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THE ECU -- AN IMAGINARY OR EMBRYONIC FORM OF MONEY: WHAT CAN WE LEARN FROM HISTORY?

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ABSTRACT

We present historical examples of new forms of money that can be compared with the ECU. We first define the ECU in its official role before turning to developments in the private market for ECUs. We then examine historical antecedents of three attributes of ECUs: a unit of account; a basket of currencies; a basis for monetary integration. We discuss which features if any of ECUs are unique, and the contribution of the historical analysis to assessing the future of ECUs. We then ask whether governments or markets have been dominant in the emergence of new forms of money. Whatever emerges as money in an economy becomes the general means of payment. Prices of commodities, services, and bonds are expressed in units of the money. Buyers use the money to purchase goods or bonds and sellers receive the money is exchange for goods or bonds. We conclude that, at this stage in its history, the ECU at best is an embryonic form of money, closer to historical imaginary monies than to existing currencies that the world has known.

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The ECU -- An Imaginary or Embryonic Form of Money: What Can We Learn from History?*

To find examples in history of new forms of money that can be compared with the ECU, it is first necessary to define the attributes of the ECU and to determine whether it is in fact a new form of money.

The ECU is a unit of account -- an accounting measure -- based on a basket of currencies, the majority of which are linked by an exchange rate agreement. The objective of the arrangement is to establish "a zone of monetary stability" in Europe. Although the ECU was conceived as an official unit, it has since its introduction acquired a private role.

Six functions of the official ECU have been identified (Vaubel 1980): as a numeraire for parities; as a reference unit for divergence of exchange rates from parities; as a denominator for credit facilities; as a means of settlement; as a solution to the nth currency problem; as the nucleus of a European parallel currency. Only the final function is of special relevance to this paper.

We first define the ECU in its official role before turning to developments in the private market for ECUs (section I). We then examine historical antecedents of three attributes of ECUs: a unit of account; a basket of currencies; a basis for monetary integration (section II). We discuss which features if any of ECUs are unique, and the contribution of the historical analysis to assessing the future of ECUs (section III). We then ask whether governments or markets have been dominant in the emergence of new forms of money (section IV). Whatever emerges as money in an economy becomes the general means of payment. Prices of commodities, services, and bonds are expressed in units of the money. Buyers use the money to purchase goods or bonds and sellers receive the money in exchange for goods

or bonds. We conclude that, at this stage in its history, the ECU at best is an embryonic form of money, closer to historical imaginary monies than to existing currencies that the world has known. It may, however, succeed in bringing about the preconditions of monetary unification before the EMS develops fixed exchange rates. In that eventuality, the ECU can become a full-fledged currency (section V).

I

The ECU, conceived as a unit of account, not a means of payment, and as an official rather than private unit, came into existence on 13 March 1979 when the European Monetary System began operations. It was defined as a basket of currencies that was a sum of specified amounts of nine EEC currencies: DM, British pounds, French francs, Italian lire, Dutch guilder, Belgian francs, Luxembourg francs, Danish krone, and Irish pounds. The amounts were based on each country's share in intra-European trade, its GNP, and its quota in the EEC's short-term monetary support arrangements. The percentage shares of the currencies in the basket sum to 100.

The value of the ECU in terms of individual EEC currencies varies with changes in intra-EEC exchange rate relationships. Each country declares a central rate for its currency in terms of the ECU. The weights of the currencies in the basket change with changes in exchange rate relationships. Compulsory intervention limits are fixed on either side of each pair of currencies' bilateral central rates.

In September 1984, the composition of the basket was changed to offset changes from various central rate realignments in the preceding five years.

The Greek drachma was incorporated, although it, like the British pound, does not participate in the exchange rate arrangements.

ECUs are created on a temporary basis through 3-month revolving swaps with the European Monetary Cooperation Fund against the deposit of 20 percent of each central bank's gold and dollar reserves, The quantity of ECUs outstanding is variable since the market price of gold (valued at the average ECU price in the preceding six months or of the two fixings on the penultimate working day, whichever is lower) and the ECU value of the dollar (prevailing two working days before) have been highly volatile. Three-fourths of outstanding ECUs have been created against gold. Since shares of gold and dollars in reserves of central banks differ significantly, the distribution of ECUs among them is strongly affected by change in the valuation of the two reserve assets. The volume of ECUs created by the revolving swaps amounted to ECU 23 billion at the start of EMS, reached just under 50 billion in April 1981, then fell back to 42 billion in December 1982, and increased to 51 billion in June 1985.

