The EMU: Forerunners and Durability

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The European Community is stepping tentatively toward a European Monetary Union (EMU) that would replace most of Western Europe's currencies with a single money, perhaps called the European Currency Unit (ECU).[1] No previous monetary union ever involved such a large portion of the world economy or resulted in the disappearance of so many major trading currencies. Historical evidence presented here suggests that a durable monetary union requires that one monetary authority control policy for the entire union and that it have sufficient power to enforce the agreement on the member nations.

For non-Europeans, transacting business with entities in a European Monetary Union would be quite different from dealing with entities in today's separate nations, each with its own currency. Furthermore, dealing with a stable, apparently permanent union would be very different from dealing with a precarious union poised to break apart at the seams. A number of possible effects of an EMU on the world economy have been expressed by its supporters, including: [1] Giscard d'Estaing (1969/pp17-18) argued for an EMU on the grounds that its currency would rival the dollar as the medium of international exchange and thus capture some of the financial rewards of issuing a reserve currency. Johnson (1973/pp95-96), however, thought the dollar was too entrenched to be easily challenged; [2] Many hope an EMU will increase European (and world) output [see Cooper (1973/p252) for a contrary view]; [3] An EMU could lower European (and world) inflation [see Cohen (1981) for a contrary view].

In a monetary union, two or more countries agree to a jointly managed monetary policy. Allen (1976/pp4-5) lists three minimal conditions for a monetary union:

One effective currency: There must either be a single currency or several currencies, fully and permanently convertible into one another at immutably fixed exchange rates (say, 10 francs = 1 pound), thus acting as a single currency.

One effective exchange rate: There can be only a single exchange rate (and thus, one exchange rate policy) between the union currency and external currencies. For example, if both France and Germany use ECUs, then France cannot have an exchange rate of 1 U.S. dollar per ECU while Germany's rate is 2 U.S. dollars per ECU. If they did set rates in this way, free convertibility would mean that someone could make limitless profits by paying France 1 dollar for an ECU, then selling the ECU to Germany for 2 dollars, then using the 2 dollars to buy 2 ECUs from France, then selling the 2 ECUs to Germany for 4 dollars, and so on. Eventually, either the exchange rate differential would evaporate, exchange controls would have to be imposed, or France would run out of ECUs.

One monetary policy: Nations joining a monetary union give up the power to conduct independent monetary policies. Monetary policy consists of controlling the quantity of money (or at least its high-powered component) via open market operations, rediscounting, reserve requirements, credit controls, intervention in foreign exchange markets, and exchange controls. Under an independent monetary policy the individual country decides its rate of inflation by controlling nominal money growth, nominal interest rate, or exchange rates.

I. History of Monetary Unions

Monetary unions appear to have existed as far back as Ancient Greece and certainly existed in medieval Europe (Nielsen/1937/p595). This section examines historical examples of monetary unions, paying special attention to the causes that led to a union's demise.

[1] The ECU currently exists (defined as a weighted basket of European currencies) but only serves as a unit of account. The ECU described in this paper would be a full-fledged money, serving also as the medium of exchange and store of value. At this writing, West Germany and East Germany have just formed a monetary union as a step toward political reunification.

Monetary Unions That Failed

Colonial New England: Until around 1750, a monetary union existed in the New England colonies (Lester/1939/pp7-8). The paper money of each of the four colonies (Connecticut, Massachusetts Bay, New Hampshire, and Rhode Island) was accepted as legal tender by the others, even for tax payments. The union lasted nearly a century and relied on the economic dominance of Massachusetts, whose monetary policy was followed in lockstep by the other colonies. The three smaller colonies eventually grew to challenge Massachusetts's economic primacy (see population data in HSUS/1975/p1168) and began to overissue currency in the 1730s and 1740s (McCusker/1978/pp131-35). Regional monetary cooperation deteriorated, and in 1751, Massachusetts redeemed its paper money, resumed a silver standard, and ceased accepting the other colonies' paper money.

