

A Case for Fixing Exchange Rates



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By Arthur J. Rolnick, *Director of Research*,
and Warren E. Weber, *Senior Research Officer*

Contents

- 1 President's Message
- 3 A Case for Fixing Exchange Rates
- 16 Statement of Condition
- 17 Earnings and Expenses
- 18 Directors
- 19 Officers

The views expressed in this annual report are solely those of the authors; they are not intended to represent a formal position of the Federal Reserve System.

President's Message

This year's economic essay is provocative. It rigorously challenges well-established ideas on the efficacy of world currency markets and argues that ultimately the wisest economic decision would be to return to fixed exchange rates.

Art Rolnick and Warren Weber, co-authors of the essay, acknowledge the political obstacles such a proposal would encounter. Indeed, they are formidable. But what these two Federal Reserve economists have set out to demonstrate is the *economic* argument that exchanging currencies under a fixed rate system would contribute to economic stability and efficiency.

These ideas have "bubbled" for some years at the Federal Reserve Bank of Minneapolis in various forms among our traditionally free-market oriented economic thinkers. Neither Rolnick, Weber, nor their immediate colleagues believe a fixed rate proposal departs from that standing economic philosophy. Rather, it represents a search for the greatest market efficiency, which in this case does call for considerable government-to-government, international coordination.

I would anticipate that some will dismiss the essay as a return to Bretton Woods. They will have missed the point. Rolnick and Weber's vision is quite different from the 1944–1970 system we embraced and then abandoned.

I would also imagine that the essay will contradict some cherished ideas about the way the world works. Good. I invite skeptics to explore the track record of floating exchange rates in the last two decades as outlined in this essay.

Rolnick and Weber must be complimented above all for their scholarship and willingness to put a controversial topic on the table for consideration. I'm intrigued by it, most especially the primary example they give in defense of fixed rates — the Federal Reserve itself.



A handwritten signature in black ink, which appears to read "Gary H. Stern". The signature is stylized and cursive, with a long horizontal line extending from the end.

Gary H. Stern
President



A Case for Fixing Exchange Rates

By Arthur J. Rolnick, *Director of Research*,
and Warren E. Weber, *Senior Research Officer**

*Economic historians will look back on the 1980s as the decade
in which the experiment with floating currencies failed.*

—The Economist, January 6, 1990

Ever since Adam Smith first explained how the free market, like an invisible hand, guides self-interested individuals to produce what is efficient and best for society, most economists have supported a laissez-faire approach to most economic problems. The information and technical requirements needed to allocate scarce economic resources efficiently and desirably are considerable. As a result, economic planners are unlikely to do a better job than individuals responding to market-determined prices. Indeed, experience suggests that economic planners almost always do much worse. And even when the market fails to allocate resources efficiently, finding a better, nonmarket solution is often difficult.

When it comes to exchange rates, though, the laissez-faire approach has not lived up to its billings. The free market system of floating exchange rates established in the early 1970s was supposed to provide a mechanism for correcting trade imbalances and stabilizing economic activity. It was also supposed to allow exchange rates to better reflect underlying economic fundamentals—such as incomes, money supplies, and interest rates. Ultimately, the link between rates and fundamentals was to lead to more predictable exchange rates than under the fixed rate system of Bretton Woods (1944–1970). Contrary to these expectations, the post-Bretton Woods era has witnessed trade imbalances generally larger and more persistent, economic fluctuations generally as wide and as frequent, and exchange rates much more volatile and unpredictable.

Are fixed exchange rates a viable alternative? Many say no. They argue that fixed rates are economically and politically infeasible and that trying to impose them will only create instability, not avoid it. As evidence, the proponents of floating rates cite the collapse of Bretton Woods. Nevertheless, we maintain there is a convincing case that a fixed exchange rate system is feasible and should be established. Theory shows it feasible, and overlooked empirical evi-

*We owe a deep intellectual debt to Neil Wallace, professor of economics at the University of Minnesota and adviser to the Federal Reserve Bank of Minneapolis. His work on the theory of money and exchange rates has motivated the ideas presented here. Several of his important writings are listed in the suggested readings at the end of this essay.

dence shows it possible. Such a system requires international monetary policy coordination, which entails more than just agreeing on the world's money growth. But this coordination is a small price to pay for the benefits of eliminating the costly uncertainty of floating exchange rates.

What's Wrong With Floating Exchange Rates?