Neither debtor nor creditor central banks have found ECUs attractive since they are inconvertible into other reserve assets, and limits exist, though liberalized in 1985, on their usability within the EMS. Two-thirds of interventions were in U.S. dollars through June 1985 (Micossi 1985, 331-2). Most interventions were intramarginal, not at the compulsory intervention limits. The intramarginal ones were carried out in EC currencies.

To expand the international role of the official ECU, in 1985 EMS central banks were authorized to make a temporary exchange with the ECMF of

ECUs for dollars or with other member central banks for EEC currencies. Holding of ECUs by non-EEC central banks and specified international monetary institutions was permitted. In addition, the interest rate calculation on official ECU holdings was raised from a weighted average of the official discount rate in member countries to the weighted average of money-market interest rates for the component currencies.

We do not have current information on whether these changes had the effect of reversing the decline in official use of ECUs that had occurred by 1985.

In juxtaposition to what happened to official interest in the ECU, unexpected private interest has developed, from zero in 1980 to $40 billion in 1985, of which about one-fourth was in bonds denominated in ECUs, the remainder in bank assets and liabilities. Though it has grown rapidly, relative to the size of the Euromarket, the private market for ECUs remains minuscule -- e.g., ECU loans and deposits represent 0.7 and 0.3 percent, respectively, of total EEC bank assets and liabilities (Masera 1987, 9).

The issuers of ECU-denominated bonds include the World Bank, the Republic of Italy, the European Investment Bank, the Council of Europe and other official European institutions, Hydro Quebec, Citicorp, and French public-sector entities or firms (Lomax 1983, 178-9; BIS, 1984-5, 1,32). Main buyers have been Belgian, Italian and French investors. Outside the EEC, Swiss and Japanese have been buyers. Trading in ECU bonds is common and settlement of trades is possible through a Brussels-based and a Luxembourg-based clearing house. ECU deposits began in the interbank market, available only to large customers. The banks had no possibility at

the start of employing ECU deposits and unbundled the ECU into the nine component currencies on the asset side of their balance sheets. With an increase in the number of ECU depositors, the banks accepted smaller accounts and also found a private market for borrowing in ECUs so that it was no longer necessary to unbundle the ECU into the component currencies.

By 1984 some 200 banks participated in the ECU interbank market. The nonbank deposit scope of the ECU banking sector expanded not only inside but also outside the EEC countries. Only West Germany does not authorize banks to accept ECU denominated deposits. All other countries permit banks to accept both current and deposit accounts.

An important development was the agreement the BIS signed with the ECU Banking Association in March 1986 to assume the functions of agent of the private ECU clearing and settlement arrangement. Sometime in 1987 the system is expected to begin operations. The BIS as agent of the clearing banks will open and operate clearing accounts in their names, each of a limited number of clearing banks having opened an ECU sight account at the BIS.

Other uses of ECUs include the invoicing of foreign trade in some EEC member countries which to some extent has been settled in ECUs as well as in charges against credit cards, issuance of travelers' checks and customers' accounts in Benelux countries (BIS, 1984-5, 132-3). These may be forerunners of pricing of goods and services generally in ECUs. More significant would be customary settlement of ECU-denominated transactions in ECUs, rather than the equivalent of a EEC currency or dollars.

The final question to consider is the reason for the development of the

private market for ECU-denominated deposits and loans. One characterization of the ECU is that it represents a form of financial innovation (Levich 1987; Masera 1987). Private agents transact in ECUs rather than EC national currencies, on this view, because the former provide greater portfolio diversification, lower transaction costs, and access to a broader market. The development of the private market for ECU-denominated deposits and loans, however, is concentrated in countries with weak currencies, some of which impose exchange and capital controls. The increase in nonbank deposits has been concentrated in Belgium and Luxembourg, and ECU-denominated loans in Denmark, France and Italy. All are countries with relatively weak currencies, the latter three with capital controls (Greece and Ireland also control capital movements).