Latin Monetary Union:[2] In the mid-1860s, France, Belgium, Switzerland, Italy, and Greece formed the Latin Monetary Union, considered by some to be the first international effort to regulate exchange rates (Wisely/1977/p51). Member countries could mint unlimited quantities of certain gold and silver union coins, all of which were legal tender across the union. Each country could mint limited quantities of smaller-denomination (subsidiary) silver coins, but these were legal tender only in the individual issuing country. Subsidiary coins had a lower silver content than the union coins. Despite the coins' lower intrinsic value, public offices in one country were required to accept up to 100 francs in the other countries' subsidiary coins on individual transactions, a loophole that helped destroy the union.

The union money supply was to be determined by the market. The central banks promised to freely exchange gold and silver for coins. This bimetallic standard soon began to strain the union by forcing the central banks to guarantee that the ratio of gold to silver prices (per unit weight) would remain fixed. But, the relative values of gold and silver were determined in world markets, and the Latin Union was too small to determine world prices. The union overvalued silver which the members attempted to force on each other, eventually forcing the suspension of silver convertibility and a move to a *de facto* gold standard. Outstanding silver coins remained legal tender, and subsidiary coins were treated virtually as legal tender.

At this point, the subsidiary coins became the union's principal problem. Their intrinsic value was less than their face value, and the union members went back and forth in repealing and reenacting the legal tender status of specific countries' subsidiary coins (Nielsen/1937/p597). World War I created enormous financing needs, and some members introduced paper standards and began depreciating their currencies. Despite theoretical limitations on the production and movement of subsidiary coins, these low-value pieces were overissued and continually flowed into whichever country had the least depreciated money. Finally, in late 1920, the members began refusing to accept not only each others' subsidiary coins, but also the overvalued silver union coins. The Latin Union ceased to exist as a practical matter, though it continued in name until the late 1920s. The Latin Union was said to have "decreed one common currency without setting up a common monetary policy (Fratiani and Spinelli/1984)." Alternatively, the Latin Union can be said to have decreed a common monetary policy but left each national central bank to police its own compliance.

Scandinavian Monetary Union: In the 1870s, Sweden, Denmark, and Norway formed the Scandinavian Monetary Union under which, like the Latin Union, gold coins of each country circulated freely as legal tender in all three countries (see Lester/1939/pp176-81). Subsidiary coins also circulated across borders as legal tender, and by 1900, banks in all these countries also accepted each member country's banknotes at par (Nielsen/1937/p598). By 1905, the union was considered so complete that exchange rates ceased being quoted.

As long as limited stocks of gold restrained the production of money, the union worked well. In the end, though, World War I financing needs led many countries to inflate their currencies and dump gold at the same time Scandinavia was maintaining a fixed Krone gold price. The depreciated currencies were then used to purchase gold at official (cheap) rates; the gold was then exchanged for Scandinavian currency, which was less depreciated than that of other countries. Scandinavia was required by the union agreement to issue currency to buy the gold flowing in, thus causing the Scandinavian money supplies to rise with world inflation. Eventually, the countries losing gold were forced off the gold standard, but not early enough to prevent inflation in Scandinavia.

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[2] Much of the technical and chronological detail of this section comes from Nielsen (1937/pp596-98).

In 1916, Sweden gave the King the right to exempt the central bank and mint from their obligation to purchase gold at a fixed price (Lester/1939/pp175-87), a policy recommended by Knut Wicksell and Gustav Cassel. For a time, Denmark and Norway believed themselves exempt from Sweden's gold embargo and, because their currencies were more depreciated than Sweden's, they began shipping gold to Sweden as the rest of the world had done previously. In 1917, Sweden prohibited unlimited gold shipments from the other union members, largely eliminating the purpose of the union.

Gold convertibility placed a limit on Scandinavian money supply growth (though the limit became unacceptably high once other countries began leaving the gold standard). Without convertibility, the only control on money issuance was the resolve of the central banks, and this proved to be weak. All member countries' subsidiary coins were still legal tender across the union, so Denmark and Norway began shipping large quantities of these small coins to Sweden, just as the Latin Union members had shipped to whichever member had the strongest currency at a given time. Finally, in 1924, shipment of subsidiary coins was prohibited, effectively terminating the union.