By 1974, the major industrialized countries had ended the fixed exchange rate system agreed on thirty years earlier at Bretton Woods, New Hampshire. Many economists hailed the end of the Bretton Woods system as a triumph for free markets: No longer would exchange rates be set by governments and subject to the vagaries of political developments. No longer could speculators get rich by anticipating and, at times, even precipitating exchange rate adjustments. And no longer could fiscally irresponsible economies export their inflationary policies to the rest of the world.

Expectations for the post-Bretton Woods era were high: Market-driven exchange rates would more efficiently correct trade imbalances and help stabilize aggregate demand across countries. Floating rates would also leave countries completely free to pursue independent monetary policies. And exchange rates would be determined by underlying economic fundamentals, just like the prices of other goods and services. So, even though rates might fluctuate more than under Bretton Woods, these fluctuations would become fairly predictable.

Sixteen years have passed, but most of these benefits are yet to be realized or, if realized, the gains from them appear to be small.

Initially Appealing . . .

Advocates of floating exchange rates base their case on the proposition that free markets tend to allocate resources efficiently. More specifically, they claim that a floating rate system has two main benefits: economic stability and policy independence.

The first benefit—economic stability—would be achieved because a floating system helps make prices for internationally traded goods and services more flexible. As a result, floating rates would help balance international trade and stabilize aggregate demand across countries.

Floating exchange rates would help balance trade in the following way. When a country runs a trade *deficit* (imports more goods and services than it exports), some other country (or countries) runs a trade *surplus* (exports more goods and services than it imports). To bring trade into balance, the prices of goods and services produced in the deficit country must fall and those in the surplus country must rise. If the prices of goods and services are slow to adjust (as is often argued, at least for downward price adjustments), then the trade imbalance will persist. With floating exchange rates, the trade imbalance



causes the value of a deficit country's currency to fall relative to the surplus country's currency because relatively fewer goods and services are being purchased from the deficit country. The decline in the exchange rate implies that the *terms of trade* (the price of the goods and services of the deficit country in terms of the goods and services of the surplus country) will decline, even if price levels do not change. Therefore, the demand for goods and services of the deficit country increases while the demand for those of the surplus country falls.

By making the prices of internationally traded goods and services more flexible, floating exchange rates would also supposedly help stabilize aggregate demand and employment across countries—adjustments that proponents say would be much slower and more economically painful if exchange rates were fixed. Consider, for example, a country in an economic downturn. Its domestic investment and production decline, unemployment rises, and income and consumption falter. The weak economy drives the price of the country's currency down. This decline, in turn, lowers the price of its exports, stimulating foreign demand and helping offset the decline in domestic demand. In this way, floating rates tend to act automatically as economic stabilizers.

The second benefit of a floating exchange rate system, backers claim, is that it would give each country autonomy over its monetary policy. Under a floating rate system, monetary policies in each country can freely respond to domestic economic problems while international currency markets determine the appropriate level of exchange rates. Policy independence would also let each country choose the average rate of money supply growth to help meet its government's need for revenue.

Although proponents of floating exchange rates recognize that the benefits of stability and policy independence are not costless, they nevertheless argue that the costs are relatively small and manageable. An obvious cost is that currency prices can vary. People who buy and sell goods and services internationally must face the risk that the currency they accept in trade may change in value. The greater the volatility of exchange rates, the greater the potential risk. Even so, proponents of floating rates argue that this risk is unlikely to be so large. Since they believe that exchange rates are tied to economic fundamentals and since these fundamentals tend to change slowly, they expect exchange rate fluctuations to be modest—or at least fairly predictable. Moreover, they argue that financial markets will quickly provide ways to hedge unpredictable movements in rates.

... Eventually Disappointing

Sixteen years under a floating exchange rate system have not yielded the expected benefits, nor have the system's costs been as small as anticipated. Judged against its proponents' initial expectations, the floating rate system has proved disappointing.

When it comes to exchange rates, ... the laissez-faire approach has not lived up to its billings.

Under floating rates, exchange rate volatility has been large, and much of it seems largely unpredictable.

One expected benefit of floating exchange rates was that they would contribute to economic stability by helping correct trade imbalances. But since 1974, trade imbalances generally have been larger and more persistent. We can see this by looking at net exports (a common measure of trade imbalances) for four major industrialized countries: West Germany, Great Britain, the United States, and Japan. (See Charts 1–4.) Germany's trade balance fluctuated between deficit and surplus from 1961 until 1981; since then, it has been running a persistent trade surplus. In Great Britain and the United States, the absolute levels of trade imbalances have been larger and more persistent after Bretton Woods. Japan is an exception; its persistent trade deficit during Bretton Woods has been corrected since rates began to float.