Countries with weak currencies sometimes prohibit residents to open foreign currency accounts or hold securities denominated in a foreign currency. If that is not the case, private agents in weak currency countries have an incentive to borrow ECUs because the exchange risk is lower in that denomination than it would be if the loan were in DMs or guilder. Borrowers in countries with high nominal interest rates may find ECUs a cheaper form of borrowing because of its lower interest cost adjusted for expected changes in the exchange rate, and investors may find ECUs attractive as an alternative to the dollar without being limited to the low interest rates of the DM and Swiss franc. Borrowing in ECUs for firms with affiliates in a number of EEC countries has apparently been less costly than borrowing in their national currencies (BIS 1984-5, 132). Treating the ECU as a foreign currency in member countries with foreign

exchange controls would mean that the ECU would be subject to such controls. In some countries, however, the ECU is exempt from foreign exchange controls. This is clearly an incentive for residents of those countries to acquire ECU-denominated loans and deposits. "In the present system weak currency countries have to choose between the welfare losses associated with capital controls and the losses arising from the volatility of short-term interest rates, and, as the evidence shows, overwhelmingly opt for the former. Thus capital controls appear to be an important feature of the EMS, which allows weak currency countries to take part in the exchange rate arrangement, without suffering from excessive domestic interest rate fluctuations" (Giavazzi and Giovannini 1986, 21).

II

In this section we report historical antecedents based on three attributes of ECUs: a universal unit of account; a basket of currencies; a basis for monetary integration.

1. A Universal Unit of Account

The ECU serves as a numeraire or unit of account for the EMS. It provides a measuring rod into which the currencies and hence the price level in terms of different currencies of the member countries can be easily translated. Provision of a universal unit of account is indispensable in the creation of a common currency. The ECU, however, is not widely used as a means of payment, a second indispensable feature of a common currency.

A precedent for the separation of unit of account and medium of exchange is exemplified by the "imaginary" or "ghost" monies that were

known in Europe between the ninth and the eighteenth centuries. From the reign of Charlemangne until the French revolution, across much of Europe a distinction was commonly made between actual coins in circulation and "imaginary" money -- the accounting system of pounds, shillings, and pence in which prices were stated. In the medieval monetary system, coins were minted in various weights and sizes, which had no value imprinted on them. The monarch gave the coins official value in terms of the unit of account.

This distinction between the unit of account and means of payment is not found in modern monetary systems where the two functions are embodied in the same vehicle. The modern system, originally based on the specie standard, defined the monetary unit as a fixed weight of some precious metal, either gold, silver, or both. All coins, which had their values imprinted on them, were multiples or fractions of this basic coin. Fractional currencies, bank notes and bank deposits were all defined in terms of the basic coin and were fully convertible into it. The present fiduciary monetary system derives from the specie standard. Though government-issued currency and bank deposits are no longer convertible into specie, the public has grown to treat them as if they were.

In the middle ages conditions were very different. In each state many coins of different metals, of different weights and sizes, coined both at home and abroad, circulated in common use. The diverse character of medieval coinage reflected primarily the rudimentary nature of techniques of minting and fragmented political power.[1] In these conditions an accounting system was necessary to translate values in terms of multiple currencies into a common denominator. The system used was based on the

ancient Roman denominations of pounds, shillings, and pence. Hence arose the distinction between "real" and "imaginary" money.[2]

The medieval European monetary system was based on the Carolingian reforms of the ninth century. Charlemagne established a currency system consisting of a pound (livre) of silver, divided into 12 shillings (sols), in turn divided into 12 pennies (deniers). In fact, only silver pennies were minted.

Over time, as income and size of transactions increased, and as the silver content of the penny declined (reflecting both deteriorating quality and debasement), denominations larger than the penny became imperative. To facilitate accounting, prices were denominated in terms of shillings and pounds, even though no one had ever seen such coins.[3 and 4]

Each country in Western Europe used the system of pounds, shillings, and pence to keep accounts and as a standard of deferred payments. Thus contracts, mortgages and bookkeeping were denominated in £,s..d. Actual payments were made in "real" money -- gold, silver, copper, or vellum coins (a mixture of copper and silver) -- whose value in terms of the unit of account was determined by the ruler.

As long as the official rating of coins corresponded to that of the market, the system allowed gold, silver, and other types of coin to circulate freely. Moreover, by adjusting the value of silver (or gold) coins in terms of the unit of account, the circulation of both gold and silver coins in a bimetallic standard could be maintained when the market ratio of the two metals diverged from the official ratio.[5] For example, if the market silver/gold price ratio were to fall from, say, an official value of

12.1 to 11.5:1, the ruler could increase (cry up or enhance) the official value of the silver currency in terms of the unit of account, thereby reducing the official bimetallic ratio to that of the market.