East African Currency Area: Under British colonial administration, monetary policy was generally carried out by a *currency board*, an agency that stood ready to change the colonial currency for foreign currency, and Sterling in particular. Under such an arrangement, in 1922, British East Africa (Kenya, Uganda, and Tanganyika, plus Zanzibar in 1936) adopted a common currency, the East African shilling (Pick/1971/pp257,566,586). After independence East Africa remained part of the Sterling Area that guaranteed local currency convertibility into pounds. Explicit and implicit British subsidies to the emerging nations were sufficient to offset their desires for independent monetary policies. In 1966, Kenya, Uganda, and Tanzania (the merger of Tanganyika and Zanzibar) each adopted its own local shilling, but all three remained legal tender across the region (Cowitt/1989/p99), and all remained convertible into pounds. Depreciation of the pound in the late 1960s and early 1970s led to the dismantling of the Sterling Area in 1972. Without the Sterling Area constraints on national monetary policies, the three East African national monetary authorities were free to pursue increasingly independent policies. In 1977, the East African Currency Area ended as each country pursued a different rate of inflation and the values of the currencies diverged.

Monetary Unions That Endure

Zollverein (German Customs Union):[3] Despite efforts at political unification, in 1815 the German Federation was composed of 39 separate independent states, each with its own standards for coinage (some gold, some silver) and for weights and measures. Many coins were debased, and there were paper moneys, though none was legal tender. The Congress of Vienna in 1815 removed restrictions on labor mobility, but the myriad coins made trade and factor movements difficult and expensive.

In 1834, the Zollverein (Customs Union) was founded with the intention of reducing cross-border transactions costs. In 1838, most of the states agreed on two monetary standards (the Thaler and Gulden), leaving states free to pick one or the other. In 1847, the central bank of the Kingdom of Prussia (with two-thirds of the German population and territory) was given primary central banking responsibility for most of the states of the Federation. In 1857, the Zollverein outlawed gold as a monetary standard across the union, effectively putting the entire union on a silver standard.

Prussia's stewardship of the monetary union held the arrangement together through the time of German unification in 1871. The Prussian bank then evolved into the Reichsbank, which survived until World War II, and was supplanted by the institutions that grew into today's Bundesbank. Thus, a vestige of this union still survives in the deutsche mark. Two factors seem responsible for the union's durability prior to political unification: [1] Prussia had the size, power, and will to enforce compliance with the agreement on the smaller states; and [2] the enactment of consistent metallic standards depoliticized the currency by removing the princes' ability to debase their coinage (Holtfrerich/1989/p237).

CFA Franc Zone: The CFA (Communauté Financière Africaine) Franc Zone encompasses most of the former French colonies of West and Central Africa, plus one former Spanish colony. The CFA Zone is one of the most successful modern monetary unions, having held a large number of geographically, politically, ethnically, and economically disparate nations together for over 30 years.

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[3] Most of this account is taken from Holtfrerich (1989).

A common currency, the CFA franc (equal to 1/50 of a French franc since 1948) circulates across the region and has endured the departure of colonial administration and the establishment in the early 1960s of the modern monetary authorities. There are two central banks, responsible for monetary policy in two different groups of countries.[4] Member nations of each central bank pool their reserves in the French Treasury. There are few exchange controls on converting CFA francs into French francs, though there are some trade and capital controls. Convertibility is guaranteed by an overdraft privilege at the French Treasury.

The CFA Zone has proven successful by a number of measures. Its inflation has been much lower than in surrounding countries, largely because the Zone's rules sharply limit the amount of credit the banking system can extend to national governments. By the early 1980s, however, that limit was being circumvented by lending to parastatals (state-owned enterprises), which were not technically government entities. Recently, the viability of the Zone has been called into question because of its $600 million combined overdraft and fears that the whole system might remain permanently in deficit (FT/3-21-90/p4).

France is crucial to the union, still exercising considerable authority over policies and playing a large role in the individual countries' economies through direct assistance and by subsidies that protect these economies from outside competition. Despite Africa's tendency to reject all things colonial, the gains from continued association with the French apparently are viewed as outweighing the negatives of granting France power over the region's monetary policy. France has been able to maintain its influence in the area because its economic size (relative to that of the Zone) makes it the dominant partner. The total CFA franc money supply is less than 3 percent of the French money supply.

Belgium/Luxembourg: Belgium and Luxembourg maintain separate currencies (Belgian francs and Luxembourg francs), linked at par and legal tender in both countries (Cowitt/1989/pp561-67; Pick/1971/p311). Monetary policy is effectively under the control of Belgian monetary authorities, though a joint agency manages exchange regulations.