Floating exchange rates seem to have performed somewhat better as automatic economic stabilizers, but the effect has not been general. A comparison of the same four countries' cyclical fluctuations in real output during and after Bretton Woods shows that only in Japan were fluctuations smaller in the floating rate period. In Germany, fluctuations were about the same during and after Bretton Woods. In Great Britain and the United States, fluctuations in real output have been larger after Bretton Woods.

The second benefit of floating exchange rates, allowing countries to pursue their own independent monetary policies, has been realized; but the advantages from this autonomy seem small. With an independent monetary policy, a country can use such policy to influence the course of its economy. Though academics continue to debate how effectively monetary policy can influence economic activity, among policymakers there is a growing consensus that stable and predictable policy rules coordinated across countries are best. For example, the Group of Seven (G-7) nations (the United States, West Germany, Japan, Great Britain, France, Canada, and Italy) have met several times in the last five years to develop a framework for discussing economic issues. This effort has gradually led to a greater degree of policy coordination and to joint attempts to reduce exchange rate volatility. And the European Community, which has agreed to eliminate most trade barriers among members by 1992, is seriously considering a European Monetary Union with coordinated monetary policies, fixed exchange rates, and ultimately a single currency.

Another advantage of an independent monetary policy is the control it gives a country over *seigniorage*, the revenue obtained from money creation. But for most countries, seigniorage is a relatively minor share of total revenues. In the United States, for example, seigniorage accounts for less than 2 percent of federal revenues. Further, relinquishing control of money growth by coordinating monetary policies with other countries does not mean a country loses seigniorage; it only means losing control of the amount received.

Meanwhile, the costs of floating exchange rates have been far greater than many expected. Exchange rate volatility has been large, and much of it seems largely unpredictable. Unpredictable fluctuations are a risk (or cost) borne by



Charts 1–4

The Trade Imbalances of Four Nations Under Fixed and Floating Exchange Rates

Quarterly Net Exports for Selected Years (Seasonally Adjusted Annual Rates)