Bank money based on a given weight of gold or silver served as a form of universal money since it could be rated in terms of the unit of account in each country and was more suitable than hard coin to make international transfers. Thus the bank moneys of Venice, Genoa, and Amsterdam -- convertible into fixed weights of gold -- were used all over Europe.

In sum the system of imaginary money allowed every state to coin its own currency, to use foreign coins, and to settle international payments imbalances based on the universal unit of account. The ability of the ruler to alter the value of a currency in terms of the unit of account ultimately led to the demise of the imaginary money system. In the face of persistent war, internal strife, and varying tax revenues, the rulers of Europe, but especially France and Burgundy in the fourteenth and fifteenth centuries, repeatedly resorted to debasement and competitive devaluation.[6] Once the public caught on and revenue from use of the "printing press" declined, the ruler would introduce a "renforcement" or currency reform that started the process again.[7] The record of monetary instability in early modern France and other states set the stage for the integration of the coinage and universal adoption of the specie standard.[8]

2. A Basket of Currencies

A second important attribute of the ECU is that it is a basket of member country currencies, each currency entering with a fixed weight. The basket or currency cocktail is designed to provide greater stability than

reliance on any one currency would. No direct historical antecedents to the currency basket can be cited. The only antecedents are immediate predecessors to the ECU. However, a number of arrangements are similar in the sense that (a) they represent some composite of more than one currency; (b) they are believed to promote greater price stability than would relying solely on one currency. The arrangements to be discussed are: the electrum; bimetallism; symmetallism; recent ECU predecessors.

(i) The electrum was a coin that was 75 percent gold, 25 percent silver, used in Lydia, Asia Minor, circa. the sixth century B.C. It was apparently used because the Greeks had not learned how to harden gold with copper. Use of this coin encountered problems with determining its gold and silver content. Consequently, pure gold coins were preferred since they could be assayed with a touchstone. Moreover, the ratio of gold to silver was not legally defined (Burns 1927).

(ii) Bimetallic standards can be traced in rudimentary form back to the Middle Ages. From Roman times the commercial world followed a silver standard, but with the evolution of international trade, gold coins, because of their higher value, gained favor. By the mid-thirteenth century Venice fixed the weights of both gold and silver coins, followed soon after by other Italian city-states, and in the fourteenth century, by England, France, and Burgundy (Cipolla 1965; Munro 1972).

Ultimately bimetallism was displaced by the gold standard. In the period when it was in force -- in France (1803-78), the United States (1792-1834) -- it ensured greater price stability than in the succeeding period of gold monometallism.

(iii) Alfred Marshall (1923, 1926) proposed symmetallism to the Gold and Silver Commission in England in 1886 to solve the shortcomings of reliance on precious metals, either gold or silver alone or bimetallism.[9] Under the scheme currency would be exchangeable for a combination of gold and silver bullion in fixed proportions. Marshall believed the scheme would provide a stable monetary standard because the value of legal tender money would vary with the mean of the values of both metals. The scheme was never adopted.[10] (iv) Monetary instability of the post-World War I period led to renewed interest in a separate unit of account based on gold.[11] Thus from its inception in 1930 the Bank of International Settlements has based its financial statement on an artificial currency until (ACU) that has a gold weight of 0.29032 grains of fine gold per unit. Other international agencies during the Bretton Woods era adopted separate units of account based on the official gold content of the U.S. dollar. These included the European Payments Union, which adopted it on July 1, 1950, the European Unit of Account (EUA), with a gold weight of 0.88807 grains of fine gold per unit, "which might, however, be changed by unanimous decision of the OEEC Council in which no country would veto an appreciation, or depreciation, no greater than that of its own currency since the inception of the Union" (Triffin 1979, 139), and the succeeding European Monetary Arrangement of Dec. 27, 1958, which used the same measure; the original SDR adopted on January 1, 1970; and a number of private arrangements.

