek congressional or presidential approval for its policy decisions nor monetize the government's fiscal activities. Nevertheless, the System is accountable to Congress, implying both that Fed policies must conform with national economic objectives and that the System must not take actions to frustrate fiscal policies. Lacking a congressional mandate to focus solely on price stability, one might expect the System to weigh exchange-rate considerations more heavily during periods when the dollar's exchange value raises national concern.

In addition, the Federal Reserve's role in global policy discussions sometimes reinforces its disposition toward pursuing exchange-rate objectives. Although the Secretary of the Treasury is the primary international financial officer of the United States, the Chairman of the Federal Reserve System shares many of these responsibilities. The Chairman is the alternate U.S. Governor of the IMF and is an active representative at international meetings focusing on global financial matters.

These international forums frequently seek cooperative policy responses to international macroeconomic problems. Coordinated intervention often follows such meetings, signaling that the participants have agreed upon the nature of economic problems and that they will cooperate to resolve them. Under such circumstances, the Fed would find it difficult to avoid intervention — even nonsterilized intervention.

Given the monetary nature of exchange rates and the limited effectiveness of sterilized intervention, the Treasury has strong incentives to encourage the System's participation in foreign-exchange-market intervention. By encouraging the active cooperation of the Federal Reserve, the Treasury reduces the chances that the System will completely sterilize the transactions and thus increases the chances that intervention will influence exchange rates.

The Federal Reserve is even more apt to include an exchange-rate target in its monetary policy deliberations when the major industrialized countries undertake intervention in concert. The Fed intervened in foreign exchange markets in late 1985 following the Plaza Meeting of the Group of Five countries and again in 1987 following the Louvre Meeting of the Group of Seven countries.⁵ At both of these forums, the major industrialized countries agreed to coordinate macroeconomic policies and to intervene in dollar exchange markets. These were periods when the FOMC gave increased weight to exchange-rate considerations in its monetary policy deliberations.

■ Conclusion

Since the inception of floating exchange rates in 1973, central banks have frequently intervened in exchange markets in order to influence exchange rates. Relative to other countries, the United States does not often intervene, but when it does, the dollar amounts can be substantial. In 1989, for example, the United States bought approximately \$20 billion worth of German marks and Japanese yen (a record) in an attempt to stabilize the mark-dollar and the yen-dollar exchange rates.

U.S. intervention has been a continuing source of controversy because many see it as interfering with the attainment of domestic monetary policy objectives,

notably price stability, and because some believe that existing institutional arrangements for intervention in the United States are inconsistent with central-bank independence.

This *Economic Commentary* has illustrated three important elements underlying the arguments against heavy and frequent U.S. intervention. First, sterilized intervention does not appear to provide central banks with a way to influence exchange rates systematically and permanently. At best, under some rather unusual circumstances, sterilized intervention can temporarily affect exchange rates. Second, nonsterilized intervention can alter nominal exchange rates systematically and permanently, but when domestic monetary disturbances are not the source of underlying shocks to the exchange market, nonsterilized intervention can conflict with price stability. A central bank interested in establishing long-term price stability gains little from including exchange-rate objectives among its monetary policy objectives. Third, if the Federal Reserve must undertake nonsterilized intervention to influence exchange rates, then institutional arrangements that vest intervention decisions primarily with the Treasury may offer the Department an avenue for influence over U.S. monetary policy, or at least create some doubt about the Federal Reserve's monetary policy independence.

■ Footnotes

1. See Dianne B. Pauls, "U.S. Exchange Rate Policy: Bretton Woods to Present," *Federal Reserve Bulletin*, vol. 76, no. 11 (November 1990), pp. 891-908; and Frederick T. Furlong, "International Dimensions of U.S. Economic Policy in the 1980s," Federal Reserve Bank of San Francisco, *Economic Review*, Spring 1989, pp. 3-13.
2. See Owen F. Humpage, "Central-Bank Intervention: Recent Literature. Continuing Controversy," Federal Reserve Bank of Cleveland, *Economic Review*, vol. 27, no. 2 (1991 Quarter 2), pp. 12-26.
3. See Juann H. Hung, "Noise Trading and the Effectiveness of Sterilized Foreign Exchange Intervention," Federal Reserve Bank of New York, Research Paper No. 9111, March 1991.
4. See Richard C. Marston, "Stabilization Policies in Open Economies," in Ronald W. Jones and Peter B. Kenen, eds., *Handbook of International Economics*, Vol. II. Amsterdam: Elsevier Science Publishers, 1985, pp. 859-916.
5. The Group of Five countries (G5) includes France, Germany, Japan, the United Kingdom, and the United States. The Group of Seven countries includes the G5 plus Canada and Italy.

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