Chart 1 West Germany

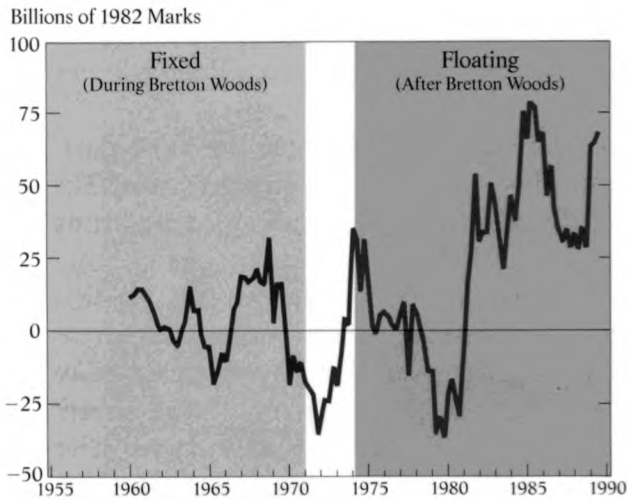


Chart 3 United States

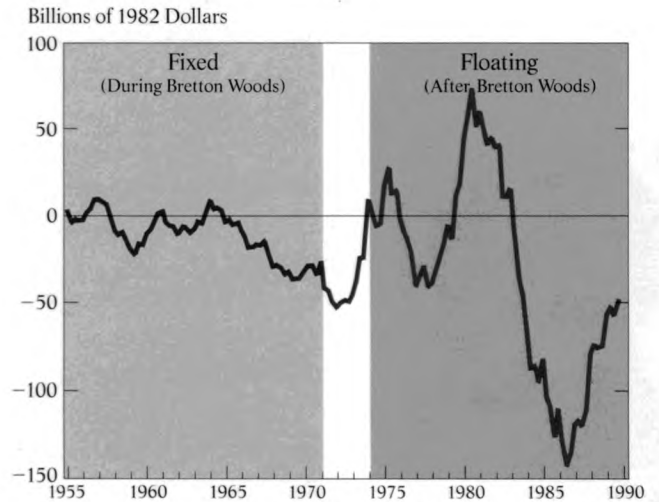


Chart 2 Great Britain

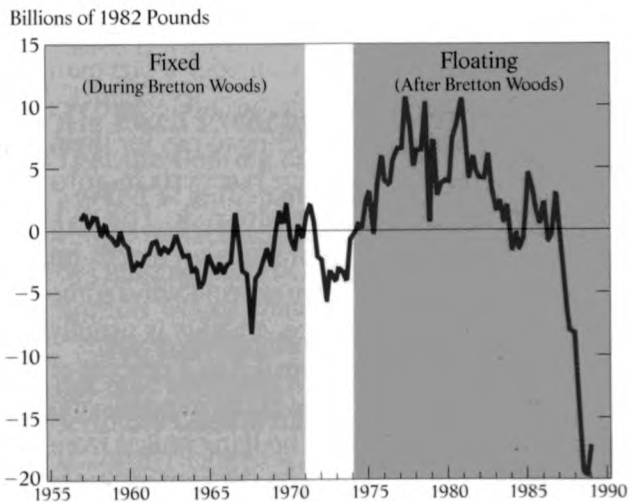
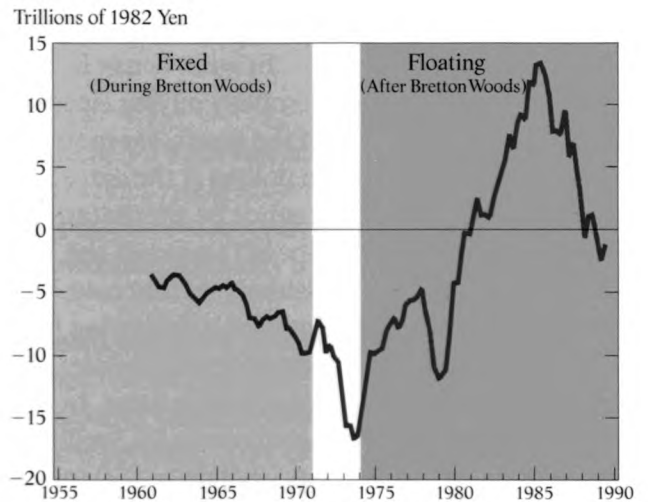


Chart 4 Japan



Source: Board of Governors of the Federal Reserve System

people who buy and sell goods and services internationally. Although the market has provided means of hedging this risk, the cost of unpredictable exchange rate fluctuations still has not been eliminated.

The greater volatility of exchange rates in the post-Bretton Woods period is clearly seen in Chart 5. But exchange rate volatility is risky only if it is unpredictable. The advocates of floating rates contend that economic fundamentals are a driving force behind exchange rate fluctuations. So even though rates could be volatile, exchange rate fluctuations would be largely predictable, based on knowledge of current and past fundamentals. As a result, they argue, exchange rate risk would be small.

Recent economic research, however, shows that for the most part, exchange rate fluctuations under floating rates have not been predictable.¹ The research tried to gauge how helpful economic fundamentals are in predicting exchange rate fluctuations. This was done by evaluating the forecasting accuracy of two competing types of models for predicting exchange rates. The first type, *structural* models, relies on the relative differences in past and current economic fundamentals to forecast exchange rates. The second type, a *naive* model, simply says that the best forecast of future exchange rates is the current rate. Because changes in fundamentals have no predictive power in the naive model, it implies that fluctuations in exchange rates are unpredictable. Comparisons of the models' forecasting accuracy revealed that, in most cases, the naive model outperformed the structural models. Even when it did not, exchange rate fluctuations were still difficult to predict. These results support the view that exchange rate volatility has been largely unpredictable under floating rates.

In what sense is exchange rate uncertainty a cost? Consider a German company buying electronic equipment from a U.S. manufacturer. On delivery of the goods, say in six months, the German company is willing to pay for them in dollars at the agreed price. To the extent that the exchange rate in six months cannot be predicted, the buyer is exposed to exchange rate risk. The risk doesn't vanish if the U.S. manufacturer agrees to accept German marks on delivery; in that case, it just falls on the seller. Generally, we expect to find some form of risk sharing between buyer and seller. In practice, a hedge is usually purchased. Estimates of the cost of such hedges range from 0.5 to 3 percent of total foreign sales. In the United States, for example, total trade in goods and services was \$1.3 trillion in 1989, so the estimated cost of hedging ranges from \$6.5 billion to \$39 billion. That cost puts a heavy burden on the United States and its trading partners.

These estimates, however, may understate the cost of exchange rate risk. Many businesses, finding the price of an exchange rate hedge too high, may choose not to trade internationally. In other words, the cost of exchange rate risk applies to potential as well as actual international transactions.