With the advent of floating exchange rates in 1973, both official agencies and private organizations began using an ACU based on the concept of a basket of a number of currencies. The first such use of the basket concept

was the European Composite Unit (EURCO), first introduced in September 1973 by a group of eight European banks. The EURCO consisted of fixed amounts of the currencies of the nine EC member countries. The country basket concept of the EURCO was subsequently applied to the SDR in June 1974, the Arab-Currency Related Unit (ARCRU) in November 1974, the Asian Monetary Unit (AMU) in December 1974, and the European Unit of Account (EUA), the immediate predecessor of the ECU, in March 1975.[12]

3. A Basis for Monetary Integration

The ultimate goal of the EMS is to create a uniform monetary system for all the member countries of the EEC. Although the objectives of the current monetary arrangements are much more modest, several historical antecedents to monetary unification are of interest. We discuss two regional examples -- the Latin Monetary Union and the Scandinavian Monetary Union -- and the monetary unification of three nations -- Germany, Italy, and the United States.

(a) Regional Monetary Unification

(1) The Latin Monetary Union, effective August 1866, formed by France, Belgium, Switzerland, and Italy, and subsequently joined by additional members, achieved its limited objective to standardize the fineness of currencies of 5-franc pieces that were then issued by each of the countries on the bimetallic standard. The coins in various other denominations as well were to circulate freely throughout the union. However, a fall in the price of silver led to the reduced coinage of standard silver pieces in 1874 and its discontinuation in 1878. Bimetallism's sun set, but the Union

was not formally dissolved until 1925.

(ii) A gold-based monetary union to replace the silver standard was created by Denmark and Sweden in May 1873, and joined by Norway in October 1875. The Scandinavian Monetary Union established a common currency unit, the Scandinavian krona. The monetary agreement among the three participants provided that gold coins, as well as common subsidiary silver and copper coins, were legal tender in all of them, no matter in which country the coins were minted. The three central banks accepted each other's notes at par and settled balances through a clearing system. It has been noted that no closer monetary cooperation was achieved by the union than would have been the case had each country independently adopted the gold standard (Jonung 1984). This conclusion holds if the only consideration is the fixed exchange rates the gold standard sets. However, the monetary union contributed the additional features of eliminating national currency distinctions. The union was unofficially gradually dissolved by World War I, officially not until after the war.

(b) National Monetary Unification

(i) In 1790, Germany consisted of 300 principalities. By 1871, all had been integrated into one country (Kindleberger 1984, 117-20). The unification process started with rationalization of the tariff structure and ended with monetary unification. The Zollverein treaty of 1833, creating a customs union among the German states, made provision for the payment of customs duties in gold or silver coins of any of its members. Monetary unification began with treaties in 1837 and 1838 when the southern members

adopted as a common monetary unit the gulden or florin, and the northern tier of states adopted the Prussian thaler. This was followed in 1838 by the Dresden convention which set the exchange rate between the Prussian thaler and the gulden, and provided for minting a new common coin -- the Vereinsmünze, equal to two thalers or 3.5 gulden. The next stage in the process occurred with the 1857 Münzverein, which abandoned the Cologne mark of silver for a Zollpfund (customs-union pound) of 500 grams, divided metrically, and a simplified exchange rate of one thaler equal to 1.75 South German gulden. Finally, after an unsuccessful initiative in 1868 to adopt the gold five-franc coin as the basic monetary unit, the Monetary Reform of October 1871 introduced the mark, divided into 100 pfennings, as the unit of account, established the ten-mark piece as the principal coin, and linked Germany to the gold standard.

(ii) Like Germany, Italy at the beginning of the nineteenth century was fragmented into a large number of political entities, all using separate currencies based on different weights, metals, and systems of division (Kindleberger 1984, 136-7). The unification process began with the rationalization of tariffs in 1847, when the Kingdom of Sardinia, consisting of Piedmont and Sardinia, joined with Tuscany and the Pontifical States to form a single tariff unit. Currency unification came in stages. Initially, four currencies (the lire of Piedmont and Parma, the Austrian florin of Lombardy, and the Roman escudo) circulated; then by August 1862, following the unification of Italy, the lira of the Kingdom of Sardinia became the basis of a new currency.

(iii) In the early years of the Republic, though the U.S. coinage was

defined in terms of fixed weights of gold and silver, the principal media of exchange were state bank notes. These notes often circulated at a discount from par, especially in remote regions, reflecting the uncertainty and the costs of redemption in specie. The Second Bank of the United States was founded in 1816 for the express purpose of providing a uniform national currency with the note issue everywhere convertible into specie. From its inception until its demise in 1836 during the Bank War, the Second Bank suceeded by the mid-1820s in creating a unified currency across the country (Fraas 1974). It did so by limiting credit in the western branches relative to the east and by forcing all its correspondent banks to redeem their notes in specie. This policy quickly reduced the discount on western notes and led to a convergence of price levels between the two regions.

III

The ECU is a unit of account based on a basket of currencies. A unit of account separate from the medium of exchange is a throwback to imaginary monies that existed for many centuries in the past. They were a market response to a problem brought about by limited technology and fragmented and weak political power -- the problem of making payments with coins of different weights, qualities, and units of measurement. The one element relevant to the ECU in this explanation for the existence of imaginary monies is the political dimension. It is not conditions of technology that account for diverse national monies of EEC countries; for nationalistic reasons each country values its own historic forms of money. The ECU as a unit of account is designed not to disturb that underlying reality.

Another element common to imaginary money and the ECU is that actual payments in settlement of transactions in each case were in the past and are in the present made in currencies other than the unit of account.

The basket of currencies feature of the ECU is only relatively unique since that feature was introduced in predecessors that date back to the 1970s. The historical arrangement that bears a resemblance to a basket of currencies is bimetallism, which was successful for much of the nineteenth century. It then enjoyed widespread international participation, but has little to say about the future of the ECU. Symmetallism was an intellectual construct that never saw the light of day.

From regional and national monetary unification experience, we learn that a common money is achievable within a fixed exchange rate system. National boundaries define a fixed exchange rate system. That is what a national monetary unification signifies. A regional monetary unification is embedded in a fixed exchange rate system. The Latin Monetary Union was based on the bimetallic standard, the Scandinavian Monetary Union on the gold standard. Neither outlasted the prevailing world monetary regimes in which they were established.

Is there anything in the historical record that should lead an observer to expect the ECU either (a) to become acceptable in payment in each member country, even should national monies continue to exist, or (b) to supersede national monies? The ECU is a creation of an exchange rate system that is only temporarily fixed. Based on history, only in a truly fixed rate exchange system does it seem to us that monetary unification based on the ECU is conceivable. Yet, arguably, to establish a truly fixed exchange

rate system ab initio would impose unduly harsh conditions on the participating countries. Hence establishment of a parallel currency such as the ECU is an alternative prefiguring monetary unification, with fixing exchange rates left to a later stage. Whether this strategy can succeed is of great interest.

IV

The historical evidence supports the proposition that markets and not governments have been dominant in the emergence of new forms of money. Commodity money was a market development. From earliest times private coinage was known in many parts of the world. Nationalization of coining was a later development for economic, political, or military reasons.

The financial innovation that was the prototype of all forms of inside money dates back to the development of the banking business during the early Renaissance in several important Italian cities. Individuals deposited specie with a banker who did not acquire title to the funds but held them as agent for the owner and charged a fee for storage. A subsequent development was the drawing of orders on the banker to pay some or all of the deposit to a third party. Eventually, bankers learned that it was safe to lend a portion of the deposits at interest. Depositors likewise learned that deposit vouchers issued by bankers made out to individuals and transferable by endorsement served in place of specie as a medium of payment. This was the origin of fractional reserve banking and fiduciary money. Bankers no longer earned a fee for safekeeping specie but acquired title to the funds left with them for use at their discretion, and earned interest on loans they extended. Depositors received a rate of return that tended,

as a result of competition among bankers, to equal the interest revenue less the bankers' cost of operation.

In England a parallel evolution occurred Goldsmiths were the first bankers and goldsmith notes were the oldest form of banknotes in England. By the time the Bank of England was established in 1694 -- the bankruptcy of the goldsmiths on the suspension of payments by the Exchequer in 1672 (Horsefield 1982; Feavearyear 1931, 103) having set the stage for its founding -- banknotes that it issued were hardly a new form of money. The Bank at its founding was only a quasi-governmental institution.

Once banknotes became an established form of money that the private sector willingly held, there was nothing to prevent the monetary authorities from capturing the seigniorage from their issue. Thus the Bank of England obtained a monopoly of the note issue within a 65-mile radius of London in 1826 and throughout England in 1844. In Sweden, the Riksbank gradually extended its monopoly over the note issue in the last quarter of the nineteenth century with final prohibition of competing bank issues in 1897 (Jonung 1987).