Switzerland/Liechtenstein: The Swiss franc is the currency for both countries (Cowitt/1989/-pp689-93; Pick/1971/p292). Monetary policy for both countries is managed by the Swiss National Bank.

France/Monaco/Andorra: Both Monaco and Andorra (along with French colonies) use the French franc, with French authorities in full control of monetary policy (Cowitt/1989/p593). Andorra also uses the Spanish peseta.

Italy/San Marino/Vatican City: Vatican City issues its own Vatican lira at par with the Italian lira (Pick/1971/p590), with both legal tender in both countries. San Marino also uses both the Italian and Vatican lire and mints some coins of its own. Italian authorities effectively control the monetary policies of the Vatican and San Marino.

U.S./Liberia: In 1944, the Liberian dollar was pegged to the U.S. dollar at par. In fact, U.S. banknotes were made legal tender and have remained the country's only circulating paper money, with Liberian coins minted for use as small change. In the early 1980s, Liberia, while it had no currency of its own and thus no printing presses to run, circumvented the discipline imposed by its use of the U.S. dollar. It began minting large quantities of 5-dollar coins, using them to pay the military and the civil service. Since Liberia has no exchange controls, the principal result was in line with Gresham's Law—the Liberian coins drove out much of the supply of U.S. currency in the country.

U.S./Panama: With its founding in 1904, Panama pegged its currency, the balboa, to the U.S. dollar. U.S. currency and coins are legal tender and constitute the bulk of circulating money. The Banco Nacional de Panama issues balboas but is not a central bank; it maintains no control over the country's money supply.

II. POTENTIAL GAINS FROM MONETARY UNION

Nations do not surrender the privilege of creating money without having good reason to do so. Friedman argued that floating exchange rates (which are

[4] The West African Currency Union (Banque Centrale des Etats de l'Afrique de l'Ouest) covers roughly the same area as the former French West Africa. It includes Benin, Togo, Côte d'Ivoire, Senegal, Mali, Niger, and Burkina Faso. The Central African Currency Union (Banque des Etats de l'Afrique Centrale) approximately covers what was French Equatorial Africa and Cameroon, plus Equatorial Guinea, a former Spanish colony. Members include the Central African Republic, the Congo, Cameroon, Gabon, Chad, and Equatorial Guinea. The Comoros, a republic in the Indian Ocean, is part of a broader Franc Zone, but has its own currency, the Comoros Franc.

necessary if countries are to pursue different rates of inflation) are the exchange rate regime most compatible with a free market and free trade (Friedman/1982/pp67-69). National monetary sovereignty is the usual regime for reasons of history and politics, as well as for purely economic reasons.

To help understand why European countries might join a monetary union, this section examines the gains which might accrue to members of a union. This section includes a discussion of three theories of optimum currency areas—a term for areas which some theory holds *ought* to form monetary unions.

Benefits of a Monetary Union

A group of countries may conclude that the benefits of monetary union outweigh the benefits of monetary independence. Benefits of a union include:

Cheaper cross-border trade: With separate currencies, every international transaction entails calculating an exchange rate, enduring exchange risk, and changing currency one for another. Under a union, such costs disappear.

Wider access to markets: By eliminating the extra costs associated with cross-border trades, industries with economies of scale may be able to produce at efficiently high levels.

Increased seigniorage: When someone accepts a U.S. dollar created by the U.S. government, he has effectively lent the government one dollar's worth of resources interest-free. Subtracting out printing and administrative costs yields the profit to the government from money creation or *seigniorage*. The smaller the economy covered by a currency, the less inducement for foreigners or locals to hold deposits and conduct business in that currency. For a firm doing business across Europe, the dollar in 1990 may be a more attractive transactions medium than either the French franc or the deutsche mark, simply because the dollar has wider acceptance across a greater number of markets. Because of its wider market access, though, an ECU in 1994 may be more attractive to the same firm than the dollar. If so, there would be an inducement to switch one's currency holdings from dollars to ECUs, and Europe, not the U.S., would get the seigniorage.

Political divisiveness: EMU proponents argue that separate currencies foster economic nationalism. A major motivation for an EMU is a widespread belief that a common currency will help solidify the Continent's political bonds.