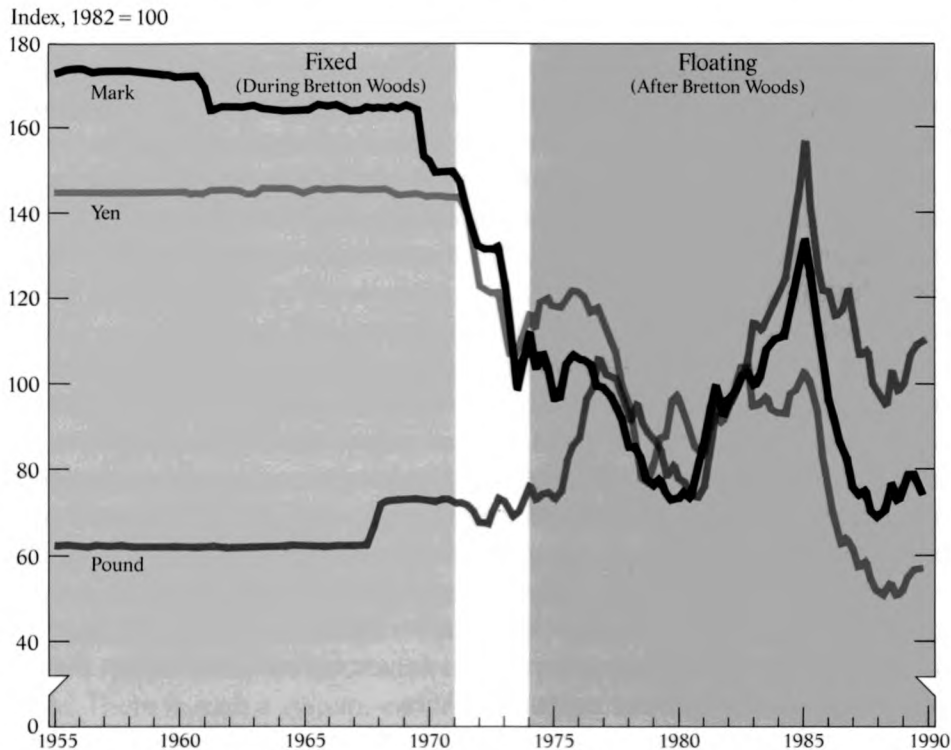


¹For details of this research, see the articles by Meese and Rogoff (1983), Schinasi and Swamy (1989), and Meese (1990) in the suggested readings.

Chart 5

Exchange Rate Volatility Under Fixed and Floating Rates

Price of the U.S. Dollar in Terms of West German, British, and Japanese Currencies



Source: Board of Governors of the Federal Reserve System

Are Fixed Exchange Rates Better?

That the floating exchange rate system adopted in the early 1970s has not worked as anticipated does not necessarily imply that a better system is available to replace it. The conventional argument rules out fixed rates as an option by claiming that such systems are unsustainable. Some evidence—notably the Bretton Woods collapse—seems to bear this out.

We maintain, however, that the conventional argument is flawed: It does not take seriously a distinctive trait of today's currencies. When that trait is seriously considered, theory suggests there is a demonstrably better system. If countries are willing to coordinate their monetary policies, they can fix exchange rates and eliminate the burden of exchange rate risk on international trade.

In Theory Yes...

Those who argue that fixed exchange rates cannot work assume, at least implicitly, that currency is essentially no different from other goods. Since exchange

Fixing exchange rates is feasible, and any rate will work.

rates are the relative prices of currencies and since standard price theory demonstrates that it is impossible to fix the relative prices of goods in the long run, skeptics argue that a fixed exchange rate system is not feasible.

The conventional argument against the feasibility of fixing prices goes like this: The relative price of two goods can be fixed only if buffer stocks of the goods exist to absorb excess demand. Eventually, however, the demand for a good relative to its supply must become so large that it depletes any buffer stocks held. Once these stocks are depleted, price fixing is impossible.

But the conventional argument does not apply to exchange rates because today's currencies are *fiat*: they are intrinsically worthless pieces of paper that are virtually costless to produce. This means that a government can always avoid depleting the buffer stock of its currency simply by printing more. Therefore, fixing exchange rates is feasible, and any rate will work.²

That fixed exchange rates are theoretically feasible, however, does not mean they are politically acceptable. Under fixed rates, the country with the fastest growing money supply gets the most seigniorage (revenue) from money creation. More important, some of this seigniorage is collected from residents of other countries because, with fixed exchange rates, the inflation caused by one country's money growth is experienced by residents of all countries. This outcome is bound to be politically unacceptable to other countries. A country can prevent another from exporting inflation by letting its own exchange rate appreciate. As a result, countries will not adhere to fixed rates unless they are willing to coordinate their monetary policies.

The policy coordination necessary for fixed exchange rates, however, is not that all countries agree to have their money supplies grow at roughly the same rate. Even if these money growth rates were the same and other economic fundamentals unchanged, recent research shows that exchange rates can fluctuate simply because people think they will.³ (This result may explain why exchange rates have continued to be volatile even though the G-7 countries have been moving to coordinate long-term monetary policies over the past decade.)

The policy coordination required to fix exchange rates has two components:

- Each country must agree to swap its currency for another's at the fixed rate in any amount and at any time.
- Countries must agree on the total growth of money and how the resulting seigniorage will be distributed among them.

Central banks would have no problem meeting the first component. If a central bank temporarily ran out of a foreign currency, it could always swap its own currency for the other with the appropriate foreign central bank. This arrangement prevents exchange rates from fluctuating because of speculation, since it



²The choice of a particular exchange rate will, of course, affect the distribution of wealth. For example, in the proposed monetary reunification of Germany, the issue in choosing the exchange rate between East and West German marks is not one of feasibility but one of wealth redistribution.

³This point, made by King, Wallace, and Weber (1989), is supported by the evidence that exchange rate fluctuations are unpredictable. The article is listed in the suggested readings.

guarantees that any amount of a currency demanded will always be supplied at the fixed price. And if countries meet the second component, they will have no incentive to overissue their moneys.⁴

... *And Yes in Practice*

Our case for fixing exchange rates is based on more than just theoretical speculation. Despite the collapse of Bretton Woods, there is a well-functioning yet often-overlooked system of fixed exchange rates in place today. Its existence demonstrates the feasibility and advantages of a fixed rate system.

The Bretton Woods system is usually cited as evidence of the fragility of fixed exchange rate systems. If the fixed rates do not reflect underlying economic fundamentals, so the argument goes, the rates are not sustainable. Even if rates are initially set correctly, fundamentals can quickly change and cause currencies to become under- or overvalued.

But Bretton Woods is not really a test of whether a fixed exchange rate system will work. A fixed rate system requires that policy coordination include an agreement among countries about the amount of seigniorage and its distribution. This component of policy coordination was missing from the Bretton Woods system, which attempted to fix exchange rates while still allowing each country some control over its own seigniorage.

A proper test of whether fixed exchange rates are feasible needs evidence from a system with the two required components of policy coordination in place. There is such a system, and it is running smoothly—the monetary system of the United States today.

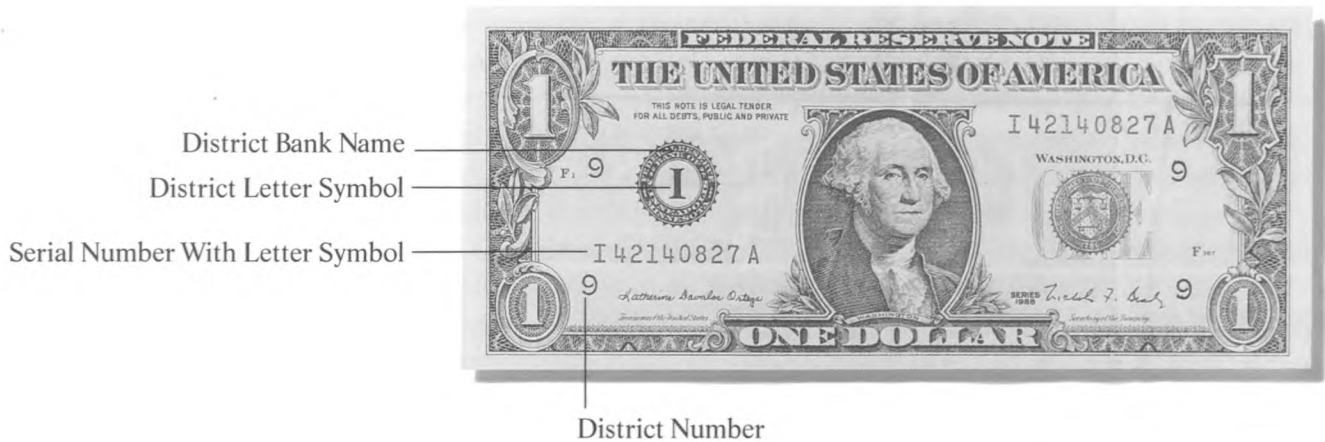
To many, the notion that the United States has a fixed exchange rate system may come as a surprise. The notes issued by the Federal Reserve System look like and are used as a single currency. Each note is printed in black and green ink, each has “The United States of America” inscribed on front and back, and each says it is a “Federal Reserve Note” and “legal tender for all debts, public and private.” Furthermore, the notes exchange at par: a twenty-dollar bill swaps one-for-one with any other twenty-dollar bill, one-for-two with any ten-dollar bills, and so forth.

In what sense, then, does the United States have something other than a single currency? A closer look reveals that, in fact, each of the twelve district banks in the Federal Reserve System issues its own notes. (See the illustration on page 12.) Each note is identified by its Federal Reserve district bank in four ways: First, on the front left is a circle with the district bank’s name written around the inside. Second, in the middle of that circle is a bold, black letter representing the Federal Reserve district of origin—**A** for the first district, **B** for the second, and so forth. Third, the letter symbol is the first character of the serial number, which is printed twice on the front of each bill. Fourth, the district’s number is printed on the front four times.

There is a well-functioning yet often-overlooked system of fixed exchange rates in place today.

⁴A gold standard is another way to achieve fixed exchange rates. Under a gold standard, not only does each country give up control of its monetary policy but monetary policy also becomes *exogenous*. That is, for countries on a gold standard, the rate of increase of their money supply is determined not by policy coordination on their part but by the rate of gold production—a factor outside their control. This loss of control may be an unacceptable cost.

A Close Look at a Federal Reserve Note



Have you ever checked to see which district Fed issued the notes you were being handed?

If countries are willing to coordinate their monetary policies, they can fix exchange rates ...

Granted, these differences among Federal Reserve notes are much less distinct than those between, say, U.S. and Italian currencies. Nevertheless, in a physical sense, U.S. currency is not strictly uniform. The importance of these physical differences is that they represent the possibility that the United States could choose to have a floating exchange rate system among the currencies of the twelve Federal Reserve districts. Instead, the United States has chosen a system of fixed exchange rates.

That the United States has had no trouble maintaining its fixed exchange rate system demonstrates that such a system is feasible. Despite changes in economic fundamentals among Federal Reserve districts, the United States has not been forced to adjust the exchange rates between district currencies. This is not what the skeptics of fixed rates claim would happen. What if the Ninth District economy were declining while the other district economies were expanding? Or what if the Ninth District were running a trade deficit with the rest of the country? Then, skeptics claim, there should be some downward pressure on Ninth District currency. This, of course has never happened, nor is it likely.

The reason the U.S. system of fixed exchange rates works is that it has the two required components of monetary policy coordination: First, the district Federal Reserve banks have an agreement to swap their currencies for any other district's at the fixed rate in any amount and at any time. Because of this agreement, we doubt that many people have ever lost sleep over the exchange value of their district's notes relative to another's. (Have you ever checked to see which district Fed issued the notes you were being handed?)

Second, district Fed banks also have an agreement on how to set the rate of money growth and how to distribute the resulting seigniorage. Each district bank participates in the policy process (at Federal Open Market Committee

meetings), and a unified policy action is carried out for all twelve districts. No individual district bank can pursue its own monetary policy.⁵ Furthermore, all seigniorage is pooled and disbursed by the U.S. Treasury. That is, by design, no district bank can gain by issuing more of its notes than another. Even if all notes were issued by, say, the Ninth District, the revenue would still be pooled and disbursed by the centralized authority (the Treasury).

This example of the U.S. monetary system shows that when the two required components of policy coordination are met, a fixed exchange rate system is feasible.

What Should Be Done?

Policymakers have been led to believe that a floating exchange rate system is best. They were told that allowing rates to float would help balance international trade, reduce economic instability across countries, and allow governments to pursue independent monetary policies. They were also told that the cost of exchange rate risk would be small.

They were misled. Floating rates have brought neither balance to trade accounts nor stability to economic activity. Instead, they have added a significant cost to international trade in the form of greater uncertainty about exchange rates than most expected.

Policymakers were also led to believe that in the long run, floating exchange rates are the only feasible system. They were told that fixed exchange rates are not feasible and that exchange rates must ultimately reflect changing economic conditions.

Again, they were misled. Exchange rates can be fixed by governments if monetary policies are coordinated. Coordination requires that countries agree to swap currencies at the fixed rates and agree on a monetary policy and how to distribute the resulting seigniorage.

The question, then, is not whether countries can fix exchange rates but whether they should. Should they coordinate their monetary policies and eliminate unpredictable changes in exchange rates? Or should they opt for policy independence and accept the cost of exchange rate risk?

We think there is a convincing case for fixing exchange rates. Experience suggests that the costs of coordinating monetary policies are small compared with the benefits from eliminating unnecessary exchange rate uncertainty.



⁵While Federal Reserve districts must coordinate monetary policies, they do not have to coordinate fiscal policies. Each district (more correctly, each state within a district) can freely pursue its own fiscal policy, but none can finance its budget shortfalls by printing money. Similarly, countries that agree to fix exchange rates would still maintain autonomy over their fiscal policies.

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For additional copies contact:

Public Affairs
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Minneapolis, Minnesota 55480

16	Statement of Condition
17	Earnings and Expenses
18	Directors
19	Officers

Statement of Condition (in thousands)

	December 31, 1989	December 31, 1988
Assets		
Gold Certificate Account	\$ 198,000	\$ 168,000
Special Drawing Rights	153,000	66,000
Coin	12,281	11,291
Loans to Depository Institutions	8,450	11,884
Securities:		
Federal Agency Obligations	109,844	99,235
U.S. Government Securities	<u>3,817,846</u>	<u>3,328,425</u>
Total Securities	3,927,690	3,427,660
Cash Items in Process of Collection	434,312	382,560
Bank Premises and Equipment—		
Less Depreciation of \$32,310 and \$27,704	35,311	33,631
Foreign Currencies	1,002,624	282,968
Other Assets	77,371	77,106
Interdistrict Settlement Fund	<u>(405,069)</u>	<u>1,010,604</u>
Total Assets	<u>\$5,443,970</u>	<u>\$5,471,704</u>
Liabilities		
Federal Reserve Notes ¹	\$4,146,926	\$4,124,053
Deposits:		
Depository Institutions	685,999	807,205
Foreign, Official Accounts	4,800	4,650
Other Deposits	<u>30,478</u>	<u>1,984</u>
Total Deposits	721,277	813,839
Deferred Credit Items	389,555	352,150
Other Liabilities	<u>51,448</u>	<u>47,970</u>
Total Liabilities	5,309,206	5,338,012
Capital Accounts		
Capital Paid In	67,382	66,846
Surplus	<u>67,382</u>	<u>66,846</u>
Total Capital Accounts	<u>134,764</u>	<u>133,692</u>
Total Liabilities and Capital Accounts	<u>\$5,443,970</u>	<u>\$5,471,704</u>

¹Amount is net of notes held by the Bank of \$856 million in 1989 and \$804 million in 1988.

Earnings and Expenses (in thousands)

For the Year Ended December 31,	<u>1989</u>	<u>1988</u>
Current Earnings		
Interest on U.S. Government Securities and Federal Agency Obligations	\$321,299	\$261,532
Interest on Foreign Currency Investments	33,152	9,342
Interest on Loans to Depository Institutions	6,173	3,611
Revenue from Priced Services	38,513	37,362
All Other Earnings	<u>476</u>	<u>446</u>
Total Current Earnings	399,613	312,293
Current Expenses		
Salaries and Other Personnel Expenses	31,024	29,324
Retirement and Other Benefits	6,648	5,912
Travel	1,382	1,113
Postage and Shipping	5,285	5,566
Communications	433	458
Materials and Supplies	2,265	2,129
Building Expenses:		
Real Estate Taxes	2,359	2,334
Depreciation—Bank Premises	1,072	1,078
Utilities	778	812
Rent and Other Building Expenses	965	1,267
Furniture and Operating Expenses:		
Rentals	600	613
Depreciation and Miscellaneous Purchases	4,462	4,768
Repairs and Maintenance	2,461	2,300
Cost of Earnings Credits	7,371	6,931
Other Operating Expenses	4,095	2,558
Net Costs Distributed/Received from Other FR Banks	<u>1,784</u>	<u>1,713</u>
Total	72,984	68,876
Reimbursed Expenses ²	<u>(2,496)</u>	<u>(3,654)</u>
Net Expenses	70,488	65,222
Current Net Earnings	329,125	247,071
Net Additions (Deductions) ³	41,303	(16,711)
Less:		
Assessment by Board of Governors:		
Board Expenditures	2,823	2,596
Federal Reserve Currency Costs	3,131	2,368
Dividends Paid	4,026	4,004
Payments to U.S. Treasury	<u>359,912</u>	<u>217,151</u>
Transferred to Surplus	<u>536</u>	<u>4,241</u>
Surplus Account		
Surplus, January 1	66,846	62,605
Transferred to Surplus—as above	<u>536</u>	<u>4,241</u>
Surplus, December 31	<u>\$ 67,382</u>	<u>\$ 66,846</u>

²Reimbursements due from the U.S. Treasury and other Federal agencies; \$1,682 was unreimbursed in 1989 and \$1,220 in 1988.

³This item consists mainly of unrealized net gains (losses) related to revaluation of assets denominated in foreign currencies to market rates.

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Butte, Montana

(vacancy)

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