Private initiatives converted instruments not originally designed to serve as money to that use. An example is the postdated check. It was an instrument that made it possible to circumvent usury laws. Drawn by the debtor for the face value of the loan plus interest (at an unstated percent) payable to the creditor at the due date, the postdated check was a flexible form of credit expressed in odd amounts. When passed from hand to hand with endorsements, the check served as money. Evasion of regulation by creative private innovation of forms of money has a long history, to

which further reference is made in what follows, including ECU-denominated deposits and loans.

Another example of an instrument not originally designed to serve as money that private agents converted to that use is the bill of exchange. It has a very long history, dating to Babylonian times. Originally the bill was an instrument that obligated the borrower who obtained one kind of money to settle in the debt in a different kind of money -- reminiscent of using an ECU-denominated deposit to obtain a European currency other than the local currency of the depositor? By the fourteenth century, however, both the debt and its repayment were in one kind of money, payable at fairs. Two centuries later the practice of endorsement gave added protection to the holder of the instrument, and thereafter endorsed inland bills of exchange circulated as money in Italy, France, and later England.

In England endorsed bills of exchange for relatively small amounts of £10 to £30 served as hand-to-hand currency -- by private market action -- primarily in the West Riding and Lancashire where no country banknotes circulated. These bills could not, however, be used for making payments outside those districts. With the establishment of joint stock banks after 1833, remittance first with their note issues and later by check was accompanied by the atrophy of the bill of exchange as means of payment -- again a private market action (see also Nishimura 1971, 29-30 on tax effects that may account for a decline in the use of bills of exchange as hand-to-hand currency).

The issue of Exchequer bills by England is another example of private market use of the instrument as money. These were interest-bearing bills

that acquired a secondary function as currency. Since they were not payable on demand and therefore circulated at a discount, and were often drawn for large and inconvenient amounts, private use of the bills as currency did not long survive.

Another kind of private money innovation is exemplified by substitutes that were introduced when government supply was inadequate. Merchants issued IOUs during colonial times in the United States and later during periods of restriction of payments by banks, that is, periods when government issues of outside money did not match the demand for it. The experience of colonial times was that transactions were occasionally conducted by barter or shopnotes -- notes issued by a merchant, redeemable by him partly in money, partly in goods (Michener 1983). A multiple price system emerged, with cash prices serving as the base, payments in shopnotes raising the price, and prices for barter payments still higher. During restriction of payments by banks, private clearinghouses monetized bank assets by issuing hand-to-hand currency. In addition, emergency currency issues that factories, corporations, and individuals paid out circulated.

The private issues may not have been new forms of money in a generic sense, since they were essentially variants of hand-to-hand currency. More recently, private markets have innovated new forms of money including the emergence of negotiable certificates of deposit, Eurocurrency, and money market deposit accounts. The innovation of money instruments seems to occur when private agents attempt to eliminate or circumvent government regulation or other constraints imposed on the financial firm (Silber 1975, 64-5).

Where does the ECU fit in? The official ECU was the creation of an official body. The private use of the ECU seems to us to be another case of circumventing exchange and capital controls. If the ECU will eventually emerge as a full-fledged money, it will not be because of "substantial support from international organizations and from national governments" (Lomax 1983, 312), except in the special sense of support by the participating governments for a true fixed exchange rate system in the EEC. Private agents may then decide to use the ECU in final payments as a parallel European currency superseding the moneys of the individual member countries.

Some have proposed the issue of an ECU coin to hasten the development of a parallel currency. In our view that is not a crucial element. ECUs could be book entries at banks and nonfinancial firms. The key requirement is that they serve as final means of payment, not merely an accounting measure that must be converted into a national currency in order to discharge debts.

V

We have traced the development of the ECU both in its official use and also the unexpected private interest in it as a unit of account in financial transactions. At this stage, the share of private ECUs in relation to national and Eurocurrencies is minimal. A potentially important step in encouraging further use of ECU-denominated bank loans and deposits is the forthcoming implementation of the BIS ECU bank clearing arrangement.

Our search for historical antecedents of the ECU hardly yielded a

substantial harvest. We concluded that the ECU as a unit of account bears a resemblance to imaginary money that existed for nearly a millenium from the ninth century on; as a basket of currencies was prefigured by mixed commodity currency standards, actual or hypothetical, and was similar in construction to more recent official and private currency cocktails; as a scheme for monetary integration was differentiated from examples of monetary integration within national boundaries and across regional boundaries because these were all based on fixed exchange rates.

There did not seem to us to be particularly unique features in the emergence of ECUs. The lessons of historical analysis that we stressed were (1) the importance of the creation of a true fixed exchange rate system in the EEC for the ECU to become a money that would be acceptable in payment in each member country; (2) a unit of account that is not also a means of payment is only an intermediate stage in the development of a new European money; (3) a basket of currencies is a reflection of the unwillingness of the EMS to dispense with national currencies to achieve monetary integration.

In examining the role of governments versus markets in the emergence of new forms of money, we noted the preponderance of private initiatives historically and contemporaneously in introducing media of payment. The incentives for the private sector to innovate in this respect appear to be to free transactions from government controls and regulation as well as to overcome other constraints on financial firms. Government has not been an innovator in the emergence of money. We doubt that it is essential for the EEC to coin ECUs as a means of expanding its role.

Private use of ECUs in weak-currency countries and in countries with exchange and capital controls that do not apply to the ECU may have sufficient momentum to continue, should controls be removed. The ECU may also succeed as a "trojan horse" in bringing about the preconditions of monetary unification before the fixing of exchange rates. If that turns out to be the shape of the future, the ECU in time can become a full-fledged currency in a fixed-exchange rate EMS.

Notes

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[1]Before the invention of milling in the mid-seventeenth century, primitive refining techniques caused coins to deteriorate quickly. In addition, some rulers encountered difficulty in attracting sufficient bullion to the mint. These factors combined with the small geographic size of the typical European state enforced wide circulation of foreign coins. Medieval rulers on occasion tried to ban the use of imported coin but were usually unsuccessful.

[2]The following discussion of imaginary monies is based on Einaudi (1936). For related experiences of primitive cultures, see Melitz (1974). For a recent discussion of monetary systems that separated the unit of account from the medium of exchange, see Cowen and Kroszner (1987, 574-5).

[3]Though occasionally money of account was pegged to a real coin equivalent to a pound, shilling, or penny, such correspondence was accidental or, if deliberate, did not last long.

[4]According to Cipolla (1956) the system of ghost monies arose because rulers were unable to keep stable the relationship between coins of different denominations. Hence the public used the ghost reckoning system, which by definition maintained a stable ratio between different denominations and between the basic real penny.

[5]The value of silver rather than gold coins was altered because of the

prestige attached to gold and because gold coins were more widely used in international trade.

[6]In sharp contrast to Burgundy and France, England was a model of sound money. After a Parliamentary prohibition of debasement in 1352, English monarchs rarely engaged in the practice until the sixteenth century (except periodically to offset deterioration in the quality of the coinage. See Glassman and Redish 1987).

[7]See Bordo (1980) and the references therein.

[8]Alternatively, it may be argued that the adoption of the specie standard in the eighteenth century made obsolete the system of imaginary money. The adoption of the specie standard was neither uniform nor uneventful. For example, in the British American colonies in the eighteenth century, though the unit of account was in £.s.d., because of a prohibition against the export of British coin, the principal means of payment was the Spanish dollar or piece of eight. These coins were defined in terms of the colonial money and given legal tender status. See Michener (1987).

[9]Marshall's criticism of monometallism was that changes in demand (rising real income and a preference for gold) and supply (improved technology and discoveries of precious metals) conditions made the use of gold or silver unsuitable to provide long-run price stability. His criticism of bimetallism was that changes in relative costs of production would lead to continuous shifts towards the lower-cost metal, thus producing more instability than relying on one metal alone (1923, p. 63).

[10]Marshall (1923) also proposed a tabular scheme. Jevons (1875) earlier

proposed a similar scheme (Laidler 1982). Fisher proposed a scheme for a compensated dollar (1922 [1965], 498). Einaudi argued that the system of imaginary money could be used in a similar manner. He proposed that the ruler cry up the currency when the price level fell below some stated limit and cry it down when prices rose above it.

[11]The following draws heavily on Ascheim and Park (1976).

[12]Baskets were also privately arranged: the B-Unit (Barclay's Unit) and the Credit Lyonnais International Financial Unit (IFU).

[13]For the experience of other countries, see Vaubel (1984).

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