Theories of Optimum Currency Areas

The above list of advantages of monetary unions does not provide a coherent, manageable theory explaining which areas should form monetary unions and which areas are likely to form them. Ideally, one would like a simpler theory that captured all these factors. Preferably, the theory would specify a single variable that simultaneously decreases the advantages and increases the disadvantages of monetary independence. In fact, there are at least three major theories of *optimum currency areas*, each positing a different principal reason monetary unions form. The reasons include:

Factor Mobility: This is the extent to which factors of production (labor, capital) are free to move across borders (Mundell/1968/pp177-86). For example, workers can move freely throughout the United States. Suppose the demand decreases for Northern products and workers to produce them and increases for Southern products and workers. Wages or employment would fall in the North and rise in the South. Workers will migrate to the South to benefit from higher wages or employment. In the end, wages in the two regions will equalize once more as migration makes labor scarce in the North and plentiful in the South.

Now, suppose it is the demand for Mexican goods that drops relative to those of the U.S. If Mexico can conduct an independent, expansionary monetary policy, it may be able briefly to stimulate its depressed economy or at least chosen sectors of the economy. It can print money, thus taxing holders of currency to redistribute their wealth to the unemployed. Or, it could devalue the peso, stimulating the economy (or parts of the economy) by simultaneously making all Mexican goods cheaper to U.S. buyers. The perceived ability (real or not) to stabilize an economy by using monetary policy is often given as a reason for maintaining an independent monetary policy. If, however, labor can move freely across borders, then Mexico has no more need for monetary independence than does Dinwiddie, Virginia.

Even if monetary policy can stimulate real activity in a closed economy, capital mobility makes such stimulation impossible in an open economy. Suppose Mexico is depressed and the U.S. booming, and interest rates are equal in both countries. If Mexican authorities use monetary policy in an effort to stimulate domestic production, this will exert downward pressure on Mexican interest rates. If those holding capital in Mexico cannot freely move

their assets to the U.S., then monetary policy may have some stimulative effects. If, however, there is capital mobility, downward pressure on Mexican interest rates will only drive assets abroad without having any stimulative effects. Similarly, the Federal Reserve Bank of Chicago cannot stabilize Midwestern employment by lowering interest rates. If it did, assets would flee to the other Districts thus instantaneously equalizing interest rates again. Thus, the existence of labor and capital mobility reduces the attractiveness of pursuing an independent monetary policy (Mundell/1968/pp177-79).

Internal vs. External Transactions: McKinnon (1963) saw optimum currency areas in a given region as defined not by factor mobility, but rather by the ratio of transactions *within* the individual countries to transactions *between* the countries. An appreciation of the mark against the franc will increase the prices the French pay for German goods. If France buys so much from Germany that such an exchange rate move will be viewed by Frenchmen as a rise in their own price level, then, by McKinnon's criterion, France and Germany ought to form a monetary union. On the other hand, if Mexico buys little from Malawi, then a rise of the Malawi kwacha against the Mexican peso will not be seen by Mexicans as a rise in the price level. Thus, by McKinnon's reckoning, Mexico and Malawi do not belong in the same monetary union because changes in the peso/kwacha exchange rate will change the Mexican or Malawian price levels imperceptibly or not at all.

Political Cohesion: Kindleberger (1973/pp424-34) saw optimum currency areas as defined by a region's sense of political community. Simply put, if French are French first and Europeans second, and Germans are Germans first and Europeans second, then they ought to have separate currencies. If they are Europeans first and French or Germans second, they ought to have a single currency. Throughout history, he notes, almost every country has had its own currency and none, he asserts, has had different currencies for different regions (though one could argue with this, looking at examples like state-issued moneys in the nineteenth-century U.S.).

III. STABILIZING FACTORS IN AN EMU

Theoretical gains from a monetary union are only realized if the agreement setting up the union can be enforced upon the members. As with any contract, there must be enforcement mechanisms built into the agreement which constrain the members' actions to serve the good of the group. This section seeks to identify institutional differences between those unions which failed and those which still endure. Then we ask whether such conditions exist in today's Europe.

Surrendering Monetary Independence: Institutional Arrangements

The effects of a European Monetary Union on the U.S. depend crucially on whether the union seems stable or transient. This section looks at the institutional forms a union can take, catalogued by the number of currencies circulating within the union and by the domain of the central bank or banks. This will help in later sections to identify the specific forms that seem to encourage stability, based on historical evidence. First, institutional arrangements can include:

Unionwide Currency: The ECU, for instance, would circulate in every member country;

Separate Currencies: Instead of adopting an ECU, a European Monetary Union could agree that francs, marks, pounds, etc., would each freely circulate in all union countries at fixed exchange rates.

Second, union monetary policy can be set by:

One Unionwide Central Bank: This supranational institution would set policy for all members;

One National Central Bank: The central bank of one country (say, Germany) could by mutual agreement set policy for all members;

Multiple National Central Banks: Each country would have its own central bank, required to follow a policy consistent with union agreements;

Multiple Nonnational Central Banks: Different regions of the union would have separate central banks, but the borders of their regions would not follow national boundaries, as the Federal Reserve Districts do not follow U.S. state boundaries. [See the accompanying piece, "A Yankee Recipe for a EuroFed Omelet," for a discussion of this possibility.]

Whichever arrangement is chosen, in a successful, lasting monetary union money moves with little or no restriction, and people must be indifferent between any two banknote portfolios of equal value and between any two deposit accounts of equal value

(they are generally not indifferent as to how they divide their holdings between banknotes and deposits). Under a union subject to periodic exchange rate realignments, no one will be indifferent to the national makeup of his currency and deposits. Under the supposedly fixed exchange rates of the Bretton Woods arrangement (which had some characteristics of a monetary union), people cared a great deal about whether their pockets were filled with dollars or pounds because the possibility of a devaluation or revaluation of, say, the pound against the dollar meant big gains or losses, depending on which currency gained and which lost and where the holder of currencies lived.

Since 1978, most of the European Community countries have been members of the European Monetary System (EMS), an agreement to limit exchange rate movements and to harmonize the member nations' economic policies. It has given rise to the European Currency Unit (ECU), a common unit of account. The EMS has had some success in bringing rates of inflation closer together. However, the EMS is not a monetary union—no one pretends that exchange rates will not change.

Incentives for Monetary Restraint

Table I catalogues the monetary unions by the two criteria (number of currencies, domain of central banks) presented in the above discussion of institutional arrangements. In each case, monetary restraint was imposed on members by some factor that limited political authorities' influence over monetary policy. Such restraint was provided either by a viable metallic standard or by the presence of a single authority with the power to impose its will. In this admittedly limited number of cases, multiple currencies do not appear to threaten the arrangement. The Luxembourg franc, Vatican lira, San Marino lira, Liberian dollar, and Panamanian balboa have not been overissued to the point of threatening the respective union (though Liberia has recently pushed its arrangement somewhat).

Table I

Monetary Union	Single or Multiple Currencies	Money Supply Under Control of	Money Supply Restrained by	Restraining Factor Failed Because of
New England	Multiple	Individual colonies	Massachusetts*	Growth of smaller colonies
Latin Union	Multiple	National Banks	Gold, silver in coins	Silver depreciated, limited bimetallism continued Some members left gold standard during WWI Subsidiary coin loophole
Scandinavian Union	Multiple	National Banks	Gold standard	Collapse of world gold standard during WWI Subsidiary coin loophole
East African Currency Area	Multiple	National Banks	Convertibility under Sterling Area	Convertibility broken with Sterling Area collapse
Zollverein[a]	Multiple	National banks	Prussia* Metallic standards	
Belgium/Luxembourg	Multiple	Belgium[b]	Belgium*	
Switzerland/Liechtenstein	Single	Switzerland	Switzerland*	
France/Monaco/Andorra	Single	France	France*	
Italy/San Marino/Vatican	Multiple	Italy/Vatican[c]	Italy*	
CFA Franc Zone	Single	Multinational banks	France*	
U.S./Liberia	Single	United States[d]	United States*	
U.S./Panama	Single	United States[d]	United States*	

Notes:
* Economic dominance of one member enabled it to enforce restraint
[a] Evolved into today's deutsche mark
[b] Luxembourg has some power over foreign exchange regulation.
[c] San Marino issues no currency, but mints its own coins.
[d] Liberia and Panama theoretically have independent currencies (the Liberian dollar and the Panamanian balboa), but in practice only mint coins. Liberia has in recent years minted sufficient coins to threaten its arrangement with the U.S. dollar.

The four failed unions were each composed of between three and five countries of similar economic size. In each case, overissue of money was initially restrained by factors which separated the money from the political authorities. In each case, the depoliticizing factor disappeared, leaving the individual political jurisdictions free to determine their own money supplies, and leaving monetary authorities vulnerable to political pressures. Members preyed on their partners by issuing excessive amounts of money, which union members were forced to accept.

These observations accord with what cartel theory would suggest. A monetary union is a cartel whose product is money instead of oil or coffee or diamonds. Like all cartels, members of a monetary union must restrict output or suffer declining joint profits (in this case, seigniorage). As with other cartels, restricting production depends on maintaining an agreement among members on how to share the profits. Over time, cartels generally break down because at some point, members allow pursuit of individual self-interests to override pursuit of the cartel's common goals. Salin (1984/pp196-214) describes the current European Monetary System as a cartel.

The exception to this rule is the cartel which has one member with both the motive and the economic power to impose the agreement on all the other members. OPEC held together because Saudi Arabia, with one fourth of world production, was willing and able to expand and contract its production in response to changing world demand and supply conditions. Furthermore, the Saudis enjoyed sizable international reserves, out of which current expenditures could be financed, if necessary. When other members of OPEC violated their agreement by overproducing, the Saudis could threaten to expand their production to punish the cartel, and this threat was credible. Similarly, France has economic and noneconomic reasons for wanting the CFA Franc Zone to survive, giving it the ability and desire to keep the system operating, and the member countries and the multinational central banks are fully aware of France's special position.

One of the major obstacles in the way of an EMU is the lack of a dominant member to serve as the union's enforcer. Liechtenstein completely surrendered its monetary policy to the Swiss National Bank. The German Bundesbank has been suggested for a similar role in a European Union. Now, the advent of a German Monetary Union should give Germany an even larger percentage of the Western European economy. While it is the largest economic power in the region, however, it does not dominate Western Europe, since its Gross Domestic Product is only about 1/4 of the total Common Market GDP (perhaps 30% or more if estimated East German GDP is added). It has been suggested that all of Western Europe similarly assign Germany power over the joint money stock; this seems unlikely due to political reasons.

Other Factors Encouraging Permanent Union

As mentioned above, it is unlikely that any member of a European Monetary Union will emerge as a sufficiently dominant force in the union to enforce a monetary cartel. Further, it seems unlikely that Western Europe would give sole power of monetary policy to some large (but not dominant) member, such as Germany. Without such a dominant member, other factors would have to emerge to solidify the union.

Some proponents of a European Monetary Union hope to model their system on the U.S. Federal Reserve, with national central banks becoming the equivalents of Federal Reserve District Banks, which constitute a sort of monetary union. Money circulates unrestricted throughout the U.S., and nobody cares whether the bills bear the seal of the Richmond Fed or the Cleveland Fed or any other regional Federal Reserve Bank. This situation suggests asking what steps are required to create such a system in Europe, and what obstacles could prevent Europe from developing as cohesive a system as the Federal Reserve.

Emergence of Europe as a Political Community: The more Europeans begin to think of themselves as Europeans rather than Dutch, Italians, Greeks, etc., the stronger the EMU will be. The Common Market's founders dreamed of a United States of Europe. Some of Europe's current leaders appear to support subordinating nationalism to continental interests. The willingness of their constituents to go along is less certain. There are many barriers to overcoming ancient nationalistic tendencies. Linguistic, religious, political, and cultural differences still separate the nations of Europe.

A Common European Fiscal Policy: It has been argued that one reason for the solidity of the United States as a currency area is the size of the federal government compared with state and local governments. This size makes possible fiscal transfers from booming regions to depressed regions. These

fiscal stabilizers, it is argued, reduce demands for monetary stabilization of regional economies. Tower and Willett (1976/p25) write that independent fiscal policies within a currency area are likely to be of a "beggar-my-neighbor" character, leading to inefficiencies.

The fiscal tools of the Common Market (eg, the Common Agricultural Policy, the Customs Union) are small but have grown in importance. Still, the present-day Common Market has limited ability to tap the wealth of, say, Germany, to ameliorate economic difficulties in, say, Greece or Ireland. This limitation has been cited as an obstacle to a successful EMU (Leigh-Pemberton/1989/p6). Ingram (1973/p8), though, recalls that the federal government was small compared with the states until the New Deal. An explicit agreement to transfer spending powers from the national governments to the European Community, plus explicit agreement to use such power to smooth regional disturbances, would help solidify an EMU by reducing the need for regional monetary stabilization policy. Such regional issues might be important if labor migration were judged to have pecuniary or nonpecuniary costs. Again, the problem arises that such agreements often fail during downturns affecting the whole union.

It is often stated that a monetary union requires fiscal harmonization or else divergent national policies will strain the monetary accord. In one sense, this claim is an overstatement. The monetary union really requires *either* fiscal harmonization *or* common knowledge that monetary policy cannot later be used to correct a member's fiscal policy errors. In other words, if the central bank of a monetary union is willing to bail out individual nations whose obligations cannot be met, then fiscal policies will have to be harmonized. If, however, each nation knows the central bank will not subsidize its desire to live beyond its means, then that will by itself "harmonize" policies. In the United States, for example, overextended states and localities have had no guarantee, traditionally, that the U.S. Treasury (and, indirectly, the Fed) would bail them out.

Europe 1992: The U.S. is a common market in the sense that goods, labor, and capital circulate with limited interference. The Europe 1992 Project is aimed at making Western Europe a similarly united market, rather than a collection of national markets with numerous barriers. The Project aims to create a common legal framework, common product standards, and a free flow of goods and factors across borders. If the aims are achieved, the European Community will certainly become more of an optimum currency area. As is true with the political unity of the continent, though, it remains to be seen whether Europe 1992 will succeed. The legal traditions of the countries are vastly different. Noneconomic factors (eg, fear of terrorists and criminals) may reduce the actual mobility across borders. Further, it remains to be seen whether the countries of Europe will give up their often subtle barriers to free trade.

Nonnational Central Banks: There is strong pressure in Europe to retain the existing central banks, with each responsible for its own nation's monetary policy. Allen (1976/p11) wrote that it would be difficult to persuade these institutions, each with a long history of independence and power, to simply disappear. Yet, as this paper has shown, multiple central banks encourage the dissolution of a monetary union. A possible compromise between retaining and abolishing national central banks would be to retain the national banks, but redefine the boundaries over which they have authority. This idea is pursued in the accompanying article "A Yankee Recipe for a EuroFed Omelet."

IV.
CONCLUSIONS: CAN THE EMU FLY?

A successful monetary union requires that the countries involved gain from the union agreement, and it requires institutions which enforce the agreement once it is reached. The theoretical motives behind a monetary union (factor mobility, cross-border transactions within the community, political cohesion) appear to be increasing. In all successful historical unions examined, monetary policy was in the hands of a single monetary authority or, where there were several central banks one was sufficiently dominant to impose the agreement on other members. "Self-regulating" standards (eg, metallic content of money) enforced by multiple authorities did work for a time in several cases. In each case, though, financial pressures and weakening of the self-regulating mechanism eventually led members to violate their union agreements. In each of the four failed unions examined, members destroyed the union by overissuing their moneys.

According to the criteria set forth in the optimum currency area literature, Western Europe's motives for forming a monetary union are increasing. The factors of production are increasingly mobile within the community as controls are being dropped on

movements of humans and capital. Transactions occurring *between* European Community members are increasing, compared with transactions wholly *within* individual member nations. The region's sense of political community, while still sharply limited, nevertheless seems to be rising as numerous political leaders preach the virtues of continental over national interests.

However, no centralized EMU enforcement mechanism appears to be on the horizon. The ECU (or permanently tied separate currencies), being fiat money, will not even have a temporarily self-regulating standard, as the Latin and Scandinavian Unions had in gold and silver. Several decades of experience with exchange rate mechanisms like the current European Monetary System's have met with only limited success because economic pressures induce individual members to pursue domestic self-interests over the common good. To be sure, inflation rates in the EMS have converged (and exchange rates stabilized). But during this period, Western Europe has experienced no extraordinary strains, such as war or prolonged recession. Even the moderate economic difficulties of the 1970s were sufficient to ruin several earlier arrangements. A permanent EMU would likely require either a supranational monetary authority (possibly with some degree of decentralization) or the delegation of all authority to the German Bundesbank.

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