

THE ECU AND THE SDR: LEARNING FROM THE PAST, PREPARING THE FUTURE

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*To the memory of Marina Tabacco (1955-2014),
remembering her generous commitment
and professional activity for the cause of
European monetary unification*

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From the ECU to the SDR

Alfonso Iozzo

In June 1980 Robert Triffin organized a seminar at the University of Louvain la Neuve, where he had moved a few years before, after leaving the Yale University, to resume its campaign for a new international monetary system, starting again from the European monetary unification, relaunched by the Werner Report at the beginning of the previous decade.

The meeting, supported by the Ford Foundation, was focused on the private use of the ECU, the new European unit of account introduced with the formula of the “open basket” by the agreements on the European Monetary System, entered into force by a bit more than one year.

Economists but also institutional representatives, both national and European, as well as bankers took part to the seminar. In the following years many of them played key roles in the path towards the Euro.

Triffin’s idea was that the diffusion of ECU-denominated financial assets would have promoted, in many financial and economic fields, but also in the political and institutional environment, the idea that a common currency was not only needed but also feasible.

After the meeting – which can be regarded as a sort of “oath” – of Louvain la Neuve many initiatives were taken, from the opening of ECU-denominated current accounts to the issue of traveller cheques.

In two sectors the operations in ECU made a quantum leap:

- ▶ the issue of bonds, first from banks and companies and then from states, Italy in particular;
- ▶ the setting up of a daily clearing system that, starting from the agreement between the Belgian Kredietbank and the British Lloyds Bank evolved into a multilateral system managed by the ECU Banking Association and to which more than forty banks from almost all the member states of the European Community participated. The Bank for International Settlements in Basle provided the technical structure, as a result of a compromise reached among the European central banks that wanted to support the development of the ECU market and those that wanted to control and contain it.

The increasing development of the private use of the ECU led not only to the creation of the ECU Banking Association, based in Paris, but also to the Association for the European Monetary Union, promoted by many European industrial companies.

Triffin’s idea proved to be successful and involved more and more not only economic operators but also the European institutions, in particular the European Commission and the European Investment Bank, and it also drew the attention of political institutions and representatives.

Alongside the stream of the increasing volumes of bonds issued in ECU, that had reached significant shares of the world market and were “officially” registered in the international statistics, the promoters of the European Monetary System, the former French President Valéry Giscard d’Estaing and the former German Chancellor Helmut Schmidt, in 1986 resumed the initiative setting up the “Committee for the European Monetary Union” including important politicians, industrials and representatives of the financial sector of the main European countries.

The “Committee”, which had immediately a strong impact on the actions of the European governments, seemed to be oriented, in its initial action, to support the hypothesis of the ECU as a “parallel currency” but soon, also on the basis of the Report written by the former Governor of the

Banque de France Renaud de la Genière, prevailed the idea that a “single currency” was needed, issued by a European central bank, instituted by a Treaty.

The market of the ECU, after the tumultuous expansion phase – as it is understandable – experimented from 1987 a settling period but its psychological and political effects, auspicated by Triffin, were already real. In the following years the program of the Giscard-Schmidt Committee was implemented step by step, first with the establishment by the European Council of the Delors Committee and then with the signing of the Maastricht Treaty in December 1991.

Triffin’s plan was successful. For sure, today Robert Triffin would launch a new plan: to play on the diffusion of the use of the SDR, especially among monetary authorities and states, to support the necessary reform of the international monetary system. The context and the conditions are, as usual, different from those of the historical experience with the ECU, but his intuition remains valid.

Speech at the conference of the Triffin International Foundation “The International Monetary System: Sustainability and Reform Proposals” – Brussels, 3-4 October 2011.

The Development of the Private ECU Market: Technical Aspects and Features

Valentina Tosolini

Introduction

When considering how to possibly increase the role of the SDRs in the current Monetary System, an interesting starting point is Robert Tiffin's idea on European Monetary Union. He was deeply convinced that the success of the ECU depended on how and to what extent the private sectors welcomed and sustained the new Unit.

As was the case with the ECU in the early 1980s, one problem to be solved is the interest rate paid on SDR holdings. I think it would be useful to look back at the ECU experience. Like SDRs, the official ECU was initially backed by gold and the US dollar and the interest rate paid on it was calculated as a weighted average of the interest rates of the component currencies.

Moving from a closed basket to an open basket is not enough. New rules must be set up to define the composition of SDRs and how they are revised. This would allow commercial banks to quote their own interest and exchange rate for SDRs, making these reserve assets more appealing to investors.

Similarly to the initial problem for the ECU, the first problem will be how to increase demand for SDRs and how to make deposits attractive.

One reason SDRs may not see much use as foreign exchange reserve assets is that they must be exchanged into a currency before use.

The key point here is liquidity, because if no-one enters the market (like Kredietbank did in 1980), the prospects for others to accept this instrument will stay minimum.

What is missing in the current Monetary System is a compensation chamber to make holding SDRs more worthwhile than continuing to have currency surpluses, as China and many other countries are doing. The allocation of SDRs today is only possible on a voluntary basis or by designation; an SDR compensation chamber would be a means for accelerating the circulation of SDR denominated instruments and to centralize all the existing reserves.

The BIS did this for the ECU. For SDRs it could be the IMF (Eichengreen) or again the BIS, the only bank whose capital is denominated in SDRs and whose articles are supranational.

A whole number of factors are responsible for the success of the ECU. First and foremost there was the stability of the ECU compared to the European currencies that were exposed to the volatile exchange rate fluctuations with the dollar.

Secondly, the ECU was able to count on the constant support of the European institutions and a number of governments.

Thirdly, the banking world showed a lively and imaginative approach to the ECU and extremely large amounts of ECUs were placed on the money markets.

The international financial market offered an impressive range of services such as scope for arbitrage with the ECU against all major foreign currencies, concluding deposits for up to one year, floating ECU-denominated bond issues, conducting transactions on the aftermarket, contracting bank loans and so on.

The ECU market fuelled its own growth from within, completely outside the sphere of central banks responsible for managing the official market. The determining factor was the way in which banks seized

the initiative by making the most of the ECU in their role as intermediary between debtors and creditors.

Very important was also a move from the financial sector to the commercial sector: international companies were using the ECU as an accounting currency for recording reciprocal financial commitments between subsidiaries. The private ECU became widely used for international invoicing. The first country to extensively use the ECU for import/export financing was Italy.

The market of ECU bonds grew rapidly: issues were floated by both private and public institutions, by European, Asian and American operators. Borrowing countries included EEC countries, Japan, the US, South Africa, Australia. Loans in ECU were increasingly common in France, Italy, Spain, Greece and elsewhere. Private firms, municipalities and public companies signed medium term loans in ECU with banking groups in different countries. ECU certificates of deposit began to gain momentum, particularly in the London market where several banks were issuing both fixed rate and floating rate CDs. The size of these certificates made them easily available not only to institutional savers but also to small private savers. Thus the ECU began to circulate as a currency for individual savers.

Bank deposits denominated in ECU, generated in local currency and available for operations of any amount, had a similar development. For instance a bank could collect a deposit in Lire, to be converted into ECUs for interest payments and restitution of the principal. Obviously, if the bank accepted these deposits it was able to lend in ECU.

The ECU also had a real life as a means of payment in commercial transactions: Saint Gobain was invoicing affiliates in ECU, Les Huiles Lesieur operated import and export contracts in ECU. The EEC paid most of its obligations, particularly for agricultural funds, in ECU and the national tax dues to the EEC were paid in ECU.

Traveller's cheques appeared followed by credit cards payable in ECU. The reasons for these developments were, in part, that the ECU was less volatile than most other currencies, hence less risky for transactions. In addition the ECU was a quasi-national currency in several European countries, and thus was an international currency "per se".

The condition sufficient for ensuring that the ECU could be workable was the existence of a supply of currencies convertible into ECUs. But there was also a necessary condition: the willingness not only to accept this conversion but also to accept ECUs "per se".

After Bretton Woods, European banks suffered internationally because their capital was expressed in European currencies while most international business was conducted in dollars. As the dollar rose in value, this undermined their capital ratios because the value of their dollar assets and liabilities appreciated even without any fresh operations being added to the books. Using ECUs was one way for a bank to protect its gearing ratio from being distorted by future movements in exchange rates.

From this, certain key features of the ECU market emerge: it was a market with a genuine economic justification which means that its development was driven by the real needs of borrowers and, to a certain extent, lenders. This development owed much to the general market environment, in particular the rapid rise of the dollar on exchange markets and the high real cost to Europeans of borrowing U.S. currency.

It is the purpose of this work to examine which steps were taken to develop the ECU and create a private market for it. It is essential to stress that, for the Euro to be created and used as a common currency unit between European countries, a private market needed to be created for the ECU which would be parallel and linked to the official market.

1. Historical and economic background

The European Union was set up with the aim of avoiding any more conflicts occurring between neighbouring countries like those of the First and Second World Wars.

In 1950 the French Foreign Minister Robert Schuman proposed the integration of the coal and steel industries of Western Europe. This led to the Treaty of Paris and the creation of the European Coal and Steel Community (ECSC) with six members: Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. As of 1950, the European Coal and Steel Community began to unite European countries economically and politically in order to secure lasting peace.

In 1957, the Treaty of Rome set out the terms for founding the European Economic Community (EEC) and the European Atomic Energy Community (EURATOM).

In 1967 the institutions of the EEC, ECSC and EURATOM were merged to form a single set of institutions: the European Commission, European Council and European Parliament.

Denmark, Ireland and the United Kingdom joined the European Union on January 1st 1973, raising the number of member states to nine.

In 1969 the Special drawing rights were created by the IMF as an asset held in foreign exchange reserves under the Bretton Woods system of fixed exchange rates.

In 1973 the Arab-Israeli war resulted in an energy crisis and economic problems in Europe as well as in the United States due to the high prices of oil.

It was in 1979 that the ECU, the European Currency Unit, was conceived by the European Economic Community (EEC), the predecessor of the European Union, as a unit of account for the currency area called the European Monetary System (EMS).

In 1981, Greece became the 10th member of the EU and Spain and Portugal followed five years later.

In 1986 the Single European Act was signed. This treaty provided the basis for a six-year programme aimed at sorting out the problems in the free flow of trade across EU borders fostering the creation of a single common market.

With the collapse of communism across Central and Eastern Europe, Europeans became closer neighbours. In 1993 the common market was completed with the “four freedoms” of: movement of goods, services, people and money.

The 1990s was also the decade of two treaties, the Maastricht Treaty on European Union in 1993 and the Treaty of Amsterdam in 1999. The Treaty of Maastricht introduced new forms of cooperation between the Member States. EU leaders also agreed to create an Economic and Monetary Union within the following decade, with a single currency managed by a European Central Bank.

In 1995 the EU gained three more members: Austria, Finland and Sweden. With the Schengen Agreement people were finally allowed to travel freely across the EU.

In 1999 the European single currency, the Euro, was officially launched and 11 EU Member States adopted it as their official currency. In 2002 Euro notes and coins replaced the national currencies in 12 of the 15 countries which were members of the EU: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

1.1 From the Treaty of Rome to the EMS: the experience of the European Payments Union

When negotiating the Treaty of Rome, which entered into force in 1958, no mention was made by the Common Market's founding fathers about introducing a common European currency.

The initial goals of the European Economic Community were in fact limited to the realization of a customs union and a common market for agriculture.

The process of European integration started with the establishment of a free exchange area between Italy, France, Luxembourg, Netherlands and Germany and the elimination of internal duties which took place between 1957 and 1968.

Robert Triffin played an important role in the process of European integration: his idea of a European Payment Union inspired the creation of the European Monetary system and of its common currency. Triffin was Robert Marjolin's advisor and it is thanks to the Memorandum Marjolin that, in 1962, the idea of a common currency for all members of the EEC came to light.

In 1968 a customs union with common external duties was founded thus giving the Community a stronger contractual and negotiation power at an international level.

It is fundamental to mention that at that time, the members of the EEC were taking part in an international monetary system known under the name of Bretton Woods which set up a system of rules, institutions and procedures to regulate the international monetary system, established the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD).

In this "pegged rate" currency regime, all the members were required to establish a parity of their national currencies in terms of the reserve currency which became the US-Dollar, and to maintain exchange rates within plus or minus 1% of parity by intervening in their foreign exchange markets. Meanwhile, to strengthen the role of the Dollar, the US agreed to link the Dollar to gold at the rate of \$35 per ounce of gold. At this rate, foreign governments and central banks were able to exchange Dollars for gold.

The system established in Bretton Woods was a system in which all currencies were defined in relation to the Dollar, itself convertible into gold.

However the excessive financing of the Vietnam War in the 60s and the Great Society programme increased the volume of Dollars available on the market thus threatening the possibility of its conversion into gold. Meanwhile the priorities of the EEC members were growing apart and so did the prices in the Community. In 1969 the Commission approved the Raymond Barre Plan, whose goals were to promote convergence in the economic policy of the EEC members and the settlement of a mechanism which would support the cooperation in the field of monetary politics. The Barre Plan evolved in 1970 into the Werner Report which agreed to prepare a three stage plan for an economic and monetary union, the main steps of which were: gradual, institutional reform, irrevocable fixing of exchange rates and the adoption of a single currency within a decade.

In August 1971 President Nixon declared the end of direct convertibility of the Dollar into gold and of the Bretton Woods system. An attempt to re-establish the system was made in December 1971 with the Smithsonian Agreement, which included a new set of par values, bands widened to +/- 2.25% of par, and an increase in the official value of gold to \$38.00 per ounce, without commitment for convertibility.

The failure of the Smithsonian Agreement convinced the European monetary authorities to experiment with a voluntary cooperation system which was named the Snake in the Tunnel. This system was

aimed at limiting fluctuations between different European currencies and creating a single currency band for the European Economic Community, essentially pegging all the EEC currencies to one another. The European currencies were able to fluctuate $\pm 2.25\%$ against each other (the snake) and 4.5% against the Dollar (the tunnel).

The tunnel collapsed in 1973 after the oil crisis, policy divergences and the devaluation of the Dollar. The pound, the Irish Punt and the Italian lira and the Franc left the tunnel. It was the beginning of the rise of the Deutsche Mark and the establishment of a German-Mark zone comprising Denmark and the Benelux countries whose currencies were able to stay in the tunnel.

A new interest in the official use of a European unit became evident in 1974-75. It had one basic inspiration: the need to define a unit of account, for a number of Community budgetary and accounting purposes, to replace the increasingly unstable national currencies of the members.

In 1975 the European Unit of Account (EUA) was introduced to set the scope for disbursement from the European Development Fund, linking a major category of expenditures to the average performance of the EC currencies. In the period from 1975 to 1977 the EUA was used for all uses of the ECSC and in 1977 it became the accounting unit for general budgetary purposes in the European Communities and in the European Investment Bank.

The unit chosen was modelled on the SDR as a fixed amount basket of currencies (at the beginning, in 1975, it was the same as an SDR).

Such a fixed combination had most of the qualities of the individual constituent currencies: its spot value could easily be calculated from observed market rates and so could its forward value for those national currencies where forward markets existed. It was possible to associate an interest rate with the fixed amount basket. This then evolved into an adjustable basket where the amounts of national currencies were adjusted in inverse proportion to the change in their central rate.

By eliminating the tunnel, the European currencies were then able to fluctuate freely.

The "snake" was followed in 1979 by the European Monetary System, with the participation of all Member States' currencies except the British pound, which joined later in 1990 but only for two years.

The European Monetary System was based on a concept of stable but adjustable exchange rates defined in relation to the newly created currency basket based on a weighted average of EMS currencies: the European Currency Unit (ECU). At first the definition of the ECU was identical to that of the EUA.

For more monetary integration it was necessary to encourage the use in the ECU by the private sector.

It is significant that the EMS central banks in 1978 replaced the European Monetary Unit of Account (EMUA) – which, like the SDR, was set equal to the volume of gold contained in the pre-1971 US Dollar – with the ECU.

Within the EMS, currency fluctuations were controlled through the Exchange Rate Mechanism (ERM) and kept within $\pm 2.25\%$ of the central rates, with the exception of the Italian lira, the Spanish peseta, the Portuguese escudo and the pound sterling, which were allowed to fluctuate by $\pm 6\%$.

The system included an intervention mechanism and a preventive tool: Once the exchange rate of a currency reached 75% of the maximum fluctuation margin authorized, the currency was considered as 'divergent' and the country had to take remedial action through interest rates and fiscal policy adjustments. In the event of the maximum fluctuation margin being reached, central banks had to intervene by buying or selling the currency to avoid the margin being exceeded. The exchange rates could only be changed by mutual agreement between participating Member States and the Commission. Whether the currencies of countries were strong or weak, they were called to intervene in the market if there was a substantial variation.

It was thanks to the EMS that monetary stability was achieved. The common exchange commitment was able to guarantee and promote internal and external monetary stability with lower interest rates and less volatility in the exchange rate, essential features for attaining monetary integration.

1.2 The Exchange Rate Mechanism

A key feature of the EMS was the presumption that member states would have acted either through exchange market intervention or economic policies to stabilise the value of their currency. This stabilisation function was conducted according to the Exchange Rate Mechanism (ERM) which specified two conditions, one in which central bank intervention was mandatory and another in which there was a presumption of action.

The EC set up a divergence indicator in the EMS. The ECU was utilized as a surveillance indicator for macroeconomic policy coordination in the ERM.

Each currency participating in the ERM had central rates vis-à-vis the other currencies and could fluctuate in the $\pm 2.25\%$ margin around the central rates. The ECU was a weighted average of the foreign exchange rate fluctuations of all the participating currencies. This means that a currency drew the ECU to its side in proportion to the weight of that currency. If it were only currency A that shifted towards the margin and all the other currencies stayed at the same rates relative to each other, then currency A diverged by 2.25% from every other currency. In this situation, the width of the divergence of currency A was at a maximum. It is called the maximum spread.

Let us take the German Mark as an example. The weight of the Mark was 33%; it drew the ECU by 33% to its side when it was standing at the opposite end from all the other currencies at the compulsory intervention rates. As the other eight currencies diverged from the Mark by 2.25%, the other eight currencies drew the ECU to their sides by 67%. The maximum spread of the Mark had to be 1.51% (= 2.25% times 0.67). In the same way, the maximum spread of the Belgian Franc, whose weight was 9.63% at the starting time of the EMS, was 2.03% (= 2.25% times 0.9037). In general, the maximum spread of currency A was calculated as 2.25% times (1 – the weight of currency A).

Each currency of the ERM had its ECU central rate. The foreign exchange spot rates of the EMS currencies on the day prior to the start of the EMS were chosen as the bilateral central rates. Putting these bilateral central rates in the ECU equation resulted in the ECU central rates. The ECU central rate of the Mark was 1 ECU = 2.51064 DM and that of the Belgian Franc was 39.4582 BF before the first re-composition in the ERM.

Though the British Pound did not participate in the ERM, it had a notional central rate for the sake of calculation. Even when the British pound fluctuated more than 2.25%, the calculation was done assuming that the pound was at the margin of 2.25%.

The divergence indicator (DI) measured how much a currency fluctuated vis-à-vis the maximum spread. The daily ECU rate of each currency had a premium (P) or discount (D) against the ECU central rate. $P \text{ or } D = (\text{the daily ECU rate of currency A} - \text{the ECU central rate of the currency A}) / \text{the ECU central rate of currency A}$.

The divergence threshold was set at three-quarters of the maximum spread.

Each monetary authority participating in the ERM had to intervene when its currency reached $\pm 75\%$ of the maximum spread or the divergence threshold. If a currency crossed a divergence threshold, the

authority concerned was expected to correct the situation by adequate measures, namely:

- (a) diversified intervention;
- (b) measures of domestic monetary policy;
- (c) changes in central rates;
- (d) other measures of economic policy.

If such measures were not taken, the reasons for not doing so had to be given to the other authorities.

Here it becomes clear why the maximum spread was not 2.25% for every currency, but 2.25% times $(1 - \text{the weight of currency A})$. As the power of the Mark drawing the ECU to its side was about 33% and that of the Belgian Franc was about 10%, the latter tended to be more accessible to the limit.

The item $(1 - \text{the weight of currency A})$ had the effect of mitigating the disadvantage of the currencies whose weights were relatively small.

The ECU divergence indicator worked for surveillance purposes in the ERM. The divergence indicator was supposed to provide a signal of divergence of any particular currency with respect to an average EMS performance. It could also trigger consultations to define the nature of the problem and to work out solutions. For temporary divergence, generous financial instruments were made available. For structural divergence, appropriate policy measures comprising realignments (changes in bilateral central rates) and domestic adjustment policies had to be drawn up.

Intervention was compulsory in order to maintain the actual bilateral rates within a 2.25 percent band. The divergence indicator measured the relationship between a currency's bilateral ECU market rate with its ECU central rate. When this relationship reached 75 percent of the maximum consistent with the maintenance of the required bilateral rates, the currency was said to be at its "divergence threshold".

**Table 1 - Maximum divergence indicator and divergence threshold
for participating EMS currencies - 1984**

Currency	Max. Divergence indicator (%)	Divergence thresholds (%)
DM	±1.53	±1.148
Ffr	±1.82	±1.365
Dr	±2.02	±1.515
Bfr @ Lfr	±2.06	±1.545
Dkr	±2.19	±1.643
£1	±2.22	±1.665
Lit	±5.40	±4.050

As written earlier, the maximum divergence indicator was less than the 2.25 percent band for bilateral central rates for two reasons:

- ▶ A currency cannot depreciate against itself; since the ECU contained an amount of each component currency, the maximum divergence indicator was always smaller for currencies with a larger weight in the ECU;
- ▶ As a currency moved within the 2.25 percent band, its weight in the ECU changed, thus affecting the maximum divergence indicator.

A system such as the EMS, in which parities were stable but adjustable, represented a trade-off between rates that are fixed within a narrow band and rates that are determined by market forces within a wide band.

The most important rules regarding the redefinition of the ECU can be summarised as:

- ▶ Commencing September 1979, the weights of the component ECU currencies could be examined every five years, or on request if the weight of a currency had changed by 25 percent;
- ▶ Weights of the component ECU currencies were to be set in line with economic criteria;
- ▶ Any revision of the ECU basket could not alter the external value of the ECU on the date that the change became effective;
- ▶ Any revision of the ECU basket had to be approved by unanimous vote of the European Council.

During the first five years of the EMS, the average monthly change in the exchange rate of EMS currencies against the Deutsche Mark was in the range 0.5-0.8 percent, roughly one-third the size of non-participating currencies such as the US dollar or the yen.

The divergence of interest rates and inflation rates across the EMS countries was measurably smaller after EMS than before.

For all European countries, the variability towards the ECU was significantly smaller than for dollars.

The performance of the ECU was roughly in the centre of European currencies: the ECU appreciated against five currencies (the lira, French and Belgian francs, kroner and Irish punt) while it depreciated against three others (the Deutsche Mark, Dutch guilder and sterling). This suggests that, for Europeans, the ECU would have attenuated the risks of selecting a currency for invoicing.

The convergence of national inflation rates, interest rates and labour costs across Europe continued in 1985 and early 1986.

Some recommendations were designed to assist the private market and perhaps hasten the transition to the institutional phase of the EMS. For example, in May 1983, the European Commission submitted a proposal to grant the ECU legal status as a currency in all EC countries and to allow all EC residents to transact in ECUs on the same terms and conditions as their domestic currency (which required the removal of certain foreign exchange controls in Member States where the ECU was classified as a foreign currency).

Other proposals were made in 1985 to strengthen the official role of the ECU in the EMS. Firstly EC central banks were allowed to convert their ECU reserves into dollars or intervention currencies. Secondly the formula for compensating holders of official ECUs was implemented: the official interest rate was set equal to the weighted average of the ECU market interest rate. A final important change that affected the ECU was the formal agreement with the Bank for International Settlements to act as a clearing agent for transactions in private ECUs.

1.3 The ECU as an aggressive financial innovation

Innovation takes place when it becomes profitable to better fulfil any of the major functions of the international financial sector. These functions include providing appropriate instruments for making payments, facilitating monetary exchange between currencies, facilitating the flow of savings towards investment across national boundaries and providing mechanisms for allocating, diversifying and compensating risk.

Financial market innovation can take many forms and the ECU certainly represented an “aggressive innovation” (Dufey and Gidd 1981). An aggressive financial innovation can be defined as a new financial product or service offered in response to a perceived demand.

In this respect, the ECU offered an avenue for Europe to improve the efficiency of its financial transactions and to develop a strong balancing position with the US Dollar.

The ECU itself is the primary product innovation while the other ECU instruments are derivative of this basic innovation. Since the ECU played a key role in the European monetary system, it was also part of a process innovation intended to stabilize European exchange rates. Related arrangements, such as ECU Clearing System, were derivative process innovations, designed to facilitate the use of the ECU.

The success of the numerous ECU-denominated instruments that were created depended critically on the success of the ECU as “money”. As mentioned before, the ECU reflected a basket of 10 European currencies. In principle and ignoring transaction costs or other barriers, there was no financial transaction possible using the ECU that would not also have been possible in any of the 10 component currencies. In short, why was it necessary for the ECU to exist?

There are four inter-related channels through which the ECU gained an edge over its component currencies:

1. Portfolio effect: any basket of assets that are not perfectly correlated will exhibit diversification properties, which mean that the variability of the basket will be less than the weighted sum of variability in the components. Diversification gains and transaction cost savings.
2. Transaction costs: agents were not subjected to 10 different transactions but could operate through the ECU itself.
3. The role of the EMS: the ECU had official recognition and the weighting factors had some relationship with the extent of economic activity between EC countries. Moreover, the EC committed itself to stabilizing the ECU through the EMS and the ground rules governing changes in the composition of the ECU.
4. Trading factors: since several financial markets of EC countries are small, moving transactions into the ECU market would offer the agents a wider range of products at more favourable terms than they might achieve in their domestic markets.

Given that the major source of value added for the ECU can best be seen in its role as money (medium of exchange, unit of account, store of value), one problem that needed to be solved at the beginning of the 1980s was the lack of a central bank which would have managed the circulation of the ECU. A lender of last resort was also missing in the system.

2. The difference between the official ECU and the private ECU

In 1975 the community decided to create a European basket-type unit of account made up of specific quantities of member state currencies with an external value that changed daily. The new unit was named the European Unit of Account or EUA. On 13 March 1979 the European Monetary System was launched and the EUA was renamed European Currency Union or ECU.

The ECU was by nature a currency basket. Each member of the EEC had a share in the basket except Spain and Portugal which were included later in 1989. Each country's share reflected the economic strength of that country's currency and economy.

Criteria chosen for the composition of the ECU basket:

1969-73 shares of imports and exports to other OECD countries, GNP shares and relative size of quotas in short term monetary support system (the way these four criteria were combined was not clear).

With fixed amount of national currencies and significant changes in intra-EC exchange rates, the composition of the basket tended to under-represent depreciated currencies and overrepresented appreciated currencies. If the large inflation differential and exchange rate changes had persisted the ECU would have been heavily dominated by the strongest member currencies. On request from Italy, it was agreed at the start of EMS 1978 (Brussels Resolution) that "the weights of currencies in the ECU will be re-examined and if necessary revised within six months of the entry into force of the system and thereafter every five years or on request if the weight of the currency changed by 25%".

It is interesting to notice that, 10 years before the launch of the ECU, another basket of currencies was introduced with the name of Special Drawing Rights.

Criteria chosen for the composition of the SDR basket:

The criteria were set out in 1974 and revised in 1978 and were thenceforth reviewed every five years starting in 1983. At that time, the SDR basket continued to contain the currencies of the 16 countries with the largest exports of goods and services. The main criterion was the export share, while the share of a currency held as a reserve asset by other countries was a supplementary criterion. Private market participants were able to predict quite accurately the change in the composition of the SDR. This facilitated the use of the unit in private sector markets.

Clarity was required for defining the rules for the ECU similar to those for a national currency.

The initial composition of an ECU compared to the composition of the SDR is shown in the table below:

Table 2: Composition of the SDR and ECU-baskets

Currency	SDR Amount of currency		Weight % end-78	ECU		
	1974	1978		Amount since 1975	% March 1975	% end 1979
US dollar	0,40	0,40	33	..	..	..
Deutsche mark	0,38	0,32	12,5	0,828	27,3	33,4
Japanese yen	26	21	7,5	..	..	..
French franc	0,44	0,42	7,5	1,15	19,5	19,7
Pound sterling	0,045	0,050	7,5	0,0885	17,5	13,6
Italian lira	47	52	5	109	14	9,4
Dutch guilder	0,14	0,14	5	0,286	9	10,4
Canadian dollar	0,071	0,070	5	..	..	..
Belgian franc	1,6	1,6	4	3,66	7,9	9,2
Saudi Arabian riyal	..	0,13	3	..	..	..
Swedish krona	0,13	0,11	2	..	..	..
Iranian real	..	1,7	2	..	..	..
Australian dollar	0,012	0,017	1,5	..	..	..
Danish krone	0,11	..	..	0,217	3	2,8
Spanish peseta	1,1	1,5	1,5	..	..	..
Norwegian krone	0,099	0,10	1,5	..	..	..
Austrian schilling	0,22	0,28	..	..	..	..
South African rand	0,0082	..	..	..	..	..
Irish punt	..	..	..	0,0076	1,5	1,1
Luxembourg franc	..	..	..	0,14	0,3	0,4
			100		100	100

Sources: IMF and EC publications

The ECU played an important role in the operation of the EMS. When speaking about official roles for the ECU we are referring to the roles as numeraire for intervention and credit operation between EC central banks and as a means of settlement between monetary authorities of the EEC.

Official ECUs were created by the European Monetary Cooperation Fund (EMCF) through a series of revolving swaps with EC central banks. The banks were obliged to exchange 20% of their gold and US Dollar reserves for official ECUs. Because of fluctuations in the price of gold and US Dollar, the amount of official ECUs varied and by the end of 1984 the supply of official ECU had more than doubled because both the Dollar price of gold and the ECU price of Dollars increased. Official ECUs were not convertible into the component currencies, so that we can say that official ECUs were just another way

for Central Banks to hold their gold and US Dollar reserves.

They couldn't be traded on the market and couldn't be arbitrated against component currencies so it was only by agreement that the official ECU was valued at its theoretical price. Since the mode of creating official ECUs relied on the central banks swapping an unspecified number of ECUs that had to be rolled over every three months, their supply was uncertain. The value of the official ECU was based on the value of Dollars and gold reserves owned by the central banks.

The ECU was introduced by the European monetary authorities as a means of settlement of debts and credits between Central Banks and as a reserve instrument with the European Monetary Cooperation Fund. It was also used for cash purposes by the Community authorities to determine amounts and effect the corresponding settlements under the various budget and tariff headings, and also for subsidies and rebates as well as transfers of resources.

Six functions of the official ECU were 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 European parallel currency.

Padoa-Schioppa and Polak pointed out that depositing was misleading because the transactions were no more than three-month renewable swaps between the national authorities in question and the EMCF, with no transfer of ownership and therefore no genuine pooling or even joint management of reserves. It was a convenient way for mobilizing the official gold reserves.

Three-quarters of outstanding ECUs were created against gold. Since shares of gold and Dollars in reserves of central banks differed significantly, the distribution of ECUs among them was strongly affected by change in the valuation of the two reserve assets. The volume of ECUs created by the revolving swaps reached 50 billion in 1981 and increased to 51 billion in June 1985.

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-ECC central banks and specified international monetary institution 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.

Although the ECU was developed as a means for calculating value on account between the nation states of the EC, its attraction to private users gradually became apparent. This was primarily due to its relative stability versus any of the individual European currencies.

What the potential private investors or borrowers were seeing as a risk was the change in the definition of the ECU, and thus the change of the calculation that led them to using the unit (but the value of the EUA remained unchanged since 1975).

Private ECUs represented a contract between private individuals and banks. They were ECU denominated liabilities of the banking sector. Private banks created private ECUs in exchange for convertible currencies. The banks guaranteed that their ECUs could be converted into component currencies, and this acted to ensure the value of the ECU. The value of a private ECU was based on the quantity of each currency in the basket, correlating its value to their unstable offer on the market, and the price of the operation was too high. There were no supranational rules governing private ECU and each country was free to set its own regulations.

An essential point was to establish a link between the official market and the private market for

ECUs, leaving the basket nature of the unit intact: private ECU deposits had to reflect an open basket which reflected the official definition of ECU at that particular moment.

Because there was no central bank that issued ECU into the private sector, commercial bankers had to fund any excess of ECU assets by constructing their own ECU from component currencies or else bear the risk of a long ECU position. This operation was costly and not particularly attractive to investors.

The development of a clearing system for the ECU was fundamental because it removed the need for ECU transactions to be bilateral, providing a means for accelerating the circulation of ECU-denominated instruments. Creating a compensation chamber was the only way to make the ECU transferable. Transferability is one of the first features an international currency should have.

Although there was no official mechanism or guarantee for converting private ECUs one-for-one into the Basket of ECU currencies corresponding to the definition of the official ECU (the Basket), the value of the private ECU was, until 1988, fixed in terms of the Basket by a group of major European banks (the ECU clearing banks), who stood ready to convert private ECUs into the Basket at par.

2.1 Linking private ECU to official ECU: a necessary condition for developing the market

As stated before, the value of the official ECU was based on gold and dollar reserves of the central banks. Private ECUs, on the other hand, could only be created by putting together the different component currencies. The supply of private ECUs seemed to be unlimited as long as the component currencies were available on the international market. Since there was no official legislation in this respect, it was complicated for operators to deal with various problems such as:

- ▶ defining the status of the ECU
- ▶ defining the exchange rate for the ECU
- ▶ the composition of the ECU
- ▶ a possible way out of the ECU

Some bankers active on the market realized that the most efficient choice would have been to link the private ECU with the definition and the procedures related to the official ECU. Consequently, there was only one, single ECU, simultaneously used in an “official” and a “private” ECU circuit.

Linking the private ECU with the official ECU meant using the definition as stated by the European Council in 1978: “the Fund’s operations shall be expressed in a unit of account known as the ECU which is defined as the sum of the amounts of the currencies of the nine Member States”. This definition was also used at the time of the first public emission organized in March 1981 from the Kredietbank in favour of the SOFTE (see page 43).

When the market started using the ECU, it was adopted in the way defined by Community legislation, including the revisions of its composition every five years. Preserving this definitional link was essential for the development of the private ECU markets since it guaranteed the unity and marketability of present and future ECU denominated instruments. Although linked by a common definition, the official and private ECU circuits remained completely separated. Indeed, only EEC central banks and “other holders” could hold and use the ECU issued by the European Fund for Monetary Cooperation. The ECUs created by the private market could be held and used by all, including central banks. Several EEC and foreign central banks were involved in the private ECU market as buyers and sellers, but their holdings of these ECUs were not “mixed” with their official ECU reserves. They were different assets, not only as regards their “issuer” and their usability; they also differed to some extent in their exchange and interest rate.

The exchange rate applicable to the official ECU was not strictly speaking a market rate but a rate calculated once a day. Similarly, the official ECU interest rate was calculated as the weighted average of domestic money market instruments, while in the private ECU market the interest rate was based on the Euro-money rates of the component currencies. However, the common definition of the official and private ECU guaranteed the operational link between the two circuits.

At the beginning, commercial bankers were using the official exchange rate based on the weighted average of domestic currencies. But as the market and the volume of transactions were growing, some of the most active banks started quoting their own bid and offer prices for the ECU.

As of 1983 it became possible for any commercial banker to quote at any time during working hours a two way spot price: a spot price against any EC currency or the US Dollar.

Long or short positions in ECU could be covered in the same way as risks in foreign exchange in any other currency were covered. There were three ways to cover: spot hedging, forward hedging and by making loans and accepting deposits in ECUs.

Handling ECU or SDR deposits was a costly operation: it was not possible to cover ECUs directly by ECUs and so it was only possible to cover them using the 10 component ECU-currencies. That means that each operation for covering the ECU actually involved 10 covering transactions in one of the above-mentioned submarkets: the spot, the swap or the loan or deposit markets.

Regarding the interest rate issue, the bank's deposit rates in ECU should have been lower than the weighted sum of the interest yields on the component currencies. The bank's lending rates for ECU facilities should have been higher than the weighted sum of the representative lending rates in the component currencies. Investors needed an extra reward to be attracted by the formula. A discount to be persuaded to borrow in ECU was required.

3. ECU and the issue of its definition: from a basket of currencies to a currency-basket

During the meeting held in Brussels on 15 February 1982 the ECOFIN Council undertook a discussion on future development prospects for the European Monetary System. Expansion of the EMS would help strengthen the internal discipline of the system, promote the stabilizing role of the Community in the operation of the international monetary system and, lastly, make those involved in business activity realize the vital importance of monetary stability. The expansion measures would cover the following four areas:

- ▶ The System's mechanism: acceptability limits and conditions governing the issue of the ECU, arrangements for intra-marginal interventions;
- ▶ Opening the System outwards: conditions governing the holding of ECU by institutions outside the community; efforts to stabilize relations between the ECU and third country currencies.
- ▶ Private use of the ECU: encourage European institutions to issue loans in ECU, lift national barriers on private issues in ECU;
- ▶ Strengthening convergence: co-ordination of economic policies, active use of the Commission's powers in the matter of economic policy recommendations and the follow up of these recommendations.

The ECU represented a building type of innovation. If deep and liquid securities markets existed in all 10 component ECU countries, then there might have been little value-added from an ECU facility.

Bundling types of innovations takes on value when a significant number of investors desire to hold the bundle, but it is costly or inconvenient to do so. For example an ECU bond had value for investors who were attempting to build well-diversified or efficient portfolios representing a mixture of assets with different currency risks. Small investors face high transaction costs, so for them, ECU bonds offered a clear advantage. Large investors may have also faced sizeable transaction costs, on both the primary and the secondary markets, either because some of the ECU component currency markets were small and hampered by thin trading, or because capital controls substantially raised the costs of legal international investments.

It is evident how several factors like saving on transaction costs, liquidity enhancement and favourable regulatory treatment managed to attract investors to the ECU.

ECU securities enabled investors to obtain a relatively favourable risk/return trade-off at lower transaction costs in comparison to a tailor-made portfolio. The ECU may also have been useful simply as a way of positioning for higher expected returns.

In the final analysis, the importance of the ECU for a specific investor's portfolio depended on the role of a local risk-free asset and the risk preferences of the investor.

3.1 Choosing between a closed basket and an open basket

When Kredietbank started to accept time deposits in both ECUs and SDRs, it was decided to do so based on a closed basket. This means that the basket of currencies representing an ECU or an SDR remained the same throughout the lifetime of each individual time deposit: the basket on opening the account would be the same at maturity, when the account was closed. The idea was to inspire confidence and reliability through a built-in stability.

With the development of the market not only there were more deposits, but also several Eurobond issues were floated and prepared both in ECUs and in SDRs, where maturities were, as a matter of fact, much longer than just a few months.

With such a long lifetime, the chances of the ECU or the SDR being changed by their respective authorities, i.e. the European Commission or the IMF Boards, were much more real.

Hence from 1982, as a general rule, all these bond issues were issued with the "open basket" formula, providing for an automatic and instantaneous following of any official decision to change the ECU or SDR.

Meanwhile many demand deposit accounts were opened as well, and also of great importance, more and more banks were active in the ECU and SDR business, accepting both time and demand deposits, granting loans all denominated in these two leading basket currencies.

In order for this new market to develop further, it was imperative that it did not fall apart into as many sub-markets as there might eventuate e.g. different ECU's.

For a market to grow strong and transparent there should have been, at any given time, only one ECU which could not be other than the one defined by the European Commission. Therefore, Kredietbank decided to shift from a closed to an open basket for its time deposits and thus to use thenceforth, for all its different types of ECU business, only one and the same basket at any given time.

Consequently, any changes the European Commission might have decided concerning the ECU would have automatically and simultaneously affected all ECU contracts outstanding at that time with Kredietbank.

As for a possible consequence of abandoning the ECU in the official sector, an equivalent ECU would have been determined by the Stock exchange in Luxembourg.

3.2 The issue concerning the ECU regulation: its status as a domestic and foreign currency

As stated before, official ECUs were created and circulated under regulations formulated by the European Communities (EC) Commission. All other ECUs were designated private circulation ECU.

There were no supranational rules governing private ECU; each country was free to set its own regulations. For countries outside the EC, the ECU was clearly a foreign currency and subject to all applicable foreign exchange controls and restrictions.

For EC countries, the ECU represented a mixture of domestic and foreign currency, with the former subject to domestic exchange controls, reserves requirements, credit controls and so forth.

Foreign exchange controls were felt more constraining for ECU because of the hybrid situation between foreign exchange and domestic currency and its lack of status as a real currency.

Such regulations were definitely contrary to the larger objectives of the EMS, namely to develop the ECU into a freely circulating parallel currency available to all EC residents.

On 13 May 1983 the Commission sent to the Council a communication on the promotion of the international role of the ECU.

Promoting the international role of the ECU meant widening its use beyond the circle of official users, that is to say, the central banks of the EEC countries that participated in the EMS.

A private ECU market unconnected with the official circuit was already developing spontaneously: the private banking system was offering its customers an ever-wider range of monetary and financial instruments denominated in ECU.

In most of the Member States, the ECU was treated as a foreign currency; in the Federal Republic of Germany, which issued the key EMS currency, the ECU was regarded as an indexation clause.

The harmonization of the status of the ECU over the entire Community depended therefore on a change in the German authorities' attitude.

Each Member State that used or recognized the ECU as a foreign currency did so within the framework of its national rules and as a function of its needs; attitudes were therefore varied and often rather pragmatic.

To simplify, we can distinguish three groups of countries according to the attitude of their monetary authorities and the extent of their commitments.

Two countries, Ireland and Denmark, while not officially recognizing the ECU as a foreign currency in their regulations, in practice used it in the same way as other foreign currencies for their financial transactions; at the beginning of 1983, Ireland floated two issues for 30 million ECU each; in February, Denmark raised 75 million ECU under a syndicated Euro-loan. However, the ECUs were not held but sold on the market.

Denmark recognized the ECU as a de facto foreign currency subject to its general foreign exchange regulations. The Danish central bank in Copenhagen first quoted the ECU on September 17, 1984. The fixing took place at noon and the official rate was the average bid/offer rate. The Danish central bank intervened in ECU at the foreign exchange markets.

There were no specific regulations for ECU-denominated instruments, ECU financing or capital movements in general. Denmark permitted all types of ECU financial instruments. The government used ECU in the past for some domestic and foreign public debt issuances and as denominator for Treasury bills and,

as of 1992, the Danish government issued short and long term ECU bonds on the Copenhagen Stock Exchange.

Ireland treated the ECU as a de facto foreign currency. There was no official quotation of the ECU on the foreign exchange market. Instead, the Irish central bank published its daily value. Ireland issued specific official regulations governing the ECU in addition to some preferential treatment of the ECU for banks in foreign trade transactions.

All types of financial instruments except futures were permitted in foreign currencies. There were no financing restrictions. The ECU was used in domestic and external debts such as the ECU debt instruments issued by the Irish government.

The central banks of both countries took certain measures in favour of the ECU. The Central Bank of Ireland calculated and published a "noon rate" for the ECU; Denmark's central bank published the Commission's rates.

In another group of countries, the monetary authorities did not themselves carry out transactions in ECU, but they authorized their markets (banks and residents) to treat the ECU as a foreign currency. Authorization was granted formally under exchange control regulations, such as in Belgium, Luxembourg and France, or de facto, as in the United Kingdom, where "nihil obstat" was given orally, and the Netherlands, where it was given in writing to applicants.

Belgium and Luxembourg officially classified the ECU as a currency like all other foreign currencies according to the rules of the Institute Belgo-Luxembourgeois du Change (IBLC). The instruments classifying the ECU as a currency were promulgated on March 1, 1982, and October 1, 1983. The Brussels Stock Exchange first quoted the ECU on September 3, 1984. The official exchange rate was the average bid/offer rate. The IBLC undertook interventions on behalf of the ECU.

There were no investment and financing restrictions on ECU-denominated instruments in Belgium and Luxembourg. All ECU financial instruments were permitted and, if public issues, required IBLC approval.

The Luxembourg government declared November 1989 as "ECU month". Residents and non-residents were permitted and encouraged to use ECU for payments in shops and restaurants.

The main effects of the recognition of the ECU as a foreign currency were:

- ▶ the ECU was identified as such, like other foreign currencies, in banks' balance sheets, statistics and other documents sent to relevant authorities;
- ▶ residents dealt in ECU under exchange control regulations applying to foreign currency in their respective countries;
- ▶ under the same regulations, banks could participate in the various operations in ECU: Euro-issues, Euro-loans, inter-bank deals etc.

There was only one country, Italy, where the monetary authorities not only recognized the ECU officially as a foreign currency but actually treated it as such themselves:

- ▶ the Bank of Italy reserved the right to intervene on the ECU market by buying and selling ECUs against its own currency;
- ▶ the ECU was quoted on the Rome and Milan stock exchange at a rate calculated on the basis of the fixing for the component currencies;
- ▶ the ECU was held among the reserve assets of the Bank of Italy.

The Italian Minister of Foreign Trade conveyed the status of a "valuta di conto valutarario" - a currency - to the ECU in the ministerial decree of July 27, 1981.

The ECU could be used for all authorized financial and commercial transactions. The Rome and Mi-

lan Stock Exchanges quoted the ECU as of May 1984. Between October 1981 and May 1984, the official ECU rate was calculated and not determined on the foreign exchange markets.

The rate was the average of the fixed bid/offer values on the foreign exchange markets in Milan and Rome. The Banca d'Italia intervened in the ECU fixing.

Italian regulations only permitted Floating Rate Notes, shares and bonds in ECU denomination. The Italian government issued a substantial amount of medium-term notes known as CTE (Treasury certificates) and short-term Treasury bills called BTE (Treasury bills). Approximately one third of the Italian public debt was in ECU. There was no transaction limit on the individual amount of ECU transactions but there were some restrictions on the transfer of ECUs and ECU bonds.

In France the ECU was not considered a foreign currency, but transactions in ECU were assimilated to foreign currency transactions.

French banks were able to grant non-residents the F.F. equivalent of an ECU denominated loan. The banks were in a position to extend ECU-denominated credit to non-residents on the same terms as were applicable to lending in foreign currencies. For their part, residents were likewise able to obtain loans in ECU from foreign banks.

One particular case was represented by Germany. On the basis of the third paragraph of the Währungsgesetz, the Bundesbank regarded the ECU simply as an indexation clause for the Mark. Residents were prohibited from using such clauses for their commitments.

This interpretation prevented German banks from accepting deposit commitments in ECU, notably from residents. German banks could undertake commitments in ECU from non-residents as long as the Mark was not used as the currency for constituting or withdrawing the deposit.

No change in German banking law would have been required for the ECU to be recognized as a foreign currency: what was needed was a new approach to the ECU as the subject of that law, based on the argument that the ECU was in fact an instrument of settlement. Such recognition would have had a considerable impact on the international status of the ECU, for the market was aware of the authorities' restrictive attitude.

Moreover, the entry of the German banks to the market, by making it easier to place ECUs both on the international market and in Germany, made a major contribution to the development of the ECU as an instrument of investment and as a buffer between the dollar and the Mark.

Since German residents were free to invest in a foreign currency, the ECU, with 4% of the international market, was obviously less threatening for the domestic currency than the dollar, which accounted for over 80%.

Even though a change in the Bundesbank's position was vital for international recognition of the ECU, it was also clear that, while the monetary authorities of other countries were in principle in favour of the use of the ECU, it was desirable to harmonize the position at Community level.

The ECU, along with the EMS, symbolized the currency links the Member States had mutually established; it would have been logical for it to be subject to Community provisions. Regulations to govern the use of the ECU would have had a practical use as they would have harmonized national arrangements which could have, if they were not consistent, created a situation that might have hampered the orderly development of the ECU. From this point of view, it was a good sign that the BIS (between its shareholders there were many European central banks) was considering playing a part in the establishment of a clearing system.

But there was a difference between those banks that operated on the market organizing themselves

to use the ECU as a foreign currency, and the Community authorities stipulating in an official text that it was regarded as a foreign currency.

Once the ECU had been recognized as a foreign currency in all the Member States, it was the time for the Commission to submit a paper making it possible to define the ECU in a specific text and to codify the various national provisions governing it. These operative texts made up what could be regarded as a “monetary law” for the ECU. This document was constructed around three features:

- ▶ a codification of the various texts defining the ECU
- ▶ the protection of the word “ECU” (registered trademark), so that its use would have implied acceptance of the definition
- ▶ a summary of the various national rules under which the ECU was recognized as a foreign currency.

The ECU was treated differently, *de facto* or *de jure*, in the various Member States. This differentiation ranged from a total ban to complete freedom, encompassing formulae which, while not forbidding operations in ECUs, nevertheless resulted in increased costs for such operations.

The Commission proposed that the necessary measure to be taken, in all member states, was to accord foreign currency status to the ECU. Transactions in ECU-denominated bonds were to be liberalized, that is to say, made accessible to the community residents under normal conditions. This privileged access to the ECU-market by residents required several Member States to deviate from their exchange control laws.

When all member states had recognized the ECU as a foreign currency, the Commission proposed a document which constituted a reference text for the ECU. This text defined the status of the ECU and clearly stated the rules which users had to follow, reproduced the various texts regarding the definition of the ECU, referred to its recognition by the member states and assured protection of the ECU trademark.

Community wide, the introduction of the ECU for private transactions clearly presupposed free access to open accounts for purposes of foreign trade transactions and regulatory provisions which did not discriminate against ECU.

For a variety of Community activities, the Commission, the ECSC and the EIB maintained substantial demand and time deposits in ECUs at merchant or commercial banks. As a counterpart, these banks became accustomed, on the asset side of their balance sheet, to taking out and investing corresponding holdings in the eight currencies.

3.3 ECU Foreign Exchange Markets

The ECU was officially quoted on the exchange markets in almost all EC Member States, even without official rates in London and Dublin.

Trading in spot and forward ECU was concentrated in the Paris, Brussels, London and Luxembourg markets. The ECU, like the British pound, was a currency whose quotation was expressed in terms of dollars per ECU and not in terms of ECU per dollar.

On the spot market, the majority of ECU transactions involved the German mark and the United States dollar as counter-currencies. The central banks of the EC Member States, the EC institutions and the European Investment Bank were the most active parties on this market. The underlying transactions included interventions by the central banks (as most EMS interventions were undertaken in Marks and dollars) and the management and diversification of the currency portfolios of the central banks.

The dominant position of the official institutions on this market was due to the fact that only very

few private parties could use the ECU in their daily transactions.

Market-makers determined the bid and offer spot rates for the ECU by calculating them with the bid and offer rates of the EC currencies in terms of a third currency, in the same way as the EC Commission calculated the official rate of the ECU. The dollar/ECU spreads ranged from ECU 0.003 to 0.007 for amounts below \$20 million and ECU 0.001 to 0.0015 for higher volumes.

Table 3 - ECU Foreign Exchange Markets Exchange First Quotation

Exchange	First Quotation
MILAN AND ROME	March 15, 1984
PARIS	June 4, 1984
BRUSSELS	September 3, 1984
COPENHAGEN	September 17, 1984
ATHENS	January 24, 1985
OSLO	January 3, 1985
AMSTERDAM	July 1, 1985
LISBON	August 15, 1985
STOCKHOLM	October 1, 1985
VIENNA	January 2, 1986
MADRID	July 1, 1986

Source: Centre ECU et Perspective d'Intégration Monétaire Européenne

The forward ECU exchange market was concentrated in Brussels, Paris, Dublin, Stockholm, New York and London.

Generally, the transactions were in amounts of over ECU 25 million with maturities of up to six months.

The ECU spot and forward exchange markets were important for the development of the private ECU. They provided instant "cash" ECUs to central banks and other institutions.

3.4 The obstacles to overcome

In 1990 a number of studies were carried out in order to pinpoint the obstacles hindering use of the ECU. Such obstacles could be divided into two main categories:

- ▶ legal and administrative obstacles: these derived from the ECU's legal status (foreign currency status) or from its composite nature (a basket of currencies and not the currency of any one country in particular);
- ▶ technical obstacles: the first type were psychological obstacles.

These were the result of operators' habits, market inertia and pockets of ignorance. The second type were due to the ECU's characteristics (periodic re-examination of its definition, uncertainties as to its future) and to those of the ECU market (narrowness of certain segments, low level of use in transactions).

The first examination of national laws and regulations confirmed that the main obstacles to the use of the ECU were: national accounting rules; rules concerning the constitution of capital, the issuing and quotation of shares, shareholder information and remuneration; laws or regulations relating to pricing

and price publicity; tax rules governing the calculation and payment of direct and indirect taxes, duties and excise duties; legislation relating to contracts, associated legal decisions and the enforcement of such decisions; rules applying to the activities of insurance companies and more generally institutional investors, particularly with regard to placement and diversification.

It was necessary to eliminate these obstacles and, since they resulted from national legislation, they would have to be removed by national measures. However, in order to avoid distortions, a degree of coordination between Member States was required.

Apart from some lack of knowledge about the ECU and the principal ECU-denominated instruments throughout the banking and the financial system, two technical obstacles created difficulties for operators:

- ▶ the high transaction costs imposed by some banks on ECU operations and the relative narrowness of the spot market
- ▶ the spread observed since June 1989 between the market rate of the ECU and its theoretical rate.

Owing to its "basket" nature, it was always possible to calculate a theoretical exchange rate for the ECU against any currency. Prior to June 1989, the market rate of the ECU barely differed from this theoretical rate (of the order of +/- 0.005%).

But since that date the spread between the theoretical rate and the market rate tended to widen (sometimes exceeding +/- 0.5%), becoming increasingly volatile.

The consequence of this development was that an operator with an open ECU position could not fully cover it by the purchase or sale of the basket. He was even more exposed if the balance resulting from the spread in the exchange rate was volatile, and therefore unpredictable. As a result, he was in an open position on his balance. In view of the increase in the size of ECU operations, the risk was far from negligible. In practice, it would have been sufficient for operators to carry out an ECU/basket arbitrage to eliminate this spread, but arbitrages were few and far between.

The most important solutions to these obstacles were:

- ▶ first the authorities had to make a clear and credible announcement concerning the role and definition of the ECU during the transitional period, i.e. by declaring the continuity between the basket ECU and the ECU as single currency;
- ▶ second, the dynamism of the various operators on the ECU markets had to continue;
- ▶ lastly, the uncertainty as to the ECU's structure during the transitional period had to be removed by a decision to freeze the composition of the ECU.

With reference to the last point, the experience of the 1989 revision has shown that even if revisions of the basket took account of the need not to cause a break in the market, it was nevertheless a fact that the rules which governed the calculation of weights remained imprecise and haphazard. No-one could accurately foresee whether or not a five-yearly revision would have taken place, or what would have been its scale. This uncertainty was particularly damaging for the long term segment of the market.

In addition, uncertainties were increased by the possibility that high interest rate currencies or currencies considered as risky might on this occasion be given a higher weight, or that new currencies might have been introduced which would have changed the ECU's characteristics.

A definitive fixing of the monetary amounts would have completely wiped out these uncertainties. It would have also helped to convince the market of the present ECU's permanence until the time came for the move to the single currency. It would have eliminated any risk of discontinuity between the basket ECU, a common currency and the abstract ECU, the single currency of the union.

Freezing the composition of the basket was in fact the most effective way of firming up the ECU.

4. The issue of liquidity: solving the problem of “market degeneracy” by creating a compensation chamber

In 1984 the ECU markets experienced a tremendous development that had begun in 1980. From the time the ECU was recognized as a fully-fledged currency by Italy (1981), Belgium (1985), France (1982), etc. the outstanding volume of ECU medium and long term loans reached a value of ECU 7.5 billion in 1984.

The problem was that this fast market growth couldn't be handled by the simple initiative of commercial banks.

The ECU banking market was typified by a serious imbalance between assets and liabilities which was mainly due to the immediate conversion into other currencies of funds raised in ECU, since the ECU was not widely used in transactions.

The imbalance between assets and liabilities increased until 1987, but rapidly decreased thereafter: from ECU 18,600 million or 17.7% of bank assets at the end of 1987, the imbalance fell to ECU 2.3 billion, or 1.6% of assets, at the end of September 1990.

This reflected the increase in end uses of the ECU, but also its growing use by the central banks as a reserve and intervention currency on the foreign exchange markets. According to estimates by Commission departments, the private ECU represented some 14% of the total net reserves of the Community's central banks at the end of 1990.

Theoretically, if bank “A” had to make a transfer to bank “B”, the only way was to complete nine transactions in the nine component currencies. The next step was for the two banks to open an ECU account with the same bank, acting as a clearing bank for the two banks. This bank cleared funds within its books without any actual transfer of funds.

However, considering the number of ECU accounts opened in their books and the volume of payment orders processed through their books, several banks were already acting as clearing banks. A limited number of banks which proved to be active in this field built up a clearing mechanism between them on bilateral basis. According to that clearing agreement, they opened mutual ECU accounts which recorded all the transactions against each other, once they had completed the first stage of clearing funds within their own books. They compared their respective figures and the deal ended up with a final balance – plus or minus – against each other. It was agreed that this balance was not settled within a certain ceiling which was obviously set at such a high level that it normally absorbed the remaining balance which was then carried forward to the following day. On top of that, they agreed that the final settlement was made through one of them on behalf of the others, each member bank being appointed on a rotating basis, so that the entire clearing procedure was completed in a single ECU settlement.

The mechanism mentioned above was necessarily limited both by the number of participating banks and by the number of transactions which could be cleared through that system.

Therefore it was necessary to design a new mechanism based on a multilateral worldwide system.

4.1 The ECU clearing system

The ECU clearing system started operating on 1st October 1986. However its history dates back to 1982 when the Commission of the European Communities suggested to five commercial banks – Crédit Lyonnais, Kredietbank, the Morgan Guaranty Trust Company Brussels, Lloyds Bank and San Paolo Bank – to examine ways and possibilities for setting up a multilateral clearing system for the so called “private” ECU payments.

Starting from a very limited number, this group was progressively extended to seven members adopting the name Mutual ECU Settlement Account (MESA).

The initial group of five banks was eventually enlarged to an ad hoc working group including 18 commercial banks from various EC countries plus the European Commission and the European Investment Bank.

It was agreed that the clearing system to be implemented should be:

- ▶ Open: there would be no restriction in the number of clearing banks selected
- ▶ Paperless: the paper orders would be processed and cleared through a fully computerized system
- ▶ Neutral: the clearing centre should be a supranational institution which would remain neutral from the member clearing banks.

As a result the working group designed a system which had to be worked out by three bodies:

The MESA banks opened “mutual” ECU accounts which recorded both credit and debt entries between MESA banks. The final settlement of the balances was made in component currencies through the bank which centralised the settlements of the month, each of the seven MESA banks taking their turn to assume this role.

In the meantime the European Commission took the initiative of forming a working group, chaired by Crédit Lyonnais. This led to the creation of the ECU Banking Association (EBA), and contacts were taken with the Bank for International Settlements (BIS) to discuss a possible role of the BIS as Common Clearing Bank, accounting agent and banker to the clearing system.

The Bank for International Settlement already fulfilled that function for a number of other institutions such as the EMCF and seemed to be the only alternative in terms both of capacity and its supranational level. However the above mentioned clearing system was a purely private institution and the Board of the BIS made clear that they didn’t want to act as a de facto ECU Central Bank.

Table 4 - Structure of the clearing system

Bodies	Responsibilities
Association of ECU Banks	A two tier clearing system to be run by an Association of ECU Banks, some of which appointed as clearing banks. The ECU banks were to open an account with one of the other clearing banks which in return would clear funds within their books, the resulting balance against the other banks being cleared through the clearing centre
Netting Centre	All the clearing banks would input all their ECU payment orders with the other clearing banks through a computerized Netting Centre. By the end of the clearing day, the netting centre would provide a net balance of each clearing bank against all the other clearing banks and every further payment would be recorded the following value day
Common Clearing Bank	All the clearing banks were to open an account with a Common Clearing Bank, acting as an agent for the Association of ECU Banks. This Common Bank would be instructed to operate the resulting settlements from clearing account to clearing account and the clearing bank would have to cover their overdraft situation values next day, through the usual buying selling or borrowing lending transactions on the ECU interbank market

The design of the ECU clearing had to take into account three major pre-conditions:

1. on the technical side, the clearing had to be based on a Europe wide telecommunication system;
2. on the functional side, the clearing had to cope with the absence of a lender of last resort institution;
3. on the monetary side, the constitution of a monetary base and the regulation of liquidity had to involve the creation and destruction of ECUs by bundling and unbundling the basket.

Discussions conducted within the working group, as well as with the BIS and SWIFT, came to a first conclusion at the beginning of 1986, with the signing of a clearing agreement between the BIS and the ECU Banking Association on 21st March 1986.

4.2 Technical aspects of the ECU clearing system

The type of clearing system devised for the ECU in a first instance was a “next-day-value” clearing, meaning that, on a given business day, only payments carrying value to the next business day were cleared.

The functional structure of the clearing can be split in two consequent stages:

i. The netting stage

During the morning of a business day and until a first cut-off time called “preliminary cut-off time”, at 13.00 Brussels time, all ECU payment messages transmitted amongst clearing banks via the SWIFT network were automatically intercepted and copied to a special netting computer operated by SWIFT service partners.

SWIFT, the Society for Worldwide Interbank Financial Telecommunication, is a cooperative undertaking based in Belgium. Controlled by its members, which include banks (including central banks) and other financial institutions, it is one of the main providers of secure messaging services and interface software for payment systems.

SWIFT had three main tasks: (i) to supply secure messaging services and interface software; (ii) to contribute to the increased automation of financial transaction processes; and (iii) to provide a forum allowing financial institutions to address issues of common concern (e.g. standardization) in the area of financial communication services. Payment messages for value next day sent after preliminary cut-off time and representing payments by customer or correspondent bank orders were automatically value date adjusted to the next value day. Immediately after preliminary cut-off time, the netting computer established for each bank a preliminary netting report including all payments made and received by that clearing bank for the relevant value day, as well as their balance. This preliminary netting report was communicated to each bank within a span of 7 to 10 minutes after preliminary cut-off time.

Positive preliminary netting balances were considered as intra-clearing assets that may be lent or sold to clearing banks having a negative netting balance.

Accordingly, balance-reducing transactions were undertaken by the clearing banks, either by lending intra-clearing ECUs on a Tom/Next basis, or by selling them against one currency or all the currencies of the basket under the next value day.

These transactions gave rise to ECU payments from the lending or selling clearing bank to the borrowing or buying clearing bank, which had to be transmitted through the SWIFT system before final cut-off time (at 2.30 p.m.).

Immediately after final cut-off time, the netting computer established the final netting balances of each clearing bank, taking into account the preliminary netting balances and the payment messages resulting from the balance-reducing transactions. Each clearing bank then received its final netting report, with the BIS receiving a report on all final netting balances.

Two observations need to be made with regard to the netting stage:

First the use of the SWIFT transmission network, as the technical infrastructure of the ECU clearing system, with the netting computer. Automatically intercepting all ECU payment messages between the clearing banks enabled the banks to adapt to the new system with minimal interface and message handling problems.

The transactions between clearing banks between preliminary and final cut-off time aimed at reducing the final balances to a rather low level; as such they represented a kind of pre-settlement amongst the clearing banks.

ii. The settlement stage

For the purpose of carrying out the settlement operations, two types of accounts were envisaged for each clearing bank: a clearing account held by the BIS acting in its capacity as accounting agent to the clearing (the clearing account of a bank was debited or credited with its final netting balance, thus representing a record of the claims or liabilities of that clearing bank towards all the other clearing banks), and an ECU sight account, opened in the books of the BIS, with the purpose of settling the balance of the clearing account every day. This ECU sight account carried no remuneration and could not be in a debit position.

The system provided two possibilities for supplying the ECU sight accounts:

- ▶ by ECU transfers from one sight account to another, these transfers being the result of a sale or lending transaction between two clearing banks;
- ▶ by transferring all the component currencies of the ECU to special accounts opened by the BIS in the books of the central banks whose currencies were components of the ECU.

On the basis of its final netting balance on a given day, and considering the existing funds in its ECU sight account, each clearing bank had to:

- ▶ borrow or buy from another clearing bank ECUs available for next day value in that clearing bank's sight account, or
- ▶ transfer to the BIS all the component currencies equivalent to the amount of ECUs required.

ECU payment orders related to those transactions had to be sent to the BIS before settlement time (at 3 p.m.).

In view of the funds available in each clearing bank's sight account and after having taken into account the above mentioned payment orders, the BIS checked whether all settlement operations could be done without any sight account getting into a debit position.

If this was the case, the BIS executed the settlement operations: by debiting or crediting each bank's clearing account with the amount of its final netting balance, and by settling the clearing account balance through debiting or crediting the bank's ECU sight account.

The BIS was acting as agent on behalf of EBA. Consequently, BIS was in no way lender of last resort and did not contribute to the money supply. In addition the BIS couldn't under any circumstances accept a monetary risk. The BIS had the necessary expertise and neutrality to perform its role as agent.

However, should one clearing bank be unable to provide its sight account with sufficient funds to settle its clearing balance, the system provided the possibility of an "unwind". In that case, the non-performing bank was suspended from the clearing; all the payment orders given and received by the non-performing bank on that day were cancelled, the remaining payments being automatically value-date-adjusted to the next value date.

4.3 The ECU Banking Association (EBA)

The EBA was founded in Paris on 17th September 1985 by 18 commercial banks and the European Investment Bank which previously met as an ad hoc working group to elaborate the functionalities of an ECU clearing system and the by-laws of a banking association.

The prime purpose of the EBA at its very beginning was, of course, to set up the clearing system by implementing a clearing agreement signed with the BIS on 21st March 1986. To that effect, seven clearing banks were mandated by the Constituent Meeting, which eventually formed a Clearing Committee within

the EBA in order to monitor the functioning of the new clearing system, operating since 1st October 1986. In the light of this experience a new clearing agreement was signed with the BIS on 30th April 1987.

The setting-up and running of the clearing, however, was not the only purpose of the EBA. The founding banks adopted two more aims for the EBA: to promote transactions in ECU and to represent its members in all matters concerning the use of the ECU in their relations with national, European and international authorities.

Particularly with regard to the second aim, and now having 80 member banks coming from all EC-countries, as well as the United States, Japan, Switzerland and Scandinavia, the EBA wanted to develop its profile as a bankers' professional association.

The ECU market was still missing a lender of last resort and the market was growing fast making necessary for the European Governments to set up some monetary institution to regulate the ECU money market and to prevent a potential liquidity crisis on the market.

The ECU clearing started operating on 1st October 1986 for a six-month trial period. Seven banks that previously took part in the MESA clearing system were mandated by the EBA to run the trial period and test the clearing infrastructure as well as the clearing procedures. Upon assessment of the experience gained, the mechanism of the system proved to be reliable and able to cope with a progressive enlargement of the number of clearing banks.

Accordingly, a decision was taken by an Extraordinary General Meeting of the EBA on 20th March 1987 to include 25 more clearing banks within a year and, for the next enlargement in 1988, to offer a quota of 20% of total seats to non-EC clearing banks.

By the same, a new draft agreement with the BIS was adopted and signed on 30th April 1987. In the meantime 24 new clearers were designated to be progressively included at a rate of approximately three new banks per month until the end of February 1988.

With the achievement of the enlargement, the ECU clearing was bound to become a truly Europe-wide clearing system, linking directly together the major banks from each EC country and beyond.

This unique payment infrastructure very much supported the ECU's role as a European and international invoicing currency, thus adding to the ECU's advantage as a common reference currency the advantage of payment handling efficiency. Furthermore, a decision was taken to convert the clearing system into a "same-day-value" system by the end of February 1988.

Accordingly, payments netted on day D would be settled for value on the same day D (whereas, up to this time, it had been next day value or D + 1). For continuity reasons, the timing of the daily clearing process would remain unchanged in a first stage (i.e. 13.00; 14.30; 15.00). Consequently and upon assessment of the experience with the new system, the cut-offs could be shifted towards the end of the day.

The enhancement to a "same-day-value" clearing put the ECU clearing in a very competitive position against other national systems. Customers and correspondents throughout Europe and the world would be able to instruct their clearers until at least 11.00 a.m. to make payments over all of Europe for value that day.

4.4 The spread between the ECU's market exchange rate and its theoretical exchange rate

Because of its "basket nature", it was always possible to calculate a theoretical exchange rate for the ECU against any currency. Prior to June 1989, the market rate of the ECU barely differed from the theoretical rate. But thereafter the spread between the theoretical rate and the market rate tended to widen

and become increasingly volatile. In view of the scale of ECU transactions (some ECU 10 billion a day), one bank alone could not bring the market back into equilibrium.

So long as there was no equilibrium between ECU loans and deposits, when a bank took a (credit or debit) position in ECU, it had to partly cover this position by buying or selling the basket.

Since, unlike the national currencies created by credit operations (loans make deposits), ECU loan operations did not always give rise to deposits – because ECU might have been destroyed – and since ECU deposits might have been made which did not depend on a loan-deposit cycle, the equilibrium between ECU deposits and loans was haphazard. ECU/basket or basket/ECU cover operations, even marginal, were necessary so long as the ECU remained a composite currency.

The consequence of the spread between the exchange rate of the basket and that of the ECU was that, although any operator might have covered his overall credit or debit position, part of his position remained at an equal balance as a percentage of the size of the operation which it was difficult for him to cover. He was even less able to do so if the spread was volatile, therefore unpredictable.

As a result, he was in an open position on his balance. In view of the increase in the size of ECU operations, the risk was far from negligible.

The most likely and least dramatic explanation confirmed by the statistics relating to bank loans and deposits was simply that, because of the sharp growth in the demand for ECU, deposits were beginning to exceed loans leading to a fall in demand for the basket and therefore in its price. Since loans and deposit operations were not as closely linked as in the case of a normal currency, the spread, whether positive or negative, between the two was unstable.

Furthermore, the ECU for basket purchase or sale operations was never in cash but usually consisted of three-month loans or borrowings combined with forward sales and purchases.

It would seem that there was a spread between the theoretical interest rate and the market interest rate in the three-month ECU, which was similar in magnitude but inverse to the exchange rate spread.

In practice these two spreads offset each other and operators were virtually unaffected.

The development of the ECU Market meant that, in the majority of cases, assets in ECUs were covered by liabilities in ECUs. Because of the definition of the ECU and the absence of a lender of last resort, the market prices could not entirely move, at the beginning, outside the rates arrived at by computation from the constituent currencies of the ECU.

These rates were calculated by applying the correct weighting of each currency's Euro Deposit Rate.

Although the clearing procedures provided for an exchange of ECUs against the basket of component currencies as a possible transaction for reducing a preliminary netting balance, the recourse to the component currencies during the clearing operations proved to be technically rather inconvenient as all the currencies of the basket had to be transferred and received under just one value date.

In order to avoid these difficulties, as of 1st October 1987 the clearing banks implemented a component currencies' exchange system that was operated outside the clearing and under two value days, coupled with an interest rate fixing mechanism for intra-clearing borrowings. Accordingly, each clearing bank advised the BIS at 4 p.m. on the amount of component currencies it was offering or seeking in exchange for ECUs under value two days. These long or short positions in component currencies usually resulted from exchange transactions (ECU against component currencies) that a clearer undertook with non-clearers under two value days. After 4 p.m. the BIS established the total net position in component currencies of the system (while clearers with opposite positions entered into exchange transactions).

The day after, at 12 p.m., each clearer communicated to the BIS its EIBOR and EIBID Tom/Next in-

terest rates. On the basis of the rates received up to 12.30 p.m., and after eliminating the 4 highest and the 4 lowest rates of each type of interest rate, the BIS calculated the average EIBOR and EIBID rates as well as EIMEAN (av. EIBOR + av. EIMEAN divided by 2). The Tom/Next interest rate applicable to all settlement operations on that day was determined according to the following procedure:

1. EIBID in the case the total position in component currencies as established the evening before was long
2. EIBOR if the position was short
3. EIMEAN if the position was close to zero.

On the basis of this arrangement the clearers agreed to settle their preliminary netting balances by Tom/Next borrowings or landings in ECUs only.

As such the elimination of basket transactions inside the clearing was a first step in the direction of increasing the autonomy of the ECU as a currency.

4.5 The ECU and the role of the European Institutions

When the Bremen European Council (6th and 7th July 1978) decided to place the ECU at the centre of the European Monetary System, it became the symbol of the Community's monetary existence, serving both as an accounting tool for its operations and as an instrument for expressing Community policies.

For a long time it was gold that played this role, and with the abandoning of gold and the search for alternative solutions, in the context of fluctuating exchange rates in the absence of any external reference, it was forced to resort to a basket type formula of unit of account whose value was equal to the sum of a fixed amount of each of the currencies of which it was composed. Since early 1970, the security of economic and financial transactions by private agents was threatened daily by unpredictable and often extremely large currency fluctuations on exchange markets.

Banks were preoccupied with international and domestic monetary stability. Central banks had to create conditions for the proper working of financial markets.

They had to help familiarise economic agents with the idea of the Community's monetary identity. An essential factor was the establishing of a Community monetary authority.

The European Monetary System had functioned harmoniously for more than a year, as reflected by the remarkably stable evolution of its participating currencies. The world monetary system oriented itself toward the predominance of three areas centred respectively on the Dollar, the Yen, and the currencies of the European Monetary System. The ECU was by its very nature well placed to represent the European Pole and it embodied the stability of the European currencies. But oil exporting countries still accumulated Dollars.

One of the issues that banks and institution needed to solve was the one concerning marketing the ECU and training bank staff to make clear to potential clients what an ECU was.

In 1980 only a few banks accepted deposits in ECU and the demand for ECU-credits was even more limited because of institutional limitations: the removal of such limitations was necessary to develop the market on the demand side. In Belgium and Luxembourg at least, accounts and transfer were authorized and all leading Belgian banks accepted ECU deposits. "There may be no Belgians in Belgium but there are Europeans".

Therefore, thanks to legal provisions regarding monetary policy and exchange control, the Belgian monetary authority had the necessary instruments for contemplating with serenity the development of the private use of the ECU.

The absence of a market for on-lending or investment in ECU-denominated securities was also felt to be a problem: the number of accounts was small and very few transactions could be undertaken directly between ECU-accounts. As a rule, payments to and from these accounts were executed in national currency. Moreover, deposits couldn't be offered at competitive interest terms.

In 1980 we had relatively high but not completely stable exchange rates. It was precisely the combination of limited fluctuation of currencies and the considerable differences between interest rates which opened the way to the ECU-contract. For overseas trade the ECU contract would above all compete with the Dollar as the alternative unit of account for the purpose of price fixing for oil, raw materials, transport and services.

When it came to institutional measures aiming at giving the ECU equal status with national currencies (export credit guarantee arrangements mentioned by Thygesen) – the Italian Istituto Bancario San Paolo issued a 200 billion lire domestic loan, where the principal was linked to the ECU.

It was necessary to make the ECU business a profitable business for commercial bankers. The real question was whether the market really demanded banking services in terms of the ECU and whether it did so in sufficient volume to overcome the diseconomies of small scale that played a rather important role in this area.

As long as the ECU was not a widely held means of settlement and as long as receivables and liabilities were not made in ECU, every exposure would still be denominated and hedged in the local currency. It is important to stress that public or semi-public entities were beginning to consider borrowing in ECU or in SDR as an attractive way to reduce their exchange risk.

Considered purely as a currency, the ECU had the disadvantage for some potential users that it excluded the US Dollar, Swiss Franc and Yen. On the other hand the ECU had the advantage over the SDR that it was based on a limited number of currencies that were all actively traded in the exchange markets. It did not include "exotic" currencies.

Institutional support was crucial in order to develop a secondary market for ECU-denominated medium and long term assets and to ensure both their liquidity and the development of a liquid and smooth short term market.

Central banks needed to offer facilities to commercial banks as dealer of last resort. Commercial banks opened ECU accounts in cooperation with the European Monetary Fund. Public authorities issued a short term asset denominated in ECU that was negotiable and rediscountable with the central banks. Central banks supported an active foreign exchange market between the ECU and their national currencies.

Of more immediate relevance to the private sector was a move towards crediting the accounts of EC employees in ECU rather than in national currencies.

To extend such a practice to other contract holders – notably firms that had successfully tendered for EC projects – a modification was necessary in the existing national exchange controls which did not normally permit residents to hold financial assets denominated in foreign currencies. It was crucial to enable the deposit-taking institution to match its ECU liabilities with similarly denominated financial instruments.

The EC institutions themselves, including the European Investment Bank, were requested to issue most of their future bonded debt in the form of ECU-bonds, and encouragement was given to exploring the terms of Euro credits in ECU. The central banks also helped in developing an active forward market in ECU.

The European institutions had to take the lead in placing ECU deposits with several banks in several countries, floating ECU notes and bonds and raising ECU loans, setting prices and paying salaries, for

instance to the EC staff.

With a cash-flow of US Dollar 15 billion, the Commission certainly had the potential for creating a huge market in short-term ECU deposits.

The national authorities also proved their determination to create a market for ECUs by:

- ▶ Allowing the denomination of their commercial contracts in ECU
- ▶ Issuing money or financial market instruments denominated in ECU
- ▶ Allowing their institutional investors to treat the ECU on the same basis as the national currency for investment guidelines
- ▶ Allowing bonds in ECU issued by European institutions to be listed and traded on their national stock exchanges

The Commission had a number of ECU deposits with private banks within the Community. These were time deposits (3-9 months) and also demand deposits (300-400 million ECU). The remuneration of this account was linked to a weighted average which was linked to the deposits that the banks made on the national markets minus the commission charged by banks: there was a tendency for this commission to decrease as competition for EC commission deposits developed.

In order to launch the ECU it was necessary to give ECU issues some advantage over issues in other currencies: more and clearer political signals favouring the use of the ECU. For the ECU to be used, both liabilities and assets covering a wide range of maturities were required. The ECU was a store of value and a unit of account but not a means of payment. It was a major objective of the EMS to reduce inflation in member countries to that of the lowest national rate. The official inability to master inflation might in fact have been a main driving force.

It was fundamental to recognise the ECU's future role as the Community monetary instrument and to introduce regulations to ensure its common control and management.

Active participation by at least a couple of leading banks, together with banks quoting for ECU deposits both ways, accepting ECU deposits, granting ECU loans, underwriting, buying and selling ECU notes and bonds, buying and selling ECU travellers cheques (sold to Americans travelling to Europe) were the steps taken for a liquid ECU market.

If a sufficient number of banks, in a sufficient number of countries, actively participated, then a competitive ECU market could have been built up with quite a few participants.

It was necessary to have the freedom to provide services across the frontiers of the Community.

The first ECU issues were addressed primarily to private and institutional investors in the Member countries that were considered as the foremost potential subscribers to such issues (exempted from all the barriers). Progressive steps were taken to give these issues a status approximating to that of domestic issues enabling them to benefit from a mechanism similar to the one of the national market.

Since 25 June 1974 the value of the ECU had appreciated substantially against the Dollar and the SDR. Moreover the European Community was recognized as an irreversible process and this ensured the permanence which is essential to financial operations.

The French Saint Gobain company proposed to use the ECU as a settlement between its European companies. This was supposed to contribute to the establishment of bank clearings at national level and then gradually at the level of a Community Monetary market.

There were three possible solutions:

1. Simple issues in a specific currency indexed to the ECU (Istituto Bancario San Paolo 1979 Italian lira indexed to the ECU)

2. ECU issues to which subscription would be received in a specific currency.
3. ECU issues to which subscriptions would themselves be made in ECUs with effective settlement in accounts kept in ECUs

The optimal solution was to launch issues falling within the second category quoted in ECUs, payable in a specific currency and offered simultaneously:

1. on the national markets within the context of a special offer benefiting as far as possible from the facilities granted for domestic issues, particularly a possibility of payment in the national currency and
2. on the international market where subscriptions would have been paid in one of the international currencies at conversion rates defined in the prospectus.

5. ECU development in the primary and secondary market: from the interbank ECU market to a private market

Since major currencies started floating in the early 1970s, the world economy has been characterized by considerable volatility and uncertainty in interest rates and exchange rates.

That was the main reason for investors and borrowers to search for ways to minimise the risks created by unforeseen swings in money markets and why they began being interested in component currencies such as the European Currency Unit.

As explained before, the ECU was first developed for government uses and began to have a very active market that evolved to meet the needs of the private sector.

Although the private use of the ECU emerged in the wholesale banking market, it rapidly became important in the area of retail banking.

A major reason for the dramatic growth of the private use of the ECU was its stability and its acceptability. The ECU became an attractive substitute for holdings in individual European currencies. As a weighted average of the exchange rates of component currencies, the ECU's value generally moved less than that of its components.

Furthermore the EC institutions and certain European governments had actively supported the use of the ECU private market: the ECU was the official unit of the EC. Europeans therefore had both a national and a community-wide interest in the ECU, which did not exist at that time for the Special Drawing Rights.

As demand grew, all banks were willing to accept ECU deposits, a market for credits emerged and the volume of private long term borrowing also expanded.

Operations in ECU could be entered into bank books directly, without splitting; a normal spot market emerged and allowed transactions with spread between buying and selling rates. A forward market developed as well, allowing longer contracts protected against exchange risks.

The bond market needed a short term secondary market (floating rate ECU notes were a good start). The European Investment bank could borrow in ECU and then lend in 8 or 9 currency tranches.

The offer of short term assets denominated in ECUs had a positive role to play; it diffused the entry of short term capital in the different currencies of the community. The generalization of the private use of the ECU was merely the "European manifestation of the ever growing internationalization of capital markets".

In June 1989 the Madrid European Council adopted the content of Stage One of Economic and Monetary Union, as set out in the Delors Committee report, and decided that it would have started on 1 July 1990. One of the principal measures to be taken during Stage One was the removal of the obstacles to the private use of the ECU also to ensure convergence in the economic performance of member states.

The final objective of the EMU was then defined: "The Community will have a single currency - a strong and stable ECU - which will be an expression of its identity and unity".

Because of the difficulties inherent in moving to the single currency, the assurance of continuity between the ECU and the ECU as a single currency had the clear advantage of cutting down on the learning phase and reducing the uncertainties connected with the launch of any new monetary or financial instrument. By developing the use of the ECU it was possible to build on an existing instrument, increasingly appreciated on the financial markets and becoming more and more familiar to private operators, which had the critical mass to give it credibility.

With an amount outstanding of ECU 300 billion in 1990, the ECU markets had enjoyed uninterrupted growth since 1987. This dynamism can be seen in the growth rates for the use of different instruments and the increase in their world market shares, as well as in the geographical diversification of users and the increase in the uses of the ECU: as a financial asset, a clearing instrument, a transaction medium and a currency of reference for the exchange rate policy of third countries.

The internationalization of the primary bond market can be seen from the changes in the origin of banks managing the issues: in 1983, French banks held 45% of the market and Belgian banks 30%, whereas in 1990 their combined share was down to under 40%, with more and more activity on this market from banks in Switzerland (round 18%), America (around 17%), Germany (around 11%) and Japan (around 17.5%).

The average monthly volume traded on the secondary international securities market was in the order of ECU 13 billion in 1988 but climbed to over ECU 40 billion in the third quarter of 1990. The share of the ECU on this market thus rose from almost 6% at the end of 1986 to around 14% in 1990. Over the same period, the share of the German mark rose from 14% to around 20%.

The geographical diversification of the supply of and demand for ECU and the increased liquidity on the secondary securities market grew in line with the increase in the average size of issues, particularly since the average went above ECU 100 million in 1987.

ECU bonds were purchased by a variety of investors from different countries for a multitude of purposes. Traditionally, the ECU bond market was primarily retail-driven.

Individual retail investors in France, Italy, Belgium, the Netherlands, Luxembourg and Switzerland used to be the main purchasers of ECU instruments. This purchaser base shifted dramatically toward more sophisticated institutional investors which purchased large portions of newly-issued ECU bonds and investors from non-EC countries. These included central monetary authorities, insurance companies, namely in Japan and the United States, and pension funds.

Following the initial issuance of ECU bonds, trading took place on the secondary market. The most important requirement here was liquidity, i.e. a sufficient number of sellers and buyers for a certain bond issue to provide a functioning market.

This liquidity also depended on the number of market makers, securities firms which actively traded in ECU instruments. Initially, the secondary markets for ECU bonds suffered from chronic illiquidity. This changed since the introduction of the benchmark jumbo issues which more than doubled the secondary trading volume in 1991.

The secondary market for ECU instruments was very similar to the one for instruments denominated in other important currencies, such as the DM, yen and dollar.

The clearing for the Eurobond issues took place through Cedel and Euroclear, the two computerized settlement houses for Eurobonds.

The number of market-makers expanded slowly since the first transactions in this market in 1982. At that time, the market was concentrated in Belgium and Luxembourg and the market-makers were mainly Belgian and Luxembourg banks. Between 1983 and 1986, a number of French, Japanese, American and British securities firms entered the sector.

Table 5 - Top Managers of Euro - ECU Issues 1991

Rank	Manager
1	Banque Paribas
2	Morgan Stanley International
3	Credit Suisse First Boston
4	Nomura Securities
5	Banesto
6	Goldman Sachs International
7	JP Morgan
8	Swiss Bank Corporation
9	Nikko
10	Deutsche Bank
11	Credit Commercial de France, Banco di Roma, Dresdner Bank

Source: Bourse de Luxembourg

5.1 The ECU Money Market

The ECU money market for bank liabilities, medium-term notes, certificates of deposit and commercial papers (including also United Kingdom Treasury bills and Italian BTEs) was the single fastest growing segment of the ECU market.

This expansion was fuelled mainly by the significant increase in the interbank deposit market for ECU which accounted for almost 90 percent of the ECU money market. The Italian and British issues followed with a share of approximately 8 percent.

Despite the significant growth of the ECU in the money markets, there were two substantial obstacles to the further development of these products.

First, the lack of demand for ECU assets from corporations, which generally had no ultimate use for the ECU in cash management since, as a means of payment or commercial settlement currency, access

to ECU money markets was limited to financial institutions and governments.

In addition, almost all corporations which borrowed in ECUs still swapped the ECUs received into their national currencies and did not deposit these ECUs in the banking system to “use” them in their transactions.

Second, there was no thoroughly developed liquid secondary market for the British and Italian money market instruments. Most of the trade took place on the primary markets among the market-makers.

However, it is certain that the programmes of large bond issues launched by some Member States and by the EIB gave a decisive boost to the secondary market, led private operators to create new ECU-denominated financial instruments, and gave the market the benchmark issues which it needed.

The following table summarizes the various financial uses of the ECU:

Table 6 - Financial uses of the ECU

Financial instruments	Amount outstanding		Growth As %
	1991	1989	
Bonds (national and international)			67%
-primary market	124	74	
-secondary market	(75)	(17)	
Net assets of banks of which:	176	119	76%
-international loans	56	31	81%
Euro-paper and treasury bills	18	13	39%
Estimated reserves of central banks	30	17	76%
Derived instruments (option and futures)			
-MATIF (Paris)	57	Did not exist	
-LIFE (London)	13	Did not exist	
-FINEX (New York)	-	23	

Source: Commission of the European Communities: “Removing the legal obstacles to the use of the ECU” - Brussels 23 December 1992

5.2 Syndicated ECU loans

The market for ECU loans steadily grew since 1981. Private parties, as well as the governments of some EC Member States such as France, and local governments, used these syndicated ECU loans which had amounts between ECU 10 and 450 million and maturities between 1.5 and 10 years. Typical amounts were between ECU 10 and 150 million with maturities from five to eight years.

ECU loans ranged from Euro loans to revolving credit lines and term loans. The funds for Euro loans were historically raised entirely outside of the country of the debtor. These loans also included internationally syndicated loans.

The first ECU-denominated syndicated bank loan was extended in June 1980. In July 1982 an Ecu50million eight-year loan for STET of Italy was arranged by Lloyds Bank, which was followed by seven other loans before the year ended.

This gradual development of a market for syndicated lending in ECU was part of a wider trend to-

wards lending in currencies other than the US dollar. In 1985 the ECU accounted for over 6 percent of new external bank loans.

Of crucial significance to the development of the syndicated loan market was an effective underlying market for bank deposits. The volume of ECU deposits grew at an annual rate of 120 percent between December 1983 and December 1985. During this period the bank's ECU assets were greater than their liabilities, the difference being met by borrowing the component currencies or by spot purchases and forward sales. The percentage by which the bank's ECU assets exceeded their ECU liabilities fell from 19.4 percent in 1985 to 10.6 percent in 1986. This was largely the result of an increase in non-banking holdings of ECU deposits.

It must be also stressed that the ECU market was liquid enough to meet the trading needs of participants, for whom the ECU was a single currency in which payments could be made as easily as in a national currency.

As for the characteristics, the loan amount tended to be small (the average transaction was around ECU 30 million) and it was often syndicated on a club basis. There was no premium for borrowing in ECU and the borrowers tended to be corporate or quasi-corporate in nature. The market was characterized by a notable increase in the geographical distribution of borrowers, especially since 1983.

The lenders tended to come from the EEC member states with Japanese, North American and Middle Eastern banks adding some diversity. The major banking centres were France, United Kingdom, Belgium and Luxembourg. In many cases the smaller banks expressed greater confidence about funding in ECU than in the US dollar.

Table 7 - Syndicated loans and ECU bonds in millions of ECUs

Year	Syndicated Loans	Bond issues	Number of issue
1981	230	202	6
1982	367	1,942	19
1983	812	2,547	46
1984	2,780	4,895	66
1985	2,525	12,199	138
1986	1,853	9,381	85
1987	5,091	7,966	72

Source: Istituto Bancario San Paolo di Torino, ECU Newsletter, No.20

5.3 ECU short-term notes

The first ECU-denominated certificate of deposit was issued on February 1981 by Lloyds Bank Ltd for an amount of ECU 10 million. The capital market experienced a profound development, namely

securitisation. The trend towards securitisation had a beneficial effect on the ECU note market and on the developing domestic short-term markets in a number of European countries.

There were two main types of short-term note facilities: those underwritten like the certificates of deposit where the borrower is able to issue short-term bearer notes which are either sold to a third party investor or are taken on the books of the underwriting banks. The second type consisted of non-underwritten facilities like commercial papers where the borrower can issue short-term bearer notes which are sold by one or more dealers to a third party investor.

More usually the option to issue ECU notes would form just one part of a more complex US dollar-denominated transaction.

To meet the needs of an expanding market, the minimum amount required per certificate was reduced and the possibility of quoting long term swaps and deposits beyond one year were introduced.

As for the characteristics, the buyer's credit risk was on the issuer. Euronotes generally bear interest at a rate fixed by reference to Libor, the international bank offered rate.

Euro commercial paper does not generally bear interest: the investor return is derived solely from the difference between what is paid for the note and what is received at maturity.

Euronotes offered certain advantages to both the issuer and the investor. For the issuer the facility could be fully drawn, revolve according to need or act as a pure stand-by facility. In terms of the cost of funds, an issuer could benefit from a long-term improvement in its perceived status or from short-term pockets of demand in the market. The earliest borrowers were the European supranational institutions and other continental European organizations, followed by borrowers from the corporate sectors.

For the investor, US dollar Euronotes offered higher yields than those obtainable in the short term money market and on US Treasury bills.

5.4 Eurobond market and ECU bonds

The ECU bond market began on April 1981 with an issue of ECU 35 million floated by SOFTE. The bond guaranteed by STET was over six years and a coupon of 13%. The lead manager was the Kredietbank in Brussels (see inside back cover).

On November 1981 the first ECU bond undertaken by an Italian bank was launched. The issue by Istituto Bancario San Paolo di Torino amounted to ECU 30 million and was over seven years. The proceeds of this loan, which was co-managed by Crédit Lyonnais and Kredietbank alongside San Paolo, were intended to finance investment in public infrastructure works carried out by municipalities of Milan, Turin and Genoa.

Although ECU bonds might be replicated by a portfolio of bonds denominated in the component currencies, they offered special advantages to both borrowers and investors. The main advantage was that they represented a bundle of component currencies, and therefore lowered the transaction costs for creating a diversified currency position.

As a largely unregulated market, the Eurobond market emerged as a key market for the determination of debt financing for the world's major corporations. This market reflected the situation of a security that was underwritten by an international syndicate and offered for sale simultaneously in a number of countries. As a result, the issue was likely to be denominated in a currency that was foreign to many of the potential buyers. Because Eurobonds were always denominated in foreign currency and often sold in a style other than a "public offering", they were subject to a far smaller degree of regulation than either domestic or foreign bonds.

The prospectus for an ECU bond included the precise definition of the ECU to be adopted and the method of payment of interest and redemption should the ECU cease to exist.

Regarding the first distinction, the prospectus specified whether it was a closed or open ECU basket. The open form was the more common. A closed basket specification retained the definition of the ECU on the date of offering.

An open basket ECU bond specified that interest payments and redemption of principle had to be in terms of ECU as officially defined in the marketplace at the time of payment. Since the official definition of the ECU could be revised, the open basket carried a kind of redefinition risk or currency basket risk. This redefinition caused ECU interest rates to be higher than they would have been otherwise, resulting in a capital loss for holders of ECU bonds. San Paolo Bank estimated that the increase in interest rates resulting from redefinition was about 0.5 percent.

The open basket however allowed the borrower or investor to hedge currency risk using ECU futures and options which were also specified as open basket instruments.

If the ECU ceased to exist, its last definition would have been retained

The ECU bond market grew steadily and in several dimensions since its inception. The number of issuers, number of new issues and volume of new issues had all increased, indicating a broadening and deepening of market conditions.

In the international bond market, the share of issues denominated in units of account, including the European Variants and the SDR, constituted no more than 2-5% of total issues. The US Dollar alone accounted for 70-80% of total issues followed by DM. The US Dollar was used in 95% of total new lending. The use made of artificial claims was truly minuscule.

Few internationally active banks accepted deposits in SDR (clients: Arab monetary fund, Nordic investment bank) or, to an even lesser extent, deposits in ECU.

A bank receiving a deposit in SDR or ECU could only rarely find a borrower that would accept to be lent the deposit received in the same denomination.

To hedge itself against the foreign exchange exposure the bank had to acquire through spot or forward markets the corresponding assets in the constituent national currencies that made up the SDR and the ECU. To be assured of effectively being hedged would be a costly operation. These costs were reflected in being quoted a lower interest rate for SDR or ECU, weakening the competitiveness of the composite unit.

Companies and other borrowers in France were the most active issuers in the market, followed by EC institutions, then the United States, Japan and Italy.

The top 5 ECU bond underwriters in 1985 were the Banque Paribas with a share of 18.1 percent, Banque National de Paris with a share of 9.1 percent, Credit Suisse with 8.7 percent, Crèdit Lyonnais and Morgan Guaranty with a share of 5.9 percent.

For European corporations whose home currency did not have an active Eurobond market, the ECU was the obvious alternative to the US dollar.

The largest segment of the ECU bond market, sovereign borrowers, may have been attracted by the ECU's lower interest rate. Since the ECU interest rate was a mixture of the interest rates for its component currencies, the ECU interest rate was lower than for some component currencies and higher than for others.

Countries that issued ECU bonds enjoyed a lower nominal interest charge, but they took the risk that their currency might have depreciated against the ECU. To a larger extent, corporate borrowers may

have been attracted to the ECU bond market by swap opportunities: they could issue low-cost debt in ECU and then swap it into US dollars or other currencies.

Table 8 - Distribution of ECU bond market by type of issuer (May 1986)

Issuer	%
Sovereign	33.3
Supranational	24.3
US corporate	6.7
Japanese	6.6
French	7.1
Other	22.2
Total	100

Source: Merrill Lynch Capital Markets

Much less is known about the buyers of ECU bonds, but the retail segment was an important part of the Eurobond market, including the ECU bond market.

Other investors viewed the ECU largely as a speculation against the US dollar. If the dollar was expected to depreciate against European currencies, buying ECU bonds meant avoiding the problem of identifying which individual non-dollar bond to select while offering the investor a small expected yield pick up over Deutsche Mark bonds.

ECU bonds represented an exposure in these and other currencies that were offered to the investor at a substantially lower transaction cost than dealing in the component assets.

In general, both borrowers and investors could replicate their ECU bond activity by operating in the component currency bond markets. This kind of replication would have been costly in terms of transaction costs, information costs and capital market controls.

However, the markets in composite units tend to develop first on the deposit side and only later on the lending side, as evidence by the failure of a Euro credit market to develop in either SDR or ECU. That is why it was important to widen their use in invoicing and in the pricing of some important standardized commodities. By 1991, the ECU had become the second most important currency for bond issues, and the third most important for international loans, after the US dollar and the Yen.

5.5 Unit of contract in trade: invoicing with the ECU

If companies do not want to lose market share as a consequence of highly volatile and unpredictable foreign exchange rate fluctuations, they have to hedge, protecting their revenues, costs, and profit margins in an efficient way, avoiding losses on sales or purchases of foreign currency.

The use of the ECU as an invoicing currency represented a completely new phenomenon and it grew

as a result of the extreme variability of other currencies such as the US dollar or the Japanese yen in the period 1980-1985.

A typical importer and exporter has a preference for keeping his accounts and making calculations in his domestic currency. Multinational companies tend to be more flexible in their preferences. For some categories of internationally traded goods, where price quotations are made on the world market (commodities) in a leading international currency – e.g. US Dollars – it is standard practice to use that currency also for invoicing.

As a general rule it would appear that export credit financing facilities have tended to reinforce the preference of typical Western European exporters to use their domestic currencies.

Exporting countries invoiced in their domestic currency. The situation was different for strong currency countries like Germany and Switzerland.

The question was could the ECU be a suitable compromise contracting unit between the conflicting preferences of the European exporter and his trading partner?

For importing, the share of the Dollar was in most cases the same as the domestic currency and far in excess of the share of US exports in total imports of the country concerned.

The main reason for the large and rising Dollar share was obviously the increasing relative importance of energy imports invoiced in the US currency.

The potential role of the ECU as a standard of contract for European imports was consequently wider than on the export side, substituting for the Dollar as an invoicing currency.

Shifting to a different unit in invoicing did not make any fundamental difference to the trends in prices in the European currencies clustering around the ECU. Imagine, for instance, replaying the 1977-80 experience of significant Dollar instability against the initially stable and then rapidly rising prices of oil expressed in Dollars, but with the difference that European oil importers had persuaded the OPEC countries to invoice oil exported to Western Europe in ECU. Under this circumstance the movement seen in oil prices expressed in European currencies might have been marginally less pronounced.

This is a simple application of the observation that most primary products conform to the "Law of one Price".

However the EMS currencies showed considerable stability. The lower volatility of the EMS currencies was also confirmed by the lower average annual percentage rate of appreciation or depreciation of the rate mechanism of the EMS. As far as the ECU is concerned, its variability against its component currencies was generally smaller than the variability of their bilateral exchange rates and the short-term interest rate was relatively stable with respect to the US dollar and the Japanese yen.

The EMS successfully carried out its difficult task of containing exchange-rate fluctuations: evidence of this success was in the steady trend of component currencies against the ECU. In fact the ECU was the currency which offered both investors and borrowers the best guarantee of exchange-rate stability. For the borrowers in particular this stability meant an effective cost of indebtedness, which appeared far more advantageous if compared with other currencies like the US dollar.

The ECU also solved some of the difficulties which European operators usually incurred in transactions denominated in foreign currencies: for example hedging costs for weaker currencies were high and many European currencies were not easily available on the Euromarket. The ECU made it possible to overcome these difficulties because it was an instrument which contained a given quantity of each component currency and which allowed savings on the cost of covering.

While foreign exchange risk for companies which regularly traded within Europe could be reduced

by invoicing imports and exports in ECUs rather than in the individual currencies or in a third currency, the ECU was also helpful to those European companies which had commercial relations with non-European countries but did not have the contractual power to impose a currency different from the US dollar for the settlement of their transactions. Similarly for US companies it could have been profitable to invoice in ECU rather than in each of their European partners' currencies, even if the basket did not match the basket of currencies to which they were exposed.

The advantage for US companies was in this case enormous: in terms of the simplification of accounting and, as far as hedging was concerned, the fact that forward, futures and option markets were not fully developed in every European currency.

The ECU first appeared in the Italian invoicing currency breakdown of foreign trade in 1983. Its weight raised from 0.02 percent in 1983 to 0.13 percent in 1985 on the export side, and from 0.02 percent in 1983 to 0.23 percent in 1985 on the import side.

The use of the ECU as an invoicing currency started to develop essentially within the European Economic Community as an alternative to invoicing in local currencies; this was true for Italy, France and Belgium, where the private use of the ECU in general recorded the largest success.

Outside the EC, the ECU was used as a currency for the invoicing of very specific, ad hoc contracts signed between European firms and their partners, such as the Soviet Union and other countries that, for a variety of reasons, did not want to use the dollar in their trading.

A relatively important use of the ECU in invoicing practices involved also countries such as Switzerland and offshore centres.

Table 9 - Advantages and obstacles to using the ECU for invoicing

Advantages of ECU invoicing	Obstacles to ECU invoicing
Simplified forex and treasury management	No acceptance of ECU by trade partners
Simplified commercial operations	Lack of information on ECU's use
Simplified intra-group accounting	Foreign trade conducted largely with one country
Reduced need for price revision clauses	Operational practices too complicated
Improved competitiveness	Restriction imposed by exchange controls
Greater flexibility on settlement terms	Raw materials not priced in ECU on international markets

Source: ECU Newsletter, No.15, 1986

The use of the ECU as a transaction currency in international trade did not develop in the same way as its use on the markets. A small number of multinational companies found it useful to denominate internal invoices in ECU from the early 1980s, the most famous example being the glass division of Saint-Gobain. This type of use thereafter spread to external invoicing. The most interesting examples include multinationals such as Hercules, Tioxide, Firstone and especially Alcatel NV.

Moreover, international associations of firms or business organizations used the ECU as a currency for accounting and settlement in their internal clearing systems. Examples were Eurocontrol, Amadeus (a reservation system for air tickets and hotels), and European railway companies. The European Communities, through the Community budgets (Commission's operating budget, structural Funds, EDF) made wide use of the ECU as a transaction currency.

According to available information, the commercial use of the ECU appeared to account for no more than about 1% or 2% of the Community Member state's external trade.

There were a number of factors that explain the relative weakness of the ECU as a transaction currency.

First of all, as the ECU was not a national currency, there was no natural "user". International transactions involved existing national currencies, the most intensively used of which were protected against exchange and interest-rate risks by a range of sophisticated instruments. The principles of active, cash-flow management by a firm working in a foreign currency were not the same as those governing prudent management of a financial portfolio.

The firm needed to hedge against exchange rate and interest rate risk, but it also needed highly liquid financial instruments that produced a return while keeping funds available at very short notice. The financial investor needed to minimize the portfolio risk while ensuring a good yield.

The wide exchange fluctuations of the early 1980s did not create the same need for protection against risks on the exchange and transaction market as on the financial market.

On the exchange market short-term instruments were required; on the financial market a suitable portfolio might have been enough.

This partially explains the success of the ECU on the financial markets, while the development of short-term risk management instruments in ECUs lagged behind.

Consequently, the ECU was not so suitable for active cash management as other currencies with more highly developed and more liquid short-term markets.

Secondly, many importing and exporting firms traded with only one or two foreign countries, and rarely found themselves in a situation where they could insist on a particular currency of settlement. The fact that the ECU was not any country's national currency made it more expensive to use by firms that did not need to manage a multi-currency cash flow. This was because both purchaser and seller had to pay transaction costs since the ECU was a foreign currency for both.

It could of course be argued that such reasoning did not prevent the wider use of the US dollar by non-American firms. But the dollar was the currency of the world's most powerful economic and financial entity, and it developed into an international currency only after a century and a half of existence, as well as two world wars that seriously impoverished Europe and accelerated the collapse of the European countries' colonial empires. Moreover, the US Dollar continued to play a predominant role on the commodities markets.

Thirdly, one of the characteristic features of the behaviour of economic operators is inertia. Innovations always take time to develop and psychological resistance to change must be overcome. It took about fifteen years for a significant level of activity to develop around the new financial instruments such as options or forward contracts on interest rates or exchange rates perfected in the early 1970s.

The cost of overcoming the resistance of operators is not negligible: training the staff of customers and/or suppliers, introducing new data-processing systems, etc. Many firms were not prepared to incur such expenditure when the benefits were uncertain or unlikely to materialize for a long time.

The uncertainty about the future of the ECU that existed prior to the signing of the Maastricht Treaty certainly hampered the development of its use for commercial transactions.

Finally, one of the major reasons why the ECU was not more extensively used for transactions was that there were a number of legal and administrative obstacles to its use in the different Member States, for example regarding the measures concerning customs and taxation.

Except in France for direct taxes on income resulting from international transactions, and in the Netherlands for capital tax, all tax returns and settlements were in national currencies.

Apart from the fact that a company whose accounts were in ECUs was at a disadvantage if it had to produce accounts in its national currency for tax purposes, the difference in dates for translation from one country to another led to an accounting distortion in terms of outturn in relation to competing firms in other countries and for firms with multinational activities.

It was therefore important not only for the tax base to be determined in ECUs, and for tax to be calculated in ECUs on the basis of ECU accounts, but also for settlement of the tax to be possible in ECUs. This enabled the entire economic relation to be denominated and settled in ECUs, without any conversion.

Customs duties were governed by Regulation 523/91; customs valuation, customs duties, anti-dumping duties and other trade protection measures were all denominated and settled in national currency. This was even more paradoxical as customs duties constituted direct revenue for the Community budget, which was drawn up in ECUs.

It was fundamental to include an additional provision in Article 35 of the Regulation establishing the Community Customs Code which allowed the value for customs purposes to be expressed in ECUs, and to add an appropriate box in customs forms.

The same proposal for a Regulation was provided for the settlement of duties in ECUs, and the Member States were able to open ECU accounts to receive the payments.

5.6 ECU Option and Future

Exchange rate volatility can be defined as a primary source of uncertainty which influences the economic agents' behaviour and which, therefore, plays a major role in determining their decisions regarding the choice of currencies to be used in commercial and financial foreign transactions.

In a world characterized by volatile and unpredictable foreign exchange rate fluctuations, companies have to learn to hedge and therefore to protect their costs as well as their revenues and their profit margins in an efficient way; they must avoid losses on sales or purchases in foreign currencies; they must not lose, as a consequence, their share in the international markets.

Any analysis of the data on exchange rate variability confirms that, in the first half of the 1980s, the use of the dollar in financing and invoicing, especially by European market operators, would have involved a considerable risk, as regards both dimension and volatility.

And indeed the main reason which explains the growing interest in currency futures and options during the first years of the 1980s was the continued volatility and unpredictability in the major foreign currencies exchange rates against the US dollar.

The development and introduction of ECU futures and options soon followed the issue of the first ECU bonds and loans. Seven major exchanges in Europe and the United States offered ECU futures and options. The European Options Exchange (EOE) in Amsterdam launched the first option on the ECU in 1985. The New York Cotton Exchange (NYCE), the Philadelphia Board of Trade (PBOT) and the Chica-

go Mercantile Exchange (CME) introduced ECU futures and the Philadelphia Stock Exchange (PHLX) introduced ECU options in 1986. The London International Financial Futures Exchange (LIFFE) offered a three-month interest rate futures contract denominated in ECU in 1989 and an ECU bond futures contract in 1991. The Marche à Terme des Instruments Financiers (MATIF) in Paris introduced a 10-year ECU-futures contract in 1990. In addition, the Chicago Board of Trade (CBOT) obtained government approval for a three-month ECU interbank interest rate contract in 1991.

What considerations, and therefore what expectations, were at the basis of the decision taken by several Exchanges both in the USA and Europe to apply for trading ECU futures and options together with the already existent contracts on Pound Sterling, Deutsche Mark, Japanese Yen, Swiss Franc, etc.?

Let us consider first of all the behaviour of the daily US dollar /ECU spot exchange rate between January 1979 and September 1985: by looking at the trend over the entire period, it turns out that ECU futures and options would have been particularly profitable, if in existence, for buyers of put options or futures contracts for selling ECUs i.e. for US corporations receiving payments in ECUs and for those European operators with ECU revenues but with some of their costs denominated in US dollars. On the other hand, US operators with the obligation to make payments in ECUs would simply have not exercised their ECU call options or futures.

Anyway, what is interesting to observe is that in 1985 the trend reversed in the direction of an appreciation of the ECU, therefore suggesting a more profitable use of ECU futures and options by those operators that needed to buy ECU call options or futures.

According to the above considerations, the first to move to ECU futures and options were the Americans: this is an important aspect which has to be considered, because it means that, in the U.S.A., the ECU was more and more recognized as the European Currency, i.e. the currency of the European Monetary System.

Since the ECU was a currency basket made up of given quantities of its component currencies and also the central element of the EMS, for US companies trading with more than one European country it represented a convenient instrument for simplifying their trading accounting. They could forget about the behaviour of the individual currencies in which they were exposed since the ECU tended to reduce the effects of unexpected events in the exchange rates of its component currencies.

For European companies trading extensively outside Europe that did not have the contractual power to impose any other currency than the US dollar for their transactions and whose domestic currencies were not already listed in those markets, listed ECU futures and options would have given them the possibility of shifting the exchange rate risk from the dollar to the ECU, with clear advantages in terms of variability and predictability of making optimal choices.

In addition, it offered the possibility of getting closer to the ideal matching of currencies in which they operated, thus minimizing the costs of a multicurrency treasury management.

It follows that, in retrospect, the operation of these futures and options markets definitely had a boosting effect on the development of the international use of the ECU: European companies were more and more inclined to invoice in ECUs, which their US partners easily accepted, so reducing the weight the dollar had in international trade.

In addition, combining a US dollar/ECU contract with a US dollar/Yen contract also made it possible for Japanese operators to hedge against movements in the ECU/Yen exchange rate, therefore extending the possibility for operators in the Yen monetary area to trade with their European counterparts by means of just one currency representative of the European area.

As a consequence, other countries (for example, oil producing countries) were therefore favourably

disposed to accept the denomination of their trade with Europe in ECUs, with great advantages for European countries.

At that time, no less than four US Exchanges and three European Exchanges announced their intention to trade ECU/US dollar futures or options. The ECU futures proposed contracts were the following:

- ▶ New York Cotton Exchange (NYCE), New York, with a contract size of 100,000 ECUs;
- ▶ Chicago Mercantile Exchange (CME), Chicago, with a contract size of 125,000 ECUs;
- ▶ London International Financial Futures Exchange (LIFFE), London, with a contract size expected to be of 125,000 ECUs.
- ▶ On the other hand, the proposed ECU options contracts were the following:
- ▶ Philadelphia Stock Exchange (PHLX), Philadelphia, with a contract size of 62,500 ECUs;
- ▶ European Options Exchange (EOE), Amsterdam, together with the Montreal Exchange (ME), Montreal, with a contract size of 125,000 ECUs;
- ▶ Pacific Stock Exchange (PSE), San Francisco, with a contract size of 125,000 ECUs;
- ▶ London Stock Exchange (LSE), London, with a contract size expected to be of 62,500 ECUs.

The London International Financial Futures Exchange (LIFFE) introduced a three-month ECU interest rate futures contract on October 28, 1989. This contract was based on the bid/offer midpoint forward-forward interest rate for the ECU. It allowed an entity to engage in liability risk management by limiting the exposure to rising interest rates and asset risk management by limiting the exposure to falling interest rates.

In March 1991, LIFFE also introduced a bond futures contract. As result of the minimal trading volume of this contract, LIFFE made important changes to the specifications, most notably in the bond issues permitted for delivery, effective from March 1992.

To be included in the LIFFE Deliverable Bonds list, a particular issue had to:

- (a) be a direct, unsubordinated debt obligation of a sovereign country or its government;
- (b) have an aggregate amount of at least ECU 1 billion, solely payable in ECUs;
- (c) have a remaining maturity of between 6 and 10 years with a single redemption date;
- (d) be not callable;
- (e) not bear an investor put option except for default events;
- (f) bear a single, fixed interest rate with annual or semi-annual payments in ECUs;
- (g) be fully paid and eligible for secondary trading;
- (h) be deliverable through Cedel or Euroclear;
- (i) not be subject to withholding tax; and
- (j) be listed or quoted on a stock exchange.

In late 1990, the Commodity Futures Trading Commission of the United States approved a new ECU bond futures contract as a hedging instrument at the Chicago Board of Trade (CBOT). This contract was based on three-month ECU interbank interest rates similar to the LIFFE and MATIF contracts.

The CBOT contract required the delivery of an ECU bond on the CBOT Qualification List for the delivery month when the futures contract was settled. Bonds had to have the following characteristics on the delivery date to be eligible for that list:

- (a) issued by, or a direct obligation of, a national government (domestic or sovereign Euro issue) or a supranational entity;
- (b) aggregate amount of at least ECU 1 billion and repayable in ECUs;
- (c) implicit or explicit AAA or Aaa Standard & Poor's or Moody's rating;

- (d) initial maturity of less than 1-2 years and a remaining maturity between six and 10 years;
- (e) single redemption date;
- (f) non-callable other than withholding tax call;
- (g) no investor put except related to events of default;

The most probable users of ECU futures and options were foreseen as being principally US corporations which were invoiced in ECUs or which were invoiced in a cocktail of ECU component currencies; US investment and pension funds managers with a wide selection of European securities in their portfolio or ECU denominated investments; multinational corporations with a multicurrency exposure in Europe. A role was played also by European corporations whose domestic currencies were not regularly treated in forward and future markets and by the international banks most active in the ECU market. In addition, through cross operations, these instruments were profitably used by traders and investors from areas other than USA and Europe, primarily Japan.

The idea behind those contracts was that, in a context of floating exchange rates, the best way to look at the US dollar exchange rate was to consider its real «effective» exchange rate in terms of a basket of currencies, weighted according to the share of each country whose currency was in the basket, in the total trade of the countries whose currencies were also in the basket. The currencies to be included were the following ten: Deutsche Mark, French Franc, Swiss Franc, Belgian Franc, Pound Sterling, Dutch Guilder, Swedish Krona, Italian Lira, Japanese Yen and Canadian Dollar.

Six of these ten currencies were already in the ECU basket, with a weight of approximately 95%. It was therefore easy to expect that the futures contract based on the real trade-weighted dollar index would have shown a very high degree of correlation with the ECU futures contract.

According to the New York Cotton Exchange, the US dollar index contract would have interested anyone with extensive international operations denominated in different currencies and thus with a necessity to minimize foreign exchange risk.

This futures contract would have offered US cotton market participants, who conducted their business in several foreign countries, the opportunity to hedge against adverse foreign currency movements.

In particular, three groups of hedgers were expected to use this contract: portfolio managers with diversified currency expositions; borrowers whose debts were denominated in ECUs or SDRs; multinational companies.

For US customers, the two contracts to be offered by NYCE had therefore to be essentially complementary.

In an attempt to show that Europe would not have been beaten by the USA as regards the development of its monetary area and its common currency, in April 1985 a Joint Working Party of the London Exchanges was convened by the Grain and Feed Trade Association (GAFTA) and the London Commodity Exchange (LCE), with the purpose of studying the feasibility of establishing an ECU futures or option contract to be listed in London.

Represented in this Working Party were the London International Financial Futures Exchange (LIFFE), the Stock Exchange and the London Metal Exchange (LME).

Major European banks were also represented.

The unanimous decision taken was to introduce an ECU futures contract into the London Financial Markets, and to actively to support any moves towards developing ECU options and interest rate instruments. As a result, the London International Financial Futures Exchange accepted, in the middle of June that year, to organize and introduce such a futures contract based on the ECU and quoted in US dollars, with a size strictly recommended by the Working Party to be of ECU 125,000.

The preference for a futures contract over an option contract was due to LIFFE's observations about the problem of initial liquidity in the market, and the fact that the concept of futures was an easier one to understand and to deal with.

The Futures Markets originated to fulfil a temporal gap between the production, sale, purchase and consumption of staple commodities such as grain, coffee and sugar. This was exacerbated by the requirement to transport the harvested goods from the place of production, commonly underdeveloped countries, to areas of consumption, which increased the delay between production and consumption and therefore the risks from price movements. The period of rapid inflation in the western world during the last decade of the 70s and the increasingly volatile conditions in exchange rate and interest rate behaviours extended the use of these markets to currencies and interest rates.

A fundamental aspect of futures trading is the so-called «margin system», i.e. the necessity for the futures broker to put up a deposit on his clients behalf and to their account. This deposit is lodged with the Clearing House and, should the market move against a client's position, further funds are required to make up this erosion of the original deposit, even though such a movement is accompanied by improved physical conditions.

With the high proportion of banks already members of LIFFE, the potential offered by ECU futures was quickly noted and it was confidently predicted that the competitiveness of quotes on interbank facilities such as options, swaps and FRSs in ECUs would have increased accordingly as banks used the futures contract to hedge the book risks involved.

Equally, ECU futures would have offered direct access to ECUs for commercial organisations as an alternative to relying strictly on their bankers. ECU invoicing in international trade would have been considerably facilitated as receivables would be able to be temporarily substituted by futures contracts.

Contemporaneously to the interest from USA and UK Exchanges in introducing ECU futures contracts, as of the spring of 1985 considerable interest also started developing for ECU option contracts.

The first to apply to the US Securities and Exchange Commission (SEC) for permission to introduce an option contract based on the ECU was, in April, the Philadelphia Stock Exchange (PHLX), probably the largest market at that moment.

An American-style option (i.e. exercisable at any time), the ECU contract was exercised through receipts and deliveries of ECUs rather than through a cash-settlement process.

According to the PHLX, which was planning to trade ECU options before the end of 1985, this new instrument, which combined the usual flexibility of the traded options with the rapidly growing ECU market in Europe and in the rest of the world, was going to offer corporate treasurers and investors an extremely practical and versatile means of participating, by hedging and/or investing, in the ECU market.

Following the decision of the PHLX, other Exchanges started to arrange their own ECU option contracts.

The European Options Exchange (EOE) in Amsterdam introduced an ECU 125,000 contract, which was to be treated from the start on its link-up with the Montreal Exchange (ME). In the USA, the San Francisco-based Pacific Stock Exchange was also waiting for authorization from the US SEC to start its own contract denominated in ECU. The contract size was to be ECU 125,000. Lastly, the London Stock Exchange was also interested in offering an ECU option contract, whose size was to be ECU 62,500.

Parallel to the development of listed option contracts proposed by US and UK exchanges, an over-the-counter market for tailor-made ECU options was already in existence, even though the liquidity of such contracts was low (being non-standard in their specifications, generally they could only be sold back to the institution from which they were bought) and they were quite expensive (the risk for

the institution which made these instruments available was high, again because these contracts were specifically tailor-made). ECU over the-counter options had increasingly become available from the banking system.

Generally speaking, bank options were more flexible than those officially listed in the Stock Exchanges since they were specifically arranged to satisfy each customer's necessities and therefore were not constrained by standard contract specifications.

In this context, an interesting operation was arranged in the USA by Salomon Brothers Intl. through its holding company Phibro-Salomon Inc., which launched in September that year what looked like being the first o-t-c ECU option listed on a stock exchange, namely the Luxembourg Stock Exchange.

These one-year put and call US \$/ECU warrants gave the holder the right to buy or sell ECU against US dollars (ECU 10,000 per warrant) at a fixed price, so offering investors and traders a first flexible instrument for hedging and trading optimally. The issue originally consisted of 30,000 one-year warrants evenly split into put and call options of 10,000 ECUs each, but due to the high demand for call options coming from US investors, 5,000 additional call warrants were later issued, so reaching a total amount of ECU 200 million in calls and ECU 150 million in puts. Options expired on September 1986 and could be exercised at any time until that date (American type). The exercise price for each call warrant was \$ 7,865, which means an exchange rate of \$ 0.7865 per ECU, while for each put warrant the price was \$ 7,765, which represented an exchange rate of \$ 0.7765 per ECU.

The purchase price of warrants of course changed with the change in the ECU spot exchange rate: for example, on the same day of launch, based on a US \$/ECU rate of \$ 0.785, prices were \$ 408.2 per call warrant and \$ 378.9 per put warrant. On the same day, both call and put options were out-of-the-money respectively by 0.2% and 1.1%; by the end of September 1986, call options were in-the-money by approximately 8% while put options were still out-of-the-money by approximately 9%, therefore suggesting that the investment was particularly good for those US operators with ECU paying commitments to Europe who bought ECUs against US dollars.

Although, at ECU 10,000, the size of the warrants seemed to be too small for the needs of many financial and commercial operators, they nonetheless found a good retail demand in addition to the wholesale placement.

The reasoning underlying the meetings of the Joint Working Party in 1985 for the establishment of an ECU futures contract in London started from the consideration that a major change in the trade of agricultural products had taken shape since 1972.

Relying on imports of grain, sugar and dairy products from Australia, New Zealand, South and North America, Europe was not self-sufficient in many agricultural commodities.

It is not in the terms of this discussion to argue the rights or wrongs of the Common Agricultural Policy, but rather to make the observation that, through its machinations, Europe had to deal with supporting its internal farming population through guaranteed prices. However, since these support prices were so far above the world price, in order to make European exports competitive, subsidies had to be paid to the currency imbalance of international traders but also had to provide long term protection against erosion of profitable opportunities. For instance, in the grain trade, where everything was denominated in US dollars, export restitutions were determined in the following way:

Restitution = [Refund (in ECUs) x Green Rate x monetary coefficient] + [(international market price - intervention price) x Green Rate x * monetary coefficient).

Any subsequent erosion in the value of ECUs against the US dollar, after a trader successfully applied

for an export licence, reduced the potential profitability of that export opportunity. On the other hand, once an export licence was held, by hedging the ECU/dollar relationship at the time, a grain exporter not only protected against the currency risk in the deal but also allowed time in which to make the grain purchases.

The same applied to all areas of European agricultural trade supported by the CAP and, further, in more international commodity areas where an interface existed between production of raw materials or manufactured goods priced in a domestic currency and its resale to dollar-based world markets.

In conclusion, ECU futures and options permitted European farmers to fix their incomes denominated in US dollars so protecting them against ECU/US dollar fluctuations.

At a more general level, two aspects at least had to be considered in order to assess the significance of the traded ECU futures and options.

First of all, the ECU futures and option contracts offered were ECU/US dollar contracts, which therefore reflected the dollar exchange rate variability and unpredictability with respect to the European currency. Since the ECU in general tended to average the fluctuations of its component currencies, the variability of the ECU/US dollar exchange rate tended therefore to average the variability of the exchange rates of each of the ECU component currencies with respect to the US dollar.

It follows that, for US companies with exposure in different European currencies, it was profitable to concentrate and hedge against the ECU/US dollar exchange risk, and consequently take the risk, by definition quite low, between the ECU and those component currencies in which they were exposed, considering also the fact that listed options and futures were not available for each and every European currency option.

In this respect, ECU futures and options had to compete directly with the already existent traced futures and options on the Deutsche mark and Pound sterling. It had also to be considered that ECU futures and options were relatively expensive compared with the alternative ways available to cover against adverse fluctuations in exchange rates.

Finally, if the main advantage for a US treasurer was that the ECU gave him the possibility to simplify his books by dealing with only one foreign exchange exposure instead of (at maximum) ten, for some of which hedging techniques were not fully available, and with a currency which was inherently stable, it must also be said that, if the matching of the currencies was not approximately right, the US treasurer could have preferred to deal with individually tailored over-the-counter options or listed options in the European currencies he had to deal with.

Secondly, ECU futures and options were of interest for those European companies whose national currencies were not international currencies and which, therefore, had to accept the denomination of a considerable amount of their foreign trade in US dollars.

For these companies, the availability of ECU options and futures allowed the shifting of their exchange risk from the dollar to the ECU. Less enthusiasm was of course expected from those operators in countries such as Germany and Great Britain, where it was already possible to trade listed options and futures denominated in their own currencies against the US dollar, and where, therefore, a development of ECU futures and options could only be foreseeable in the case of comparative advantages in terms of costs of these instruments and the variability of the domestic currencies with respect to the ECU and to the US dollar.

But the customers who were expected to enter the listed ECU futures and options market were first of all the banks: this of course follows the consideration that the ECU market mainly consisted of in-

ter-banking activities. European banks were expected to make the first move, but international banks from all over the world soon followed as can be seen from the fact that several hundred banks from more than 30 countries were involved in ECU foreign transactions and ECU deposits.

The number of these activities and products denominated in ECUs offered by banks to their customers increased considerably once the banking system made use of listed ECU futures and options contracts.

In addition, these markets were the place where banks could finally hedge their positions, with the necessary liquidity provided, following the arrangements of o-t-c options in ECUs granted to their clients.

As far as currency options are concerned, they came into use in the early 1980s as a consequence of increased foreign exchange market turbulence: the Philadelphia Stock Exchange began trading currency options in 1982 and from that date both the interbank over-the-counter currency options market mainly centred on banks (the benefits of which lie in their flexibility since their contract amounts and specifications were individually tailored to suit any type of circumstance) and the listing in other Exchanges all over the world, such as in Chicago, Montreal, Amsterdam, Sydney and London (LIFFE and the Stock Exchange), began to surge.

Options were similar to futures contracts insofar as there was a buyer and seller for each option contract. However, options were categorised by the nature of the right they conferred to their holder.

Every option contract specified the amount, the exercise price and the expiry date. A call option gave the buyer the right, but not the obligation, to buy the contract amount of currency at the exercise price on or before the expiry date, whereas a put option gave the buyer the right, but not the obligation, to sell the contract amount of currency at the exercise price on or before the expiry date. It follows that the buyer of a call option expected the currency concerned to appreciate against the US dollar (all currency option contracts were at that moment quoted in US dollars), while the buyer of a put option expected a depreciation of the currency concerned.

The price of an option varied with the circumstances of the underlying market.

In order to make a constructive use of options, a balance had to be struck between the price (premium) of an option and its relationship to the market. An option with a large «intrinsic value» is said to be «in-the-money»: that means for a call option the exercise price is below the spot exchange rate in dollars per unit of currency and, conversely, for a put option the exercise price is above the spot exchange rate. It was possible for an option to have no «intrinsic value» whatsoever, with the premium only reflecting the option's «time value»: such call option was defined as «out-of-the-money» if the exercise price was above the spot exchange rate, and only appealed for certain taxation scenarios, or was termed «at-the-money» if its exercise price equalled the spot exchange rate.

Selling (or writing) options was subject to deposits or margins like a normal futures contract since it had to be assumed, from the point of view of the Exchange Clearing House, that the option buyer would have exercised and required the appropriate underlying commodity or cash position.

On the other hand, the option premium, like an insurance premium, was paid by the option buyer at the outset and was credited to the seller or writer. Although this facility proved highly attractive to traders in non-financial commodity markets, a trend developed towards applying a deposit system to option premiums, which was successfully pioneered by US Exchanges and the London International Financial Futures Exchange (LIFFE).

Trading in futures or options was mainly conducted through the Exchanges, even though considerable activity took place in informal, over-the-counter markets. Mainly centred on banks, the latter offered more flexibility since their amounts, strike prices and maturity dates were agreed between buyer and

seller to satisfy specific requirements; on the other hand, their cost was generally greater and a buyer did not have the benefit of a liquid two-way market to be able to re-sell an option if required.

5.7 Other private ECU uses

The ECU made other inroads into the lives of EC citizens. Private ECU services offered by a growing number of financial institutions comprised traveller's cheques, credit cards, mortgages (some Italian banks denominated up to 30 percent of their new mortgages in ECUs) and sight, time and savings accounts. The ECU was particularly advantageous for the private customer.

The alternative, known in its full extent to every traveller in Europe, was a diverse and sobering assortment of traveller's cheques and banknotes in at least a dozen denominations.

A number of European banks offered sight accounts, time accounts and savings accounts in ECUs.

These fees would be likely to decrease with the increase in the number of ECU accounts and in interbank competition following the transformation of the ECU. At the beginning, however, account transfers in ECUs still were considered "special services" to a limited number of customers in a market with limited competition. Therefore, the banks were able to charge substantially higher fees for such services. In order to promote and facilitate the use of ECUs, San Paolo Bank reduced its fees for ECU transactions by 50 percent in June 1991.

Société du Cheque de Voyage and Thomas Cook issued the first ECU traveller's cheques in 1985. These cheques were purchased in the buyer's national currency and were then negotiated with affiliated banks or businesses for payment in the national currency in the foreign country. About 90 percent of the payments were made at affiliated banks.

The advantages of ECU traveller's cheques were essentially fourfold. First, the users of such cheques could take advantage of the periodically fixed rate of the ECU against the EC currencies when travelling through EC countries. Second, users from countries with weak national currencies could avoid exchange losses on cashing such cheques because the value of the ECU would not change.

If such users had bought cheques in their own currencies, a possible devaluation would have decreased the amount of currency available to them later in the foreign country. Third, all major banks in the EC and other western European countries, as well as an increasing number of retail stores, accepted the ECU as a currency for payment. This facilitated currency management for the travelling party. In this respect, it must be kept in mind, however, that this system required the retailer to offer its goods, and to accept payment, in ECU. This resulted in increased administrative expenses, monetary as well as intangible, to the retailer. This problem was solved by introducing the ECU as sole legal tender.

Fourth, the ECU also could be exchanged for any of the basket currencies at relatively stable rates. In general, ECU traveller's cheques provided the traveller with the convenience of one currency, the general facilitation of international travel, savings in the form of decreased exchange rate fees and security as a result of the inherent stability.

The first ECU credit cards were issued in Luxembourg in September 1983.

Balancing and settlement procedures were carried out in ECU via an ECU current account.

Visa International and Eurocard International accepted the ECU as an official denominator for payments and transactions. The traditional Euro cheque guarantee was extended to the ECU for ECU 170 per cheque as of January 1, 1991. This action made the ECU a valid currency for payments in the pan-European Euro cheque system even though the amount of ECU Euro cheques was still very limited.

The ECU was also slowly gaining importance as a denominator for the pricing of retail goods in some EC countries. Usually, such pricing took the form of parallel pricing with the national currency and the ECU.

All residents and non-residents were encouraged to use ECUs for payments of all kinds. This measure was quite successful, with up to 10 percent of transactions being conducted in ECUs during that month. A similar action took place in the town of Belleme in Normandy. For two days in June 1991, payments for goods and services could be made with specially minted ECU coins. These coins were also freely exchangeable into any EC currency. The success of these programmes, albeit of limited time and area, indicated that some EC citizens were actually prepared to accept the ECU as their daily currency.

An area with increasing interest in the use of ECUs was the \$800 billion pension industry in Europe. With increasing intra-EC mobility as a result of the creation of the Single Market, companies and employees were searching for a denominator for their pension plans which could have both decreased exchange risk to the provider and stability for the recipient of the pension.

6. Continuity and innovation in the transition from the “old” ECU to the “new” ECU: the Maastricht Treaty

The Maastricht Treaty marked a major turning point in the history of the ECU. In fact, what had previously been a “market currency” became the official currency of a Union which was increasingly acquiring political weight and was itself beginning to achieve, in some respects, the status of a single state. As stated in the new Treaty, the European Monetary Union claimed a “nationhood” of its own which entitled European citizens to special rights. Also, it was based – as is already the case today – on a juridical system directly applicable in the EEC member countries. The ECU was no longer a mere monetary formula for the use of the European Community, still looking somewhat fuzzy in terms of its juridical and economic significance. Rather, it turned into the currency of a new-born “State” – i.e. the Union of European States – as defined in the context of the new legislative provisions by which economic unification is to be governed. Following approval of the new Treaty by the European Council and the endorsement of this document by the EEC foreign ministers, in December 1991 and February 1992 respectively, a debate was triggered on the nature of the European Union’s new currency. Some observers emphasized the elements of continuity with respect to the ECU as first conceived in 1979, when the European Monetary System was created. Others preferred to underline the new aspects of the European currency, thus making an implicit distinction between the “old” ECU and the “new” ECU.

The turning of the ECU basket into an ECU currency was a factor of great significance for the ECU financial market.

The commitments subscribed to by the Member States of the European Community during the Maastricht summit conference can be said to have traced out the course of events from the European Monetary System to the birth of a single European currency.

Three stages can be outlined:

Stage One of Economic and Monetary Union in 1990-1993. The powers held by the Committee of Governors were institutionalized; three subcommittees were created whose responsibilities were re-

spectively in the fields of monetary policy coordination, of exchange rate policy, and of banking supervision; a joint research unit was set up.

These bodies represented the core of the prospective European monetary institutions.

The effects of Stage One with respect to monetary policy were important: the member states undertook to not have frequent recourse to EMS realignments, to place all the EC currencies inside the narrow fluctuation band, to abolish all restrictions to the free circulation of capital, to eliminate all obstacles in the way of the ECU's further growth, to coordinate monetary policies and jointly oversee the functioning of the common monetary system.

The Maastricht Treaty further refined the measures adopted in Stage One:

No restrictions whatsoever to capital movements were to be permitted, whether inside the Community or in relation to non-member countries. Member states were prohibited from financing national government deficits, or the deficits incurred by national public-sector entities, from their central banks. In the process leading to the independence of central banks, the Treaty prohibited them from granting governments overdraft facilities or any other type of credit facility and from purchasing public sector debt instruments directly from them (Article 123 TFEU, ex Article 101 TEC). The Member States were required to adopt long-term convergence programmes, with particular reference to price stability and public finance issues.

The ECU basket composition could no longer be modified until the time the ECU was to be converted into the single currency.

The second phase of Economic and Monetary Union was due to begin in 1994. Its main target was to ensure convergence of the Member States' economies as well as preparatory work for Stage Three. The commitments involved in Stage Two can be outlined as follows: Member States were required to undergo mutual supervision over the percentage of their deficits. The reference value was 3% of GDP for the annual public deficit, and 60% of GDP for the total public debt.

Any automatic solidarity commitment by the EEC and other Member States to aid countries faced with problems was expressly abolished. The Member States were required to ensure that domestic legislative provisions concerning their central banks conformed to the principles of Economic and Monetary Union.

The European Monetary Institute (EMI) was established.

In order to be admitted to Stage Three the EC member countries had to comply with the following requirements:

- ▶ inflation was to be no more than 1.5% higher than the rate recorded by the three Member countries with the lowest inflation rates;
- ▶ no excessive deficit was to be recorded (over 3% of GDP)
- ▶ no currency devaluation was to voluntarily take place during the two consecutive years preceding the formal verification of convergence.
- ▶ nominal long-term rates were not to be over 2 percentage points higher than those recorded by the three member countries showing the lowest inflation.

Stage Three of Economic and Monetary Union was scheduled to take effect no earlier than 1 January 1997, and no later than 1 January 1999. The following developments were due to take place in the course of this last lap:

- ▶ The European Community would have the powers to apply appropriate sanctions against those countries which appeared to infringe the EC financial regulations after joining Stage Three.
- ▶ The position of those states that were granted a dispensation (and were therefore temporarily left

out of EMU) had to be subject to reconsideration every two years;

- ▶ The European Central Bank System (ECBS) was to be created, in several respects similar to the model of the U.S. Federal Reserve System and the German Bundesbank,
- ▶ Beginning on the first effective day of Stage Three, the European Central Bank System was to exercise its own exclusive responsibilities in monetary matters.
- ▶ The rates of exchange between the currencies entering Stage Three were to be irrevocably fixed,
- ▶ The rates of exchange between the currencies entering Stage Three and the ECU had to be irrevocably fixed.
- ▶ The ECU had to replace the national currencies at the earliest possible date.

6.1 The European Monetary Institute (EMI) and the ECBS

The EMI, was run by a President, a Vice-President, and by the 12 national central bank governors. On recommendation from the governors, the President was named by the Heads of State and Government. It was scheduled to become operational on 1 January 1994, and was to be dissolved on the starting date of Stage Three.

Its responsibilities were: to coordinate monetary policies; to oversee the regular functioning of the EMS; consultations between the central banks regarding problems connected with the markets' stability; promotion of the use of the ECU; ensuring that the ECU clearing system was functioning correctly; to prepare the monetary policy instruments required for Stage Three; cross-border payment facility; the technical preparation of banknotes.

The European Commission and the European Monetary Institute were to submit opinions on each Member State for admission to Stage Three. They were to check on the existence of a majority of Member States which met the established convergence requirements, and to report to the Council of Ministers on this subject.

The Council of Ministers, based on the report received, was to reach the following decisions by qualified majority:

- ▶ Whether or not there exists a majority of states that have met the convergence requirements;
- ▶ What date should be selected for the beginning of Stage Three; which Member States should be granted an extension.

Should the Council of Ministers have expressed an unfavourable opinion on any one of the above-listed items, then the European Council would have been called upon to decide by a qualified majority on the proposal of the Commission and the European Monetary Institute about which States might or might not be admitted to the third and last phase of the Economic and Monetary Union.

The ECBS consists of the European Central Bank (ECB) and the national central banks (Bank of Italy, Bank of England, Banque de France Deutsche Bundesbank, and so forth).

The ECBS is independent of the national and European government authorities. Its mandated function is to ensure monetary stability. The European Central Bank (ECB) is managed by an Executive Board including members of the 12 national central banks, and an Executive Committee consisting of the Chairman, the Vice chairman, and four more members.

The European Central Bank is responsible for all monetary policy decisions; it also controls the money supply and regulates the issue of banknotes.

6.2 The market reaction

Throughout January and February 1992, the market displayed a positive reaction to the announced political will of the governments to establish a single currency. The favourable response of the market was most clearly revealed by the fact that issues had generally come with very long maturities, in excess of 10 years.

Before the Maastricht summit, the longer end of the market with bond maturities of more than 10 years was not yet particularly developed. There had been occasional issues since 1982 i.e. when the market was first starting to get off the ground, but then these issues were mostly very small in size, as shown in the table below.

Table 10 - Breakdown of bond issues over 10 years

Year of issue	Volume in millions of ECUs
1982	60
1983	220
1984	535
1985	623.5
1986	760
1987	175
1988	0
1989	0
1990	2,950
1991	3,946
1992	3,650
Total	12,919.5

Source: ECU Newsletter

Not until 1990 did the ECU long-bond segment (over 10 years) begin to look like a typical long-term securities market, such as for example the U.S. dollar, sterling, or French franc sectors which were characterized by large-sized issues by public-sector entities borrowing on a long-term basis from institutional investors (insurance companies, pension funds).

The first public-sector borrowers to go on record as steady users of ECU-denominated securities with maturities of over 10 years, even before the very long end of the market had fully developed, were French public-sector organizations (the French public utility company in the electricity sector made use of this type of instrument in 1982, 1985 and 1990), the Community institutions (the EIB, Euratom, the EEC and the ECSC), as well as EC member states, non-EC public-sector organizations (two South African issues and several Scandinavian issues). However, the two 1990 issues launched by France and Italy respectively were the ones especially responsible for the recovery of a market segment that seemed to have exhausted its growth potential over the two preceding years.

One Italian 15-year issue worth ECU 1 billion and one French 11-year issue (OAT) paved the way, in 1991, to yet another French 11-year OAT issue (running to ECU 1,446 million) and one more Italian 20-year issue that was ECU 2.5 billion in size.

Following the Maastricht summit, France launched a 30-year domestic bond (OAT) for ECU 1.5 billion. Finland and the French railway company also raised sizable ECU funds by means of 15-year issues, and Cr dit Foncier, which once before in 1984 had arranged a 12-year issue that was much smaller in size (ECU 70 million), came back to the market with a new ECU 1 billion 12-year bond.

Over a period of no more than two months since the Maastricht Summit, securities issues with a maturity of over 10 years had so far reached an aggregate ECU 3.6 billion. This fresh tendency to lengthen the bond maturity range could perhaps be explained on the following grounds:

- ▶ after 1999, the ECU was to provide the EC economy with one of the largest bond markets in the world. The ECU market had an extremely high level of liquidity as one of its specific features, and this element in itself was bound to make longer-term instruments increasingly popular.
- ▶ by subscribing to the Maastricht Treaty, the governments of the EC member nations undertook to guarantee a non-monetary type of financing for public deficits of a limited size.

All the EC member states committed themselves accordingly, and during Stage Two of the economic and monetary union, steps were to be taken to achieve this objective. In view of the need to comply with the criteria set forth in the new Treaty, the EC member states were likely to limit their recourse to short-term borrowing in favour of longer-term debt in a strong and stable domestic currency, such as the common currency that the ECU was expected to become.

On balance, the evolution of the ECU bond market during 1991 looked largely positive. In fact, new issues rose by 49% from the previous year (ECU 26.3 billion versus 17.6 billion in 1990); the share of the Eurobond market held by the ECU expanded from 8.5% to 10.7%; and the European currency unit proved to be the third most important denomination currency behind the U.S. dollar and the yen. The degree of bond liquidity also increased, and the average size of new issues went up from ECU 200 million to ECU 289 million.

Likewise the percentage of issues amounting to ECU 500 million or more in size climbed from 43% to 51%.

The range of borrowers also expanded: there were 34 first-time issuers in the ECU market in 1991 against 14 the previous year. The geographical area of currencies linked to the ECU reached further beyond the boundaries of the European Community.

After Norway, also Sweden and Finland decided to link their own currencies to the ECU in 1991, a development that brought an increasing utilization of the ECU by Scandinavian market agents.

The year's events were then sealed by the Maastricht agreement reached by the EEC member countries, involving a commitment to form the European monetary union in 1999 at the latest, and to adopt the ECU as Europe's common currency.

The support coming from the European member states and from the EEC institutions was a decisive factor in the growth of the market: in fact they arranged numerous large-sized issues over the entire maturity range, thereby generating liquidity and establishing benchmarks for the market.

Sovereign and supranational bonds still represented the predominant share of new issues, and it was of interest that the lows in primary market trading occurred whenever public-sector borrowers were no longer active.

6.3 The issue of re-defining the ECU

Moreover, market trends in 1991 were strongly influenced by the much-debated issue of re-defining the ECU. Two different proposals were made in the few months ahead of the Maastricht summit:

one of them envisaged the possibility of freezing the basket and abolishing 5-year revisions;

the other supported the introduction of a no-devaluation clause ("hard basket" ECU) whereby, in case of EMS realignments, the basket weights would have been altered in order to keep the ECU exchange rate with the strongest currency constant.

The second of these proposals (which was endorsed by Germany, Spain and the UK) was meant to increase the weight of the strong currencies in the ECU interest rate, making the ECU a close substitute for the Deutschemark.

The freezing solution (proposed by the European Commission and championed by the majority of EEC countries) would have instead achieved a closer link between the ECU interest rate and the average interest rate for the basket currencies, by eliminating all differences between an ECU position and a similar "synthetic" position in the component currency basket.

When it seemed that the "hard basket" proposal would prevail, a strong demand flow was recorded. In fact as investors anticipated a convergence of the ECU rates towards the DM rates, they attempted to create positions especially in the long term for the purpose of achieving capital gains.

On the contrary, the freezing alternative was widely viewed as a "second best" choice, so that the possibility of its being approved actually drove several operators away from the market.

The Maastricht summit put an end to the controversy. The EEC countries ultimately adopted the basket freezing proposal, while the enforcement of strict convergence requirements for member states wishing to join monetary union revived expectations of a gradual interest rate reduction, stimulating investor demand for ECU bonds, particularly those at the long end of the market.

Despite the ECU becoming more and more widely use as a financial market instrument, the main obstacle in the way of its full growth was the fact that the European currency unit was still not being utilized as an end-means of payment and settlement of transactions. Sovereign issues ultimately served to increase the member states' currency reserves, whereas the funds so borrowed by the banks were invested in financial operations. Non-bank enterprises tapped the ECU market almost exclusively for the purpose of raising funds in other currencies through swap deals. Out of the total amount of new issues, the share held by such enterprises dropped from 19% to 14.5% between 1990 and 1991.

The successful conclusion of the summit meeting occasioned a rally in the ECU market. Such renewed confidence in the ECU was essentially due to the following developments at Maastricht: a definite deadline was established for the implementation of EMU (1999 at the outside); the ECU was accepted as the European Community's single currency; convergence criteria were fixed for the member state economies, which should guarantee a gradual decrease in interest rates; and lastly the ECU basket composition at that time was frozen.

In January 1994, interest rates fell by nearly 50 basis points from the level they had attained before Maastricht. Also, a sharper reversal in the yield curve was recorded (with a spread of 25 basis points between 5- and 10-year rates), and primary market trading rallied steadily to an amount of over ECU 6 billion in bond placements.

Investors preferred long-term securities since these were due to benefit the most from the interest rate convergence process. For more than 60% of the new issues, maturities were beyond January 1999

i.e. the deadline year established for the implementation of European monetary union.

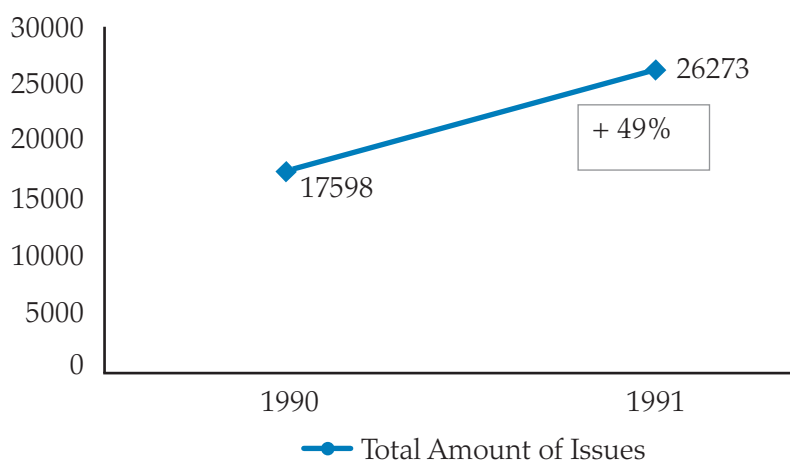
The range of maturities was lengthened through the placement of 15-year bonds, and even a 30-year O.A.T. as well.

There was an expansion in the share of the EFTA countries and of the other European supranational institutions (such as the Council of Europe, for example), with a jump to 21 % from 10.5% in 1990.

Such an increase was due to ECU borrowing by the Scandinavian countries, which in turn was boosted by the decision of both Sweden and Finland to link their respective currencies to the ECU.

In 1991, aggregate issues by Norway, Sweden and Finland accounted for 15% of the total amount. Among the European countries, France's weight dwindled from 34% to 16%. This decline was mostly attributable to a slowdown in O.A.I. issues, which shrank from ECU 3.8 billion in 1990 to ECU 1.3 billion in 1991. The market share of Italian issuers suffered a contraction, going from 20% in 1990 to 10% a year later. In this case too, the loss was the result of slower activity in the market by public-sector borrowers. Great Britain instead added to its share of the market, thanks in particular to the ECU 2.5 billion jumbo issue which was launched by the British Treasury in order to strengthen the position of London as an ECU financial centre.

Figure 1: Breakdown of issues



After 1990 there were changes in the breakdown of new issues by type of borrower. The EC institutions and sovereign states retained an overall 55% share of new issues, even though the share accounted for by sovereign bonds alone had in fact slightly diminished.

Financial institutions held their own with a share of about 29%, whereas non-financial enterprises in both the public and private sectors showed a loss, going from 19% to 14.5%.

6.4 Legal implications

By virtue of the Maastricht Treaty, the ECU became an integral part of the EEC Treaty. In effect, as far back as 1985 when the Single European Act was enforced, a new article had been introduced into the Commu-

nity Treaty whereby the member states engaged “to take into account the experience developed thanks to... the growth of the ECU”. However, the legal obligation inherent to Article 102A no doubt came within the category of so-called soft laws, that is to say those provisions which do not really carry a mandatory message but nevertheless represent important “memorandum” about the steps that were to be taken.

It follows, therefore, that the ECU still lacked the support of any legislation that might be regarded as “constitutionally enforceable”.

Still, this did not imply that the ECU had not been taken into consideration under Community law: EEC Regulation 3181/78, which was issued by the Council of Ministers on 18 December 1978, authorized the European Fund for Monetary Cooperation (EFMC) “to receive monetary reserves from the monetary authorities of Member States and to issue ECU against such assets”. In addition, it went on to state that the ECUs so received could be utilized “as a means of payment and for transactions..., between the Fund itself and the monetary authorities of the member states”. Under EEC legislation 3066/85, non-EC countries and international monetary institutions were also included among those authorized to hold and utilize such ECUs.

Procedures for the use of the ECU in dealings between these last and the European Fund for Monetary Co-operation were governed by central bank agreements which were reached on 13 March 1979 and 10 June 1985.

The EFMC was instead responsible as regards “other ECU holders” for the “terms and conditions for purchasing, holding and using such ECUs”. As it was, while regulatory provisions in EEC public law indirectly envisaged the issue of ECUs and restricted the number of authorized users to the EFMC, the central banks and international monetary institutions, at that time utilization criteria were instead defined by private-law agreements between public institutions or by means of resolutions adopted under administrative legislations.

Accordingly, some important aspects of the legislation governing the ECU, such as its value as legal tender in contractual obligations, were defined either by mutual agreement or by administrative acts.

Up until the Maastricht Treaty, the ECU’s legal status was nondescript and controversial. A distinction was usually made between the “official” ECU, i.e. the ECU issued by the European Fund for Monetary Co-operation, and the “private” ECU which described the ECU that originated from no currency issue but more simply owed its existence to the contractual agreement between interested parties to denominate their own financial obligations in a currency unit that was the same as the unit. In any case, it was common opinion that the official ECU was a currency in “essence” since it was issued by a European monetary body, but that it was at the same time a purely theoretical monetary instrument given its very limited use by just a few international institutions, and given its consequently limited scope as a legal tender simply relying on the mutual decision of negotiators to use it as such. As for the “private” ECU, it was affirmed that the only possible way to consider it a genuine monetary instrument would have required stretching juridical interpretation.

In the last analysis, the arguments against the private ECU as a genuine monetary instrument were traceable to two fundamental objections:

- ▶ Money may not be defined as such unless it is the product of a State issue
- ▶ Money must be represented by banknotes or mintage

Before Maastricht it was not easy to define the ECU as a “currency with a full legal status of its own”. While there was a clear will among private operators to use the ECU as a denomination currency for their contractual obligations, there existed as yet no formal acts testifying to the European Community’s intention which would have provided its citizens with a unit of account of their own, or with a monetary system that was independent of national monetary systems. True enough, the Community had previ-

ously chosen to denominate its budget in ECUs, and the Executive Commission had indeed repeatedly shown its intention to promote the use of the ECU. But then what was still lacking was a legally valid declaration of intent formalizing the prospective adoption of a common European currency.

That is why the ECU's legal status still had pre-monetary characteristics. As a result of the new Treaty, a solemn declaration by the EC Union supplied its citizens with a common monetary unit. With effect from 1999 at the latest, the power to issue ECUs – which was formerly envisaged under EEC Regulation 3181/78, though practically nullified by the limited circulation of private ECU – was stipulated in the Treaty by means of a clause that was held to be generally valid and enforceable. Consequently, in the Third Stage of EMU there was no longer any difference between the official and the private ECU.

The Treaty in fact contained a few articles which applied the ECU during the run-up to the Third Stage EMU. For instance, Article 109F, paragraph 2, provided that the European Monetary Institute “shall facilitate the use of the ECU” beginning as early 1994.

The same article also clearly referred to the private ECU and provided that the EMI “shall oversee the development of the ECU” and among its diverse responsibilities, it shall also exercise control over the “smooth functioning of the ECU clearing system”.

Reference to the current official ECU was instead made in the articles of the Statute of the European Monetary Institute.

The European Monetary Institute (EMI) could receive monetary reserves from the national central banks and issue ECUs against such assets (for the purpose of implementing the European Monetary System Agreement). These ECUs could be used by the EMI and the national central banks as a means of settlement and for transactions between them and the EMI.

The European Monetary Institute was vested with specific responsibilities with respect to both the private and the official ECU, thereby increasingly blurring the demarcation line between the two.

Article 109 read that “the currency composition of the ECU basket shall not be changed” which seemed to imply that this provision would have come into force as soon as the Treaty had been ratified by all the EEC member states.

In other words, this means that the weights forming the ECU basket as defined on 19 June 1989 were no longer subject to revision in 1994 as would instead have been required under the previous rule (basket revision every five years).

And finally, if a debtor were to undertake to pay at some future date an amount of “private ECUs” as defined under the provisions established in September 1989, he would still have been required to pay the same amount of ECUs even after the ECU had surrendered its basket form to take on the status of single European currency.

Article 109 intended to affirm that the nominal unit of account was to remain identical in the transition from the “old” to the “new” ECU, no matter what the difference in value between them might have been. Otherwise said, the conversion rate between the “old” and the “new” one would have been unitary.

At any rate, the Commission suggested that, during the period of coexistence of the national currencies with the new European currency, a double-currency price and payment standard should have been arranged i.e. one in the national currencies and one in ECUs.

Let us consider, for instance, the case of a monetary obligation maturing over the period of coexistence of the ECU with the national currencies, and let us assume that the holder of a long term lira-denominated bond was entitled to coupon payments up until 2005. Let us now further assume that Italy would have joined EMU (in 1999 at the latest) but that, at the time of translating the lire into ECUs, a

differential still existed between the nominal interest rates for Italian long bonds and for the long bonds of those EC countries whose inflation rate was among the lowest and amounted to the maximum differential allowed. If we then take it for granted that the ECU had an interest rate which was typically that of the most stable currencies, the differential in question would have been around 2%.

In order to identify the correct currency for payment purposes, there also needed to be considered the provisions governing the payment of sums of money as included in the different private law systems in force in the individual EC member countries.

If uncertainties were to be dispelled, it was therefore desirable for the interested parties to insert in any contract expiring after 1997 an explicit provision to clarify their mutual intention. In other words, a distinction was necessary between an accounting currency and a payment currency.

Accordingly, in the absence of specific legal provisions to the contrary at national level, any credit obligation expressed in ECUs which was contracted in 1992 would have still functioned as the equivalent of a claim for the same amount of ECUs, say, in 2005 once the ECU became the only legal tender throughout the EC countries.

As far as exchange rates were concerned, there was a strong tendency to stress continuity between the “old” and the “new” ECU. This attitude was supported by the European Community and was widespread in the ECU markets. This theory excluded the possibility of a “last realignment” of the EMS parities at the moment of conversion of the national monies and before the fixing of exchange rates.

Conversion of the national currencies would have taken place according to market exchange rates, “At the moment that economic and monetary union becomes effective, the closing exchange rates for the ECU basket will be established in terms of the currencies entering EMU, and these rates will then be fixed irrevocably and indefinitely. This procedure is intended, by definition, to ensure that the exchange rates last recorded for the basket-ECU and the irrevocable parity grid for the new currency-ECU are identical”.

From experience with basket revisions, we can say that financial market agents, in the run-up to Stage Three, were indeed likely to drive the basket-ECU interest rate pretty close to the value expected for the currency-ECU.

7. Conclusions

The European Monetary Union has certainly been one of the most important events for international financial markets since the collapse of the Bretton-Woods system of fixed exchange rates. It also represented a challenge to the dollar as the world’s dominant currency.

Looking back in time and trying to stress the reasons why the ECU developed into the European currency that we know today, four important key points must be considered.

First of all, the ECU had a genuine economic justification and was able to benefit from the support of the private sector.

Secondly, the European institutions and governments supported the ECU since the very beginning in 1975 with the establishment of the European Monetary Cooperation Fund and the European Unit of Account. In 1984, almost all EC member states treated the ECU as a foreign currency and in 1986 the ECU Banking Association established the ECU clearing system.

Thirdly the banking world exhibited a lively approach to the ECU and large amounts of it were

placed on the money markets solving the initial problem of liquidity. Starting from 1981 with the first public ECU bond issued by SOFTE and the first syndicated ECU bank credit, another important step in encouraging the use of ECU-denominated bank loans and deposits was the implementation of the BIS ECU clearing arrangement and the creation of a true fixed exchange rate system in the EEC for the ECU.

The international financial market offered an impressive range of services like scope for arbitrage with the ECU against all major foreign currencies, concluding deposits for up to one year, floating ECU-denominated bond issues, conducting transactions on the aftermarket, contracting bank loans and so on.

A turning point for the ECU was its use in the commercial sector in 1980 when St. Gobain began invoicing in ECUs.

The EMU was but one step toward an even more complete integration and unification of the EC. The fact that Europe continued as an economic community with substantial economic linkages made possible the link between component foreign exchange and financial market instruments.

The historical evidence supports the proposition that markets and not governments have been dominant in the emergence of new forms of money.

The innovation of the ECU and its role as money occurred when private agents attempted to eliminate or circumvent government regulation like exchange and capital controls.

The value of the private ECU was driven by the expectations that a European monetary authority would have, at some future date, declared itself willing to convert the private ECU into the official basket at par.

With a market approaching \$300 billion in 1992, the ECU provided the international financial community with a reliable currency for over 10 years. It is at the ECU experience that the global governance of the 20th century has to look back when trying to find a way out from the Triffin's dilemma.

If the private sector one day believes in Special Drawing Rights like it did in the ECU, a new currency, maybe a global one, will grow strong and will be able to play an important role in the financial market alongside or against the dollar.

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Bibliography and References

- ▶ Allen, Polly Reynolds, "The ECU: birth of a new currency", Occasional Papers, No. 20, Group of Thirty, New York, 1986.
- ▶ Allen, Polly Reynolds, "The ECU and Monetary Management in Europe", in de Grauwe, Paul, and Peeters, Theo (eds.), *The ECU and European Monetary Integration*, London, Palgrave Macmillan, 1988.
- ▶ Allen, Polly Reynolds, "The Private ECU Markets, What They Are, Why They Exist, and Where They May Go", *Journal of Banking and Finance*, No. 14, 1990.
- ▶ Allen, Polly Reynolds, "The ECU in the Transition to EMU", *Central Banking Journal*, December/January 1990/91.
- ▶ Association for the Monetary Union of Europe, "Comments on the Economic and Monetary Report submitted by the Delors Committee", May 1989.
- ▶ Association for the Monetary Union of Europe, "The ECU for European Business", *The Quarterly Bulletin of the Association for the Monetary Union of Europe*, January 1992.
- ▶ Bank for International Settlements, "The role of the ECU in international banking activity", 55th Annual Report, Basel, June 1985, pp. 127-133.
- ▶ Banque Bruxelles Lambert, "The EMS and the ECU After Their First Six Years", No. 122, December 1984.
- ▶ Barclays Bank, "The ECU - Europe's new Currency". *Barclays Review*, No. 4, November 1985.
- ▶ Baumann, Wolfgang, "ECU im Widerstreit", *Zeitschrift für das gesamte Kreditwesen*, 1. September 1984.
- ▶ Bordo, Michael et al., "The ECU - An Imaginary or Embryonic Form of Money: What Can We Learn from History?", in de Grauwe, Paul, and Peeters, Theo (eds.), *The ECU and European Monetary Integration*, London, Palgrave Macmillan, 1988.
- ▶ Bordo, Michael; Eichengreen, Barry, *A Retrospective on the Bretton Woods System - Lessons for International Monetary Reform*, National Bureau of Economic Research, 1993.
- ▶ Britton, Andrew; Mayes, David, "Obstacles to the Use of the ECU: Macroeconomic Aspects", *The Economic Journal*, September 1990.
- ▶ Brugnoli, Flavio, "L'ECU caratteristiche istituzionali e mercato privato", Bologna, 1986 (Degree thesis).
- ▶ Brummer, Chris, "Why Soft Law Dominates International Finance - and not Trade", *Journal of International Economic Law*, Vol. 12, No. 3, 2010.

- ▶ Carpenter, Francis, "The ECU as a Lending Instrument", in European Investment Bank, "1979-89, The ECU's Tenth Anniversary - Special Issue", EIB Papers, December 1989.
- ▶ Committee for the Monetary Union of Europe, *For a Common Currency, the European Currency, an Optional Currency*, Paris, 1990.
- ▶ Deutsche Bundesbank, "Die Märkte für private ECU", Monatsbericht, August 1987.
- ▶ Dini, Lamberto, "A Single Currency for Europe. Economic Policy and Financial Choices", Bank for International Settlements, BIS Review, No. 58, March 23, 1989.
- ▶ Dufey, Gunter; Giddy, Ian, "Innovation in the international financial markets", Journal of International Business Studies, Fall 1981, pp. 33-51.
- ▶ ECU Banking Association, "ECU Basket Revisions. Market Repercussions and Reform Proposals", EBA Newsletter, Special Issue, No. 4, May 1989.
- ▶ European Investment Bank, "Das Clearing system für die private ECU", EIB Information, No. 50, October 1986.
- ▶ Faith, Nicholas, "The ECU: It's all Things to all Men", Euromoney, May 1983.
- ▶ Gilibert, Pier Luigi, "The International ECU Primary Bond Market: Structure and Competition", in European Investment Bank, "1979-89, The ECU's Tenth Anniversary - Special Issue", EIB Papers, December 1989.
- ▶ Gleske, Leonhard, "Die ECU - Eine zukünftige europäische Währung? Ihre derzeitige Rolle im EWS und ihre Zukunftsaussichten", Deutsche Bundesbank, No. 96, December 4, 1989.
- ▶ Iozzo, Alfonso, "ECU - Perspectives as Seen by a European Commercial Bank", Geld und Währung - Working Papers, Frankfurt, November 1988.
- ▶ Iozzo, Alfonso, "The Use of the ECU as an Invoicing Currency", in de Grauwe, Paul, and Peeters, Theo (eds.), *The ECU and European Monetary Integration*, London, Palgrave Macmillan, 1988.
- ▶ Istituto Bancario San Paolo di Torino, ECU Newsletter, 1982-1993, Turin (No. 1, 1982 - No. 46, 1993).
- ▶ Jager, Hendrik; Jong, Eelke, "The Private ECU's Potential Impact on Global and European Exchange Rate Stability", Banca Nazionale del Lavoro, Quarterly Review, No. 164, Rome, March 1988.
- ▶ Kloten, Norbert, "Towards European Monetary Union: The Role of ECU Coins and Bank Notes", Deutsche Bundesbank, No. 46, June 23, 1988.
- ▶ Leigh-Pemberton, Robin, "The Evolution of the ECU", BIS Review, No. 246, December 14, 1988.
- ▶ Levich, Richard M., "Developing the ECU Markets: Perspectives on Financial Innovation", NBER Working Paper, No. 2276, June 1987.
- ▶ Lichter, Gilbert, "The ECU Clearing", ECU Banking Association, 1988.
- ▶ Lomax, David F., "The ECU as Investment Currency", in de Grauwe, Paul, and Peeters, Theo (eds.), *The ECU and European Monetary Integration*, London, Palgrave Macmillan, 1988.

-
- ▶ Masera, Rainer, "An increasing role for the ECU: a character in search of a script", in *Europe's Money: Problems of European Monetary Co-Ordination and Integration*, edited by Masera, Rainer and Triffin, Robert, Oxford, Clarendon Press, 1984.
 - ▶ Mehnert, Ralph J., *User's Guide to the Ecu*, London, Graham & Trotman, 1992.
 - ▶ Office for Official Publications of the European Community, *The ECU* (2nd edition), Luxembourg, 1987.
 - ▶ Schlüter, Peter-Wilhelm, "The official ECU", Istituto Bancario San Paolo di Torino, ECU Newsletter, No. 18, October 1986.
 - ▶ Swiss Bank Corporation, "The ECU as an Investment Currency", Basle, July 1985.
 - ▶ Tosolini, Valentina, *La moneta unica mondiale da Keynes a Mundell: il dilemma di Triffin oggi*, Turin, November 2012 (Master thesis).
 - ▶ Triffin, Robert, "International Currency and Reserve Plans", in NBER, *Policies to Combat Depression*, Princeton University Press, 1956.
 - ▶ Triffin, Robert, *Dollaro, Euro e moneta mondiale*, edited by Iozzo, Alfonso, and Steinherr, Alfred, Bologna, Il Mulino, 1998.
 - ▶ Vaubel, Roland, "The Return to the New European Monetary System: Objectives, Incentives, Perspectives", in Brunner, Karl; Meltzer, Alan (eds.), *Monetary Institutions and the Policy Process*, Carnegie-Rochester Conference Series on Public Policy, 13, 1980, pp. 173-223.
 - ▶ Wallerstein, Immanuel, *The Politics of the World-Economy: The States, the Movements, and the Civilizations*, Cambridge University Press, 1984.

The private SDR: an Overview of the Market in the 1975-1985 Decade

Elena Flor

A private market in SDR denominated instruments first emerged in 1975. At that time some banks began to accept time deposits denominated in SDRs and some borrowers began to issue debt in the long-term capital markets denominated in SDRs. The sharp depreciation of the dollar in 1977-78 added some appeal to the SDR denominated instruments, as dollar holders were seeking ways to diversify the currency composition of their portfolios. However, it was not until 1981 that the markets of SDR denominated instruments began to develop and the main impetus was given by the decision by the IMF to simplify the valuation basket of the official SDR from sixteen to five currencies¹ beginning January 1, 1981.

Following the simplification of the SDR basket, most of the activity in SDR denominated instruments took place in 1981 but, after the last SDR bond issue in December 1981, the development of the private SDR came to a virtual halt² (from 1982 there were virtually no new issues of bonds and CDs), and a relatively small volume of SDR denominated bank deposits comprised most of the market afterwards.

It follows an overview of the markets of SDR-denominated instruments in the 1975-1985 decade.

Bonds and Notes³

The first SDR denominated bond was issued in June 1975. Between 1975 and 1981 there were 13 issues of SDR-denominated bonds or notes, including the first two by the Swedish city of Malmö and the Swiss company Sandoz, for a total of roughly SDR 560 million. Except for two issues by private corporations, all issuers were official institutions. No SDR denominated bonds were issued since late 1981. As of end June 1985 only SDR 60 million were still outstanding⁴.

All the SDR loan agreements contained safeguard clauses specifying what would happen in the event that the IMF changed the composition of the official SDR – or ceased to use the SDR completely – or that one or more of the currencies in the SDR basket became unavailable. The ways of dealing with the various contingencies was subject to individual negotiation.

Eurobonds

The market in SDR denominated Eurobonds displayed virtually all its growth prior to 1981. Between 1975 and 1981, eight issues were floated, six by Scandinavian borrowers. The total amount issued was about SDR 273 million, less than 0.5 percent of all Eurobonds floated over this period. Only one SDR Eurobond was issued in 1981: this was for the Nordic Investment Bank for SDR 20 million.

¹ US dollar, German mark, Japanese yen, French franc and British pound sterling.

² During the first half of the 1980s US dollar denominated financial instruments enjoyed a combination of high interest rates and strong appreciation of the dollar. Over this period US dollar investments yielded a high effective return to foreign investors and attracted huge capital flows into the US which may have been, to some extent, at the expense of SDR denominated investments. Furthermore, the private ECU market began to gain significance in the years 1981 and 1982.

³ See Table 2 for full details on 1981 Public placements of bonds and notes.

⁴ Data and trend for ECU denominated bonds differ significantly: the amount of outstanding ECU denominated bonds and notes was equal to SDR 188 million as of end 1981 and reached SDR 11,647 million as of end June 1985. Data were converted from ECU to SDR (IMF Occasional Paper "The role of the SDR in the international monetary system", March 1987).

Floating rate notes

The market of SDR floating rate notes emerged in 1981 with a total of roughly SDR 280 million by the year end. Four known issues were floated, two by Italian State agencies (Enel, Italian state electric utility and Ferrovie dello Stato, the Italian state railway company), one by a French multinational company (Pechiney Ugine Kuhlmann) and one by the Spanish state railway (Renfe – Red Nacional de los Ferrocarriles Espanoles). These instruments carry a shorter maturity than Eurobonds and differ chiefly in that they do not bear a fixed coupon or interest rate.

The issue by the French company Pechiney Ugine Kuhlmann had two peculiar characteristics. First of all it opted to repay interest and principal directly in SDRs. There was not a consensus among borrowers about which currency or currencies to use in repaying interest and principal but most specified that the dollar was the payment currency (thus applying the SDR value to the dollar on the dates the payments were due). Repaying in SDRs meant transferring directly from the borrower's to the creditor's bank account through specified paying banks (eliminating foreign currency transaction costs). The second peculiar trait was due to the fact that since the French franc was included in the SDR basket, Pechiney had to obtain official authorization to purchase and transfer abroad the foreign exchange needed to pay principal and interest on its floating notes.

Syndicated Credits

A market in syndicated credits rose from a base of zero to about SDR 1.2 billion during 1981⁵ (which compares with a total of SDR 104.3 billion for syndicated credits in all denominations in 1981). A total of seven borrowers raised funds through this instrument: three were sovereign borrowers (Sweden, the Ivory Coast and Ireland), two were electric utilities (one a state utility in Venezuela and the other a private utility in Spain), the sixth was a Mexican state financing agency and the seventh an African regional development bank.

The Kingdom of Sweden became the first borrower of an SDR-denominated syndicated credit in early January 1981, when it decided to raise a substantial portion of funds in SDRs as part of a joint dollar/SDR credit. Initially the sum was set at SDR 200 million but was increased to SDR 500 million because of market interest. Six borrowers followed Sweden's initiative during 1981, but all raised considerably smaller amounts of funds. All the SDR borrowers offered spreads in line with those offered to comparable borrowers in single currencies⁶.

No SDR denominated syndicated loans have been organized since 1982.

⁵ See Table 2 for full details on 1981 public placements of syndicated credits.

⁶ For public sector borrowers in the industrial countries the Bank of England statistics showed average spreads in 1981 dipping below ½ percent over LIBOR in the first quarter, rising slightly above this in the second quarter. The split spread charged to both the Kingdom of Sweden and Ireland of 3/8 and ½ percent are consistent with these trends. Similarly the 1 ½ percent spread which the Ivory Coast agreed to pay for its funds was in line with the spreads paid by more frequent borrowers in the Euromarkets this year (which ranged from 1 1/8 to 2 percent).

Commercial Bank Deposits

The first deposit facility in SDR was offered by a bank in London in June 1975. By the end of 1978 some 20 banks were prepared to accept SDR denominated deposits, although it is not certain how many of them had actually taken deposits at that stage.

As banks needed to cover their positions in SDR denominated instruments and at the beginning it was difficult to match assets and liabilities denominated in SDRs closely, a more likely course for banks was to enter into transactions in the forward foreign exchange markets for each of the currency comprised in the basket. The problem was that before 1981 not all the sixteen currencies of the SDR basket had well developed forward markets, although each was actively traded on some spot exchange markets. Therefore only a few banks offered SDR denominated deposits and those that did tended to limit the amounts they would accept. Often these amounts would be in the order of SDR 3 to 5 million. In addition, some banks found it necessary to offer a somewhat lower yield on their liabilities in SDRs than those on single currencies to protect themselves against that portion of the exchange rate risk they were unable to hedge. This problem was eliminated when the basket was simplified to five currencies all actively traded in spot and forward markets.

With the adoption of the five-currency basket in 1981 the volume of SDR denominated deposits increased substantially. In that year two commercial banks offered current accounts denominated in SDRs and participants in the Euroclear and Cedel clearing system for Eurobonds became able to purchase SDR denominated bonds by debiting the SDR denominated current accounts held by these clearing systems. These accounts could be used to make payments in connection with the issue of SDR denominated loans and bonds, thus settling SDR bond transactions by crediting or debiting their current accounts.

By the end of 1981 it was estimated that between 40-50 banks were prepared to accept SDR deposits and that the volume of deposits amounted to about 5-7 billion SDRs⁷ net of interbank deposits. Starting in 1982, the volume of SDR denominated deposits dwindled; by the end of 1983 SDR denominated deposits with Belgian, Luxembourg and UK banks and the BIS totaled only about SDR 2.2 billion, about the same amount outstanding at the end of September 1985.

Table 1 - Trend of SDR denominated Bank deposits

	End 1981	End 1983	End 1984	March 1985	June 1985	Sept. 1985
SDR millions	5,000-7,000*	2,162	1,473	1,615	1,666	2,217

Sources: Bank of England, Bank of Belgium and IMF staff estimates. IMF Paper, March 1987.

⁷ In particular, in March 1981 the Brussels branch of Morgan Guaranty made available demand deposits or current accounts in SDRs.

* Although no comprehensive data on SDR deposits were collected at the time, it was estimated on the basis of conversations by IMF staff with market participants that about half of total SDR deposits in 1981 – 10,000 to 14,000 million SDRs – were interbank deposits.

** ECU denominated bank deposits amounted to SDR 300 million (estimate) as of end 1981 and grew fast reaching SDR 33,342 million by June 1985.

Certificates of Deposits

The first certificates of deposit denominated in SDRs were issued in June 1980 at a fixed rate of interest. Chemical Bank opened the market in SDR CDs in June 1980 by issuing the first one through its London branch in the amount of SDR 50 million. Most SDR CDs were issued privately by the banks at the request of individual borrowers. During 1981, there were a number of issues, bringing the total value of such certificates issued to SDR 500-700 million by the end of that year. Moreover, in January 1981 a group of seven banks⁸ in London announced they would issue and trade SDR denominated certificates, providing a secondary market in SDR CDs and floating rate CDs.

Like CDs denominated in dollars those in SDRs required minimum deposits of 1 million, which was considerably less than the SDR 3 to 5 million which was typically required for SDR time deposits. Moreover, the SDR CD was negotiable. The interest rate on the SDR CD was marginally lower than that obtained on SDR deposits, by about 1/8 percent (due to the negotiability of the CDs).

Two known publicized issues took place in 1981: both were by Japanese banks in the amount of SDR 20 million each. Although there were some new issues and some secondary market trading in the first half of 1982, interest in SDR denominated certificates diminished after that time and the market activity became insignificant.

Floating Rate Certificates of Deposits

Four identified issues of SDR floating rate CDs were placed during 1981. Three were by Japanese banks, the fourth by the second largest bank in Kuwait and their size was relatively small, SDR 10 to 15 million. A total of SDR 55 million was raised in 1981. The maturities for these instruments were longer than those for straight CDs, about two to three years compared with three months.

Forward Market

Following the simplification of the SDR valuation basket in January 1981 and with the emergence of SDR-denominated syndicated credit, deposit and certificate of deposit markets, a modest forward market in SDRs against major currencies developed in 1981.

⁸ The banks were Barclays, Chemical, Citibank, Hong Kong and Shanghai, Midland, National Westminster and Standard and Chartered. Using practices already in existence for US dollar CDs, the banks further agreed to try to standardize the procedures for transactions in SDR CDs.

Table 2 - Identified Public Placements of SDR Instruments in 1981

Instrument	Borrower	Manager	Amount	Maturity	Yield	Date
Syndicated credit	Sweden	Morgan Guaranty	500	5 years	3/8 – 1/2	I Q
	Ivory Coast	Chase Manhattan	43	8 years	1 1/2	I Q
	Ireland	National Westminster	75	10 years	3/8 – 1/2	II Q
	Cadafé*	Chemical	47	6 years	5/8	III Q
	Fenosa*	Orion Royal	100	8 years	5/8 – 3/4	III Q
	Nafinsa*	Chemical	220	8 years	5/8	IV Q
	African Development Bank	Chase Manhattan	200	8 years	1/2 - 5/8	IV Q
Certificate of deposit	Sumitomo Bank	Chemical	20	3 months	1/8	I Q
	Sanwa Bank	Chemical	20	3 months	1/8	I Q
Floating rate certificate of deposit	Dai-tchi Kangyo Bank	Morgan Stanley	15	2 years	1/8	I Q
	Gulf Bank	Chase Manhattan	15	3 years	1/4	I Q
	Fuji Bank	Credit Suisse First Boston	15	3 years	1/4	II Q
	Sumitomo Bank	Chemical/Sumitomo Finance	10	3 years	1/4	III Q
Eurobond	Nordic Investment Bank	Orion Royal	20	5 years	11.5	I Q
Floating rate note	ENEL*	Dillon Read	100	5 years	1/4	I Q
	Pechiney Ugine Kuhlmann*	Banque de l'Indochine et de Suez/Kredietbank	50	7 years	1/4	II Q
	Ferrovie dello Stato*	Dillon Read	80	4 years	1/4	III Q
	Renfe*	Orion Royal	50	8 years	1/4	IV Q

The certificates of deposits were often priced over the three-month LIBOR, whereas the syndicated credits and floating rate notes were usually priced over the six-month LIBOR. The Eurobond yield indicated is equal to the total yield.

References

- ▶ Hoguet, George; Tadesse, Solomon, "The role of SDR-denominated securities in official and private portfolios", in "Portfolio and risk management for central banks and sovereign wealth funds", BIS Papers n. 58, October 2011, pp. 165-186.
- ▶ IMF, "The role of the SDR in the international monetary system", Studies by the Research and Treasurer's Departments, Occasional Paper No. 51, March 1987.
- ▶ Sobol, Dorothy M., "The SDR in Private International Finance", FRBNY Quarterly Review, Winter 1981/1982, pp. 29-41.

* The following borrowers are identified more fully:

Cadafé: Compañía Anónima de Administración y Fomento Eléctrico, Venezuelan state electric utility

Fenosa: Fuerzas Eléctricas del Noroeste, Spanish private sector electric utility

Nafinsa: Nacional Financiera, Mexican state financing agency

ENEL: Ente Nazionale per l'Energia Elettrica, Italian state electric utility

Pechiney Ugine Kuhlmann: French multinational company

Ferrovie dello Stato: Italian state railway company

Renfe: Red Nacional de los Ferrocarriles Españoles, Spanish state railway company.

Annexes

International Reserves

	1950	1960	1970	1980	1990	2000	2007	2013
Foreign exchange reserve composition (percent)								
US dollar	42.0	53.1	75.9	66.7	50.6	71.1	64.1	60.9
British pound	58.0	33.5	12.5	3.0	3.0	2.8	4.7	4.0
German mark	...	...	1.5	15.1	16.8	...	...	...
Japanese yen	...	...	...	4.2	8.0	6.1	2.9	3.9
Swiss franc	...	...	...	3.2	1.2	0.3	0.2	0.3
French franc	...	...	0.4	1.7	2.4	...	...	...
ECU*/euro	...	...	...	...	9.7*	18.3	26.3	24.5
Other	...	13.4	9.7	6.1	8.3	1.5	1.8	6.4
Foreign exchange reserves								
US\$bn	15	22	56	398	913	1,936	6,704	11,132

Source: IMF

List of Abbreviations

BIS	Bank for International Settlements
BTE	Treasury bills
CAP	Common Agricultural Policy
CBOT	Chicago Board of Trade
CME	Chicago Mercantile Exchange
CTE	Treasury certificates
EBA	European Banking Association
EC	European Commission
ECBS	European Central Bank System
ECOFIN	Economic and Financial Affairs Council
ECSC	European Coal and Steel Community
ECU	European currency unit
EEC	European Economic Community
EIBID	ECU interbank bid rate
EIBOR	ECU interbank offered rate
EIMEAN	ECU interbank mean rate
EMCF	The European Monetary Cooperation Fund
EMI	European Monetary Institute
EMS	European Monetary System
EMU	Economic and Monetary Union
EMUA	European Monetary Unit of Account
EOE	European Options Exchange
ERM	Exchange Rate Mechanism
EUA	European Unit of Account
EURATOM	European Atomic Energy Community
FINEX	Financial Instrument Exchange
GAFTA	Grain and Feed Trade Association
GDP	Gross domestic product
GNP	Gross national product
IMF	International Monetary Fund
LCE	London Commodity Exchange
LIFE	London International Financial Futures and Options Exchange
LME	London Metal Exchange
LSE	London Stock Exchange
MATIF	Marché à Terme International de France
ME	Montreal Exchange
MESA	Mutual ECU Settlement Account
NYCE	New York Cotton Exchange
OAT	Obligations Assimilables du Trésor
OECD	Organization for Economic Co-operation and Development

OPEC	Organization of the Petroleum Exporting Countries
PHLX	Philadelphia Stock Exchange
PSE	Pacific Stock Exchange
SDR	Special drawing rights
SEC	Securities and Exchange Commission
STET	Società Finanziaria Telefonica
SWIFT	Society for Worldwide Interbank Financial Telecommunication

No.

No.

SOFTE - SOCIETE FINANCIERE POUR LES TELECOMMUNICATIONS ET L'ELECTRONIQUE S.A.



Principal office: 12-14, Boulevard d'Avranches, Luxembourg
A Luxembourg company (*société anonyme*) formally limited liability on March 12, 1970 for a duration which expires on March 12, 2000. SOFTE's Articles of Incorporation were published in the *Recueil Spécial des Sociétés et Associations du Mémorial* of the Grand Duchy of Luxembourg on April 6, 1970 in No. 59.
Outstanding Share Capital: L.S. 35,000,000 consisting of 7,500,000 fully paid shares, each with a par value of U.S. \$4.

ECU 35,000,000

13 % 1981-1987 Guaranteed Bonds

BEARER BOND OF ECU 1,000

This bond is one of a series of 35,000 Bonds (the « Bonds »), the terms and conditions of which are set forth on the reverse hereof. The Bonds are issued by SOFTE - Société Financière pour les Télécommunications et l'Électronique S.A. (« SOFTE ») pursuant to a resolution of its Board of Directors adopted on March 24, 1981 and are unconditionally and irrevocably guaranteed by STET - Società Finanziaria Telefonica per Azioni (« STET ») pursuant to a resolution of its Board of Directors adopted on March 19, 1981.

This Bond bears interest at the rate of 13 % per annum beginning on April 21, 1981. Interest is payable annually on April 21 of each year and for the first time on April 21, 1982.
Luxembourg, April 21, 1981.

SOFTE - SOCIETE FINANCIERE POUR LES TELECOMMUNICATIONS ET L'ELECTRONIQUE S.A.

Director

Director

GUARANTEE OF STET-SOCIETA FINANZIARIA TELEFONICA PER AZIONI

STET-Società Finanziaria Telefonica per Azioni (« STET »), pursuant to a resolution of its Board of Directors adopted on March 19, 1981 hereby unconditionally guarantees to the bearer of the 13 % 1981-1987 Guaranteed Bond on which this Guarantee is endorsed the payment of the principal of said Bond, and to the bearer of any coupon appertaining to said Bond the payment of interest thereon, when and as the same shall become due and payable (including any additional amounts required to be paid according to the terms of said Bond). In case of the failure of SOFTE - Société Financière pour les Télécommunications et l'Électronique S.A. (« SOFTE ») punctually to make any such payment, STET hereby undertakes to cause such payment to be made punctually when and as the same shall become due and payable, whether by acceleration of maturity or otherwise, as if such payment were made by SOFTE. STET hereby waives any requirement that the bearer of said Bond or of any such coupon, in the event of any default in payment by SOFTE, first make demand upon or seek to enforce remedies against SOFTE before seeking to enforce this Guarantee. STET warrants that this Guarantee will not be discharged except by complete performance of the obligations assumed in said bond and this Guarantee; covenants that this Guarantee constitutes a direct and unconditional obligation of STET and shall rank pari passu (subject to such exceptions as may from time to time be applicable under Italian law) with all other outstanding unsecured indebtedness, whether outstanding on the date hereof or hereafter, of STET without any preference over the other by reason of priority of date of issue, currency of payment or otherwise; and covenants that if it shall after the date hereof secure any loan, debt or other obligation, now or hereafter existing, in the form of or represented by bonds, notes, debentures or other securities quoted, listed or traded on any stock exchange or other market on which such securities are ordinarily traded in any part of the world (« Public

Debt »), or any guarantee by STET in respect of the Debt of another party, by any mortgage, lien, pledge or other charge upon any of its present or future revenues or assets, this Guarantee shall share in and be secured by such mortgage, lien, pledge or other charge equally and ratably with such other loan, debt, guarantee or other obligation, and the instrument creating such mortgage, lien, pledge or other charge shall expressly so provide.

The law and jurisdiction of this Guarantee shall be governed by and construed in accordance with the laws of the Grand Duchy of Luxembourg. The bearer of said Bond or of any of said coupons shall be free to enforce his rights against STET in the courts of the Republic of Italy and/or in the courts of the Grand Duchy of Luxembourg, to the non-exclusive jurisdiction of all of which STET hereby irrevocably submits. STET hereby irrevocