

MONETARY  
POLICY  
*for a* VOLATILE  
GLOBAL  
ECONOMY

*Edited by*  
*William S. Haraf and Thomas D. Willett*

**THE AEI PRESS**

Publisher for the American Enterprise Institute

RESEARCH LIBRARY

Federal Reserve Bank

of St. Louis

Distributed by arrangement with

UPA, Inc.

4720 Boston Way  
Lanham, Md. 20706

3 Henrietta Street  
London WC2E 8LU England

**Library of Congress Cataloging-in-Publication Data**

Monetary policy for a volatile global economy / William S. Haraf and  
Thomas D. Willett, editors.

p. cm.

Includes bibliographical references.

ISBN 0-8447-3713-5 (alk. paper)

1. Monetary policy—United States. 2. International finance.

I. Haraf, William S. II. Willett, Thomas D.

HG540.M655 1990

332.4'973—dc20

89-18486

CIP

1 3 5 7 9 10 8 6 4 2

AEI Studies 503

© 1990 by the American Enterprise Institute for Public Policy Research, Washington, D.C. All rights reserved. No part of this publication may be used or reproduced in any manner whatsoever without permission in writing from the American Enterprise Institute except in the case of brief quotations embodied in news articles, critical articles, or reviews. The views expressed in the publications of the American Enterprise Institute are those of the authors and do not necessarily reflect the views of the staff, advisory panels, officers, or trustees of AEI.

THE AEI PRESS

Publisher for the American Enterprise Institute

1150 Seventeenth Street, N.W., Washington, D.C. 20036

*Printed in the United States of America*

# 6

## The International Monetary System, the European Monetary System, and a Single European Currency in a Single European Market

*Gottfried Haberler*

The international monetary system is still one of widespread, loosely managed floating, although it has come under increasing criticism. The criticism has been especially severe in Europe, leading to the formation of the European Monetary System (EMS) in 1979. The EMS, a Bretton Woods-type of arrangement of stable but adjustable exchange rates, has seven members: Belgium, Denmark, France, Germany, Ireland, Italy, and the Netherlands. Britain is conspicuously absent, and Greece, Portugal, and Spain are not yet ready to join.

In 1987 and 1988 two landmark agreements were reached by the European Community (EC), which are binding for all its twelve members. The so-called Single European Act of 1987 provides that by the end of 1992 all remaining restrictions on trade between EC members must be removed. In 1988 it was agreed that by mid-1990 all restrictions on capital flows must be phased out. In other words, the currencies of the EC countries will become fully and freely convertible. (Greece, Ireland, Portugal, and Spain can delay compliance until 1992.)

It stands to reason that this has far-reaching monetary implications, especially for the members of the EMS, for stable exchange rates and free convertibility of currencies require as a minimum very tight coordination of monetary policy.

---

This is an abbreviated version of the essay that appeared in English in a volume of essays, *Geldwertsicherung und Wirtschaftsstabilität*, in honor of Professor Helmut Schlesinger, vice president of the German Bundesbank, edited by Norbert Bub, Dieter Duwendag, and Rudolf Richter (Frankfurt am Main, West Germany: Fritz Knapp Verlag, 1989).

No decision has yet been made on how to handle the monetary problems posed by free mobility of capital. A radical solution that has generated much attention in the media and that France supports but not Britain is to create a European central bank that would issue a single European currency. At the Hanover EC Summit in June 1988 a high-level committee of the governors of the central banks, chaired by Jacques Delors, chairman of the European Commission, was set up to make concrete proposals.

The sections in this chapter deal with the problem of fixed exchange rates versus floating, trade liberalization in the EC, the EMS, and the problem posed by free capital flows.

### Fixed or Floating Exchange Rates?

In the past few years the present system of loosely managed floating has again come under sharp criticism.<sup>1</sup> On February 19, 1988, a blast came from an unexpected source. None less than His Holiness, Pope John Paul II in his encyclical "The Social Concerns of the Church" (*"Sollicitudo Rei Socialis"*) said: "The world monetary financial system is marked by an excessive fluctuation of exchange rates and interest rates, to the detriment of the balance of payments and the debt situation of the poorer countries." Naturally, the pope did not make concrete proposals for change. The encyclical says, "The Church does not have technical solutions to offer." Still, the pope's statement has been widely interpreted as a rejection of the present system of floating exchange rates. The gold bugs in the *Wall Street Journal*, for example, were delighted. They spent several days "observing the performance of some of the world's notable economic thinkers" and awarded a silver medal to the pope. A gold medal went to Edouard Balladur, the French minister of finance.

French governments, both President Mitterrand's Socialist and Prime Minister Jacques Chirac's conservative, have urged a return to some sort of fixed exchanges.<sup>2</sup> Balladur has spelled out the French position on several occasions, for example, in his article "Rebuilding an International Monetary System: Three Possible Approaches."<sup>3</sup>

In his *Wall Street Journal* article Balladur mentions several alleged failures of floating exchange rates to achieve expected results: never have international balances been so large, nor fluctuations of these imbalances so wide, and so forth, as during the period of floating exchange rates. Although I could go through the list of alleged failures and show that what happened was not the consequence of floating, I shall not take the time to do so, because this criticism of floating falls to the ground if we consider the nature of the proposed

alternatives to floating and what would have happened if any one of them had been in force in the 1980s.

The suggested alternatives for floating are variants of the Bretton Woods system of "stable but adjustable exchange rates," embellished by target zones and guided—or misguided—by commodity price indexes, including the price of gold. There is no reason to assume that a Bretton Woods-type of system would have functioned better in the 1980s than it did in the 1960s and 1970s. On the contrary, it is easy to see that it would have broken down just as it did in the early 1970s.

In 1982 the U.S. economy took off on a vigorous, noninflationary expansion. Foreign capital from Europe and other countries poured into the United States, the dollar soared, and a large trade deficit developed. The expanding U.S. economy pulled the world economy out of the recession.

Now consider what would have happened if in that situation the world economy had been in a straitjacket of fixed exchange rates. Europe would have come under severe deflationary pressure, and any fixed-rate system, with or without a target zone, would have collapsed. The response would have been imposition of controls, and the world economy probably would have been plunged into a recession.

The Achilles' heel of the system of stable but adjustable exchange rates à la Bretton Woods is its vulnerability to destabilizing speculation. Very briefly, if under that system a currency weakens and the country loses reserves, the speculators (market participants) know that the currency can only go down; it cannot go up. Furthermore, they have learned from experience that a devaluation is bound to be large, because the authorities want to make sure that they will not have to go through the painful operation again soon. Therefore, if the speculators have guessed correctly and the currency is devalued, they make a large profit. If they have misguessed, they merely lose transaction costs.

Under floating, the situation is different. A currency under pressure goes down immediately. Therefore, the speculators can never be sure whether the market has not already overshot and the currency will go up again. In other words, under fixed exchange rates speculators speculate against the central banks whose hands are tied. Under floating, speculators speculate against each other, which obviously is much more risky.

Up to 1914 exchange rates of the major industrial countries were credibly fixed under the gold standard, which therefore was not so vulnerable to destabilizing speculation as a Bretton Woods-type of system. Still, it is hardly necessary to argue at length why a return to

the gold standard is out of the question. Suffice it to ask the question, Who would want to entrust the course of the world price level and, therefore, the economic stability of the Western world to the mercy of Soviet Russia and South Africa, the dominant producers of gold?

Of course, this does not settle the question of floating versus fixed rates. I believe that floating should continue, but I do not want to exaggerate the case for floating. In a sense, floating is merely a second best: if any two countries of any group of countries agree to fix the exchange rates of their currencies, it would be the best solution—provided that two conditions are fulfilled. First, currencies are fully convertible in free markets; in other words, there is no exchange control, either open or disguised, as, for example, import restrictions on balance-of-payments grounds. Surely, fixed rates propped up by a battery of controls is the worst system. Second, the fixed rate must not impose heavy unemployment or inflation on any participating country.

Unfortunately, those conditions are only rarely met in the present-day world. The European Common Market and the EMS are no exceptions. Some real exceptions can be found among the many countries that peg their currency to the dollar, the yen, or the German mark, like Austria. The Austrian schilling has been pegged to the prestigious D-mark. True, Austria still has some controls on capital flows. The controls are mild, however, and if the links to the D-mark were broken, the confidence of the people in the schilling would suffer, and the controls would be tightened.

All this was different under the gold standard before 1914. For one thing, exchange control was unknown; and for another, wages were more flexible than they are now, and the tolerance for unemployment greater than now. In passing, it might be mentioned that if wages and prices were perfectly flexible, the whole problem of fixed versus flexible exchange rates would disappear.

In a few cases the failure to change the exchange rate or to float caused great damage. In the 1920s the British pound was grossly overvalued, because it had been restabilized at the prewar parity with gold and the dollar. As a consequence, the British economy was sharply depressed throughout the 1920s. John Maynard Keynes criticized the policy in his famous pamphlet *The Economic Consequences of Mr. Churchill*, Churchill being chancellor at the time. In 1931 the pound was cut loose from gold and depreciated, taking along the currencies of many countries—Australia, New Zealand, and Canada among them. The Federal Reserve reacted by tightening money—in the midst of a severe depression! Continental European countries were hit hard; they, too, tightened money and imposed all sorts of

controls on trade and payments. The case of Germany deserves special mention, because sharply rising unemployment helped Hitler come to power. France, Switzerland, Belgium, Holland, and Poland, the "gold bloc," suffered a second deflationary shock when two years later (1933–1934) the dollar was devalued vis-à-vis gold.

Developments after World War II were infinitely better than in the interwar period. Bretton Woods was a great improvement over the gold standard. For about twenty years it served the Western world well by permitting realignments of exchange rates. Late in the 1960s, however, trouble arose, and the Bretton Woods agreement collapsed in the early 1970s and was replaced by widespread managed floating.

The reasons for the troubles and collapse of Bretton Woods are briefly these. In the late 1960s the U.S. dollar lost its position of unquestioned dominance because of two developments. First, inflation rose in the United States when President Johnson financed the increasing cost of the war in Vietnam and the equally costly Great Society programs at home by bank credit rather than by taxes, and, second, rivals to the dollar emerged: the German mark and the Japanese yen (not to mention the currency of tiny Switzerland, that island of democracy and prosperity that survived unscathed two world wars and the Great Depression).

A fact of crucial importance is that the interdependence of financial markets in the Western world has sharply increased and that capital flows across national boundaries have become very large. This situation has accentuated the vulnerability to destabilizing speculation of the Bretton Woods system of stable but adjustable exchange rates. Thus when the dollar came under pressure in the 1960s and gold flowed out of the country—the dollar was still convertible into gold for foreign central banks—more and more investors at home and abroad concluded that sooner or later the dollar would be devalued. Foreign central banks had to buy billions of dollars to hold the line. In August 1971 President Nixon closed the gold window, imposing a 10 percent import surcharge to induce other countries to upvalue their currencies. This was achieved in December 1971, resulting in a depreciation of the dollar of about 8 percent against the major foreign currencies.

Although calm returned to the foreign exchange markets, it did not last very long. In mid-1972 the dollar weakened again, and foreign central banks had to buy billions of dollars to hold the line. The end came with dramatic suddenness: on January 23, 1973, the Swiss National Bank stopped buying dollars and let the franc float up. A flood of dollars swept into Germany. During the period February 5–9, 1973, the Bundesbank bought \$5 billion and then gave up. This was

the end of stable but adjustable exchange rates, although the system of floating exchange rates was legalized only three years later by the second amendment of *The Articles of Agreement* of the International Monetary Fund.

For countries like Germany and Switzerland that did not want to inflate along with the United States, the only effective and efficient method is to let their currencies float. The Bretton Woods method, a one-shot appreciation of their currencies, would be a decidedly inferior approach. The reason is that neither economists nor ministers of finance or central bankers know what the equilibrium exchange rate is. This has been amply demonstrated in the past two years when the question arose over whether the dollar had declined enough to eliminate or sharply reduce the U.S. trade deficit. Time and again ministers of finance and governors of the central banks of the Group of Seven (G-7) declared that exchange rates were just about right, only to be contradicted a few months later by a further decline of the dollar. Economists, too, were by no means unanimous in their judgment. Policy makers, however, are becoming aware of their ignorance. Thus, Noburu Takeshita, prime minister of Japan, when asked whether the dollar-yen rate was right answered: "Only God knows."

Countries like Germany and Switzerland, on the one hand, that have to appreciate their currency have a strong incentive to appreciate too little rather than too much, because they do not want to run the risk of turning their trade surplus into a deficit. On the other hand, deficit countries have a strong incentive to depreciate their currency too much rather than too little, because they want to be sure that they will not have to go through the same painful process again soon.

It stands to reason that this state of affairs is unlikely to bring about a smooth adjustment of existing imbalances. Floating is a much better method, which amounts to saying that markets do a better job setting exchange rates than governments. Critics of floating point to what they call excessive volatility of exchange rates under floating. The answer is, first, that a large part of volatility has been caused by policy changes: the "open mouth policy"—that is, official statements that the dollar was too high or too low or just right—was not conducive to calming the market. Second, some of the changes called "excessive" were quite rational; for example, the sharp rise of the dollar after the election of Ronald Reagan was beneficial because the large U.S. trade deficit that developed pulled the world economy out of the recession. Third, it cannot be denied that the market sometimes makes mistakes; there are such things as speculative bubbles. Competitive markets, however, sooner or later correct themselves. Thus with the benefit of hindsight we can say that in 1984 the rise of the

dollar went too far. Then in February 1985 the dollar turned around and started to decline. It is important to realize that market forces brought about the turnaround; more and more investors came to the conclusion that the dollar had risen too far.

Now if we compare the performance of the market with that of the government, we see that it is in the nature of the political process that governments are slow admitting mistakes and even slower correcting them. The U.S. budget policy is a perfect example. In the early 1980s the large budget deficits were highly beneficial because they pulled the U.S. economy out of the recession. There is almost general agreement, though, that deficit spending has gone much too far. With the trade balance now on the mend, with export- and import-competing industries booming, and with the economy operating close to full capacity, it is imperative to cut spending elsewhere to prevent inflation and recession. What is urgently needed is a credible program to phase out the structural budget deficit over a period of, say, four years. No solution of the budget problem can be expected before mid-1989.

The conclusion I draw from all this is that floating should continue. I repeat, however, that if two or more countries can agree to fix the exchange rate between their currencies, it would be the best solution, provided it can be done without imposing tight controls on trade and payments and without inflicting unemployment or inflation on any participating country. Unfortunately, these conditions are rarely met in the present-day world.

### **Liberalization of Trade in the EC**

As mentioned, the Single European Act of 1987 provides that all remaining restrictions of trade between the twelve members of the EC must be removed by the end of 1992. The language used in official and unofficial statements about the task ahead—"to open up the European markets" or "to create a single European market"—clearly indicates how unfree and fragmented the Common Market still is. Customs inspection on the borders between the EC members is still in force, because indirect taxes have not been unified. This is not the whole reason, however; there exists a host of regulations on specific products and industries that differ from country to country and so restrict free trade and free competition in the EC, as well as imports and competition from the outside world. There are, for example, numerous health and safety regulations for trucks, all sorts of industrial machinery, and other products that differ greatly from country to country. These regulations have a strong anticompetitive effect be-

cause they restrain the operation of hundreds of small and medium-size companies. The big multinationals, such as IBM and Phillips, are less affected because they have branches in several countries. The European Commission in Brussels has been trying to harmonize regulation in certain areas. This is a very difficult and time-consuming process, and it is by no means certain that it will be completed in 1992. Perhaps the process of harmonization does not need to be finished completely to permit elimination or at least drastic simplification of customs inspection inside the EC.

### The European Monetary System

The EMS is a Bretton Woods-type of arrangement of stable but adjustable exchange rates. On the whole it has been well received in official and financial circles in Europe and elsewhere. This is not surprising. For one thing, it has a natural constituency in the numerous officials and economists who have been involved in setting up and running the EMS and understandably take great pride in their creation. For another thing, the predictions of some early critics that the EMS would lead to high inflation and breakdown were not borne out by the facts.

The EMS, however, has been erroneously credited with certain improvements in the participating countries, for example, the decline of inflation. As Professor Fratianni<sup>4</sup> has pointed out, however, the relevant question is whether the EMS countries have performed better or worse than non-EMS countries since 1979. Actually, non-EMS industrial countries on the average have done as well or perhaps better than the EMS countries.

It has been argued that the EMS had an anti-inflationary effect because the more inflationary members, especially France and Italy, have been forced to curb inflation in order not to get too far out of line with low-inflation Germany. There is some truth in that. It is generally recognized that the EMS, contrary to the intentions of its founders, has become a hegemonic system; Germany, by virtue of the large size of its economy and its low inflation rate, has become the leader. This is highlighted by the open chafing of the French at the stern rule of the Bundesbank. The motive of the present center-left French government's renewed attempt to persuade Britain to join the EMS is surely to make the EMS more democratic and so to curb the power of the Bundesbank.<sup>5</sup>

Can the EMS, then, be credited with having had a beneficial disciplinary effect by linking the currencies to the D-mark? Not really: for in the absence of an EMS, there would still be a strong economic

inducement for the EMS countries to follow the Austrian example of pegging their currencies, formally or informally, to the D-mark. It will perhaps be argued that for France, and possibly for Italy, formally pegging its currency to the D-mark would be politically unacceptable. We need not go into that, however, because the whole picture has been profoundly changed by the decision of the EC to phase out all control of capital flows by mid-1990.

### **The EC and the EMS without Exchange Control**

For the following discussion it should be kept in mind that only seven of the twelve EC countries are in the EMS and that dismantling controls applies to all twelve EC countries, although four countries—Greece, Portugal, Spain, and Ireland—have been granted two more years (until 1992) to dismantle controls.

Because the EMS is a Bretton Woods-type of stable but adjustable exchange rates, it follows that the EMS is just as vulnerable as Bretton Woods was to destabilizing speculative capital flows. Actually, there have been several realignments of exchange rates, mostly devaluations against the D-mark. Not much has been heard of large capital flows preceding or accompanying exchange rate changes, however. The reason is that in several important EMS countries—France, Italy, and Belgium—controls are tight and comprehensive enough to prevent large capital flows. It is very important to understand, though often overlooked by policy makers, that in practice it is very difficult to distinguish capital from current transactions. Policy administrators know that the restrictions on capital flows are very difficult to enforce, because there are many ways to camouflage capital transactions as current transactions, for instance, by overinvoicing inputs or underinvoicing exports. The longer the controls last, the more adept investors (speculators) become in evading the controls. As a result, capital control always degenerates into more or less comprehensive exchange control.

This clearly is a most unsatisfactory state of affairs. It is, therefore, not surprising that the EC has decided to phase out capital controls by mid-1990. If the decision is carried out, 1990 will be a watershed, because with free capital mobility (absence of controls) any Bretton Woods-type of system of stable but adjustable exchange rates, such as the present EMS, becomes unworkable. As we have seen, such systems are very vulnerable to destabilizing capital flows. If a currency, say the French franc, comes under pressure, investors know that the currency will go down; and thus there will be a

stampede out of the franc. This is the problem the EC faced up to the Hanover Summit in June 1988.

I will not try to describe how the Hanover decision was reached. Suffice it to say that the Hanover meeting seems to have been dominated by a radical solution of the problem: the creation of a European central bank that would issue a single European money. This proposal was rejected by British Prime Minister Margaret Thatcher, resulting in the creation of a high-level committee of the governors of the central banks, the general manager of the Bank for International Settlements (BIS), Alexandre Lamfalussy, and two other experts. This Committee of Seventeen under the chairmanship of Jacques Delors, president of the European Commission, will make concrete proposals in a year.<sup>6</sup>

Following the example of Tommaso Padoa-Schioppa who in a much-quoted paper speaks of the "inconsistent quartet," we can formulate the problem as that of an "inconsistent tercet": one cannot have at the same time (1) full mobility of capital; (2) stable exchange rates; and (3) national autonomy in the conduct of monetary policy.<sup>7</sup>

I now discuss some policy options that could remove the inconsistency. The first that comes to mind and is often mentioned is more frequent realignments of exchange rates. The question is, how frequent? The answer is that to overcome the basic weakness of the adjustable peg—that is, vulnerability to speculation—the realignment would have to be made in small steps at high frequency. This would be equivalent to floating exchange rates, the economically best and administratively easiest solution. In the long run, it can be replaced by the radical solution of a single European currency—if and when it comes to pass. Holding out that hope would make floating more acceptable.

Another possibility can be described as a gold standard without gold. Under the gold standard exchange rates are credibly fixed; the standard is, therefore, not vulnerable to destabilizing speculations. Deficit countries are automatically subjected to monetary contraction; surplus countries, to monetary expansion.

It would not be too hard to formulate rules for monetary policy that would replicate the gold standard mechanism under modern conditions. Would it be politically acceptable? Perhaps it would be if it sailed under the popular flag of tight policy coordination.

I now come to what I call the radical solution of the problem: the creation of a European central bank that would issue a single European currency. This idea has not only found the enthusiastic support of some influential and highly competent voices in the media but also has been put forth by some high officials.

In the first group I mention two, Samuel Brittan and *The Econo-*

*mist*. Brittan has developed the case for a full monetary union in Europe in several articles in the *Financial Times*. He summed up his case by saying that a single European market without a single European currency would be like a house without a foundation. He also pointed out that phasing out controls on capital flows poses a problem. His solution is radical—creation of a European central bank—and he criticizes the British government and especially the prime minister for dragging their feet and not joining the EMS.

*The Economist* has been a strong supporter of a European monetary union. In an article "Ecu into Monnet: Some Ideas for the Next Stage of Europe's Monetary System" (London, March 5–11, 1988), *The Economist* reports a proposal made independently by Hans-Dietrich Genscher, Germany's foreign minister, and Edouard Balladur, France's finance minister, that the EC should set up a study group on the creation of a European central bank that should issue a European currency that would circulate first alongside national currencies and would later supplant them. *The Economist* accepts the goal but finds the method of setting up a study group too slow and bureaucratic; it believes that "the EEC already has the makings of a single currency in the ecu, whose value is set by a basket of European currencies." The ecu, which at present is merely an accounting unit—no ecu bank notes exist—should be turned into real money. *The Economist* further suggests that the European currency should be called the *Monnet*, which would appeal to intellectuals because of the link to Jean Monnet (1888–1979), the eminent French statesman and founding father of the European Community.

This is, of course, rather fanciful. But the idea of a European currency is taken quite seriously. The French government is fully behind it, and so is the German government. Karl Otto Pöhl, president of the Bundesbank, said that the Bundesbank was not, as is often suggested, opposed to such a goal. He even offered a name for the European currency: it could be called the *franc-fort*, the strong franc. This would please the French and would also appeal to the Germans because it sounds like *Frankfurt*, the hometown of the Bundesbank.<sup>8</sup>

Pöhl spelled out his ideas in the article "A Vision of a European Central Bank."<sup>9</sup> Naturally he thinks that the European central bank should be as independent of political pressures as the Bundesbank is and that its policy should be to ensure price stability. Chancellor Helmut Kohl too has expressed his support for the creation of a European central bank.

What shall we make of all that? As a long-run goal, the creation of a European central bank, a single currency in a single free market, is unexceptional, from both the political and the economic point of view.

As a solution posed by phasing out exchange controls, however, the situation is different. It is inconceivable that a European central bank and European currency can be set up by 1990, even if we assume that radical rejection of such a plan by the British government can be overcome.

Suppose the big four—Britain, France, Germany, and Italy—agree in principle that a Eurobank and a Eurocurrency should be set up. There will still remain important questions where strongly held divergent views have to be reconciled. For example, the German view that the Eurobank should be as independent of political pressure as the Bundesbank and that its task should be to maintain price stability will hardly go unchallenged. The conclusion is that the problem posed by phasing out controls in 1990 must be tackled in 1990 and cannot be left to be solved by a hypothetical European central bank.



CHAPTER 6: INTERNATIONAL MONETARY SYSTEM, THE EUROPEAN  
MONETARY SYSTEM, AND A SINGLE EUROPEAN CURRENCY  
IN A SINGLE EUROPEAN MARKET

1. A comprehensive discussion of floating exchange rates can be found in *The Merits of Flexible Exchange Rates*, Leo Melamed, ed. (Fairfax, Va.: George Mason University Press, 1988).

2. After this was written, the conservative government of Jacques Chirac was replaced by a center-left one. But since in the past the Socialist and conservative governments took a similar stand, the new center-left government is not expected to bring change.

3. Edouard Balladur, "Rebuilding an International Monetary System: Three Possible Approaches," *Wall Street Journal*, February 23, 1988. For a detailed critical analysis of Balladur's proposals, see Robert Solomon, "Minister Balladur on International Monetary Reform," *International Economic Letter*, vol. 8, no. 3, March 15, 1988.

4. Michele Fratianni, "The European Monetary System: How Well Has It Worked?" (Paper presented at the Cato Institute's Sixth Annual Monetary Conference, February 25, 1988; published in *The Cato Journal*, vol. 8, no. 2 [Fall 1988]). Fratianni presents an excellent analysis of the operation and achievements of the EMS, drawing on the extensive literature on the subject. See also Michele Fratianni, "Europe's Non-Model for Stable World Money," *Wall Street Journal*, April 4, 1988. Another thorough description and analysis of the working of the EMS and a wealth of statistics can be found in Horst Ungerer, Owen Evans, Thomas Mayer, and Philip Young, "The European Monetary System: Recent Developments" (Occasional Paper No. 48, International Monetary Fund, Washington, D.C., December 1986).

5. It is not clear, however, why Britain should be tempted to join; it has done quite well outside the EMS. While once regarded as the sick man of Europe, in the past five years the British economy has outperformed that of all other members of the EC; its growth rate has been by far the highest of all twelve members of the EMS.

6. For a detailed description of how all this came about, we shall have to wait for the second edition of Yoichi Funabashi's best seller, *Managing the Dollar: From the Plaza to the Louvre* (Washington, D.C.: Institute for International Economics, 1988), which surely will have a part, *Managing the European Monetary Union*.

7. See Tommaso Padoa-Schioppa, *The EMS: A Long-Term View* (Talk given at the "Conference on the EMS," Perugia, October 16-17, 1987, sponsored by Banca d'Italia, Centre for Economic Policy Research and Centri Interuniversitario Studi Teorici per la Politica Economica, Italy). The author's quartet contains in addition to the three items mentioned in the text above, free trade. I leave it out, because some protection on the part of some EMS countries, though undesirable and in violation of the spirit of the EMS, would not prevent the functioning of the EMS.

8. See the *Financial Times* (London), July 15, 1988.

9. Karl Otto Pöhl, "A Vision of a European Central Bank," *Wall Street Journal* (London), July 15, 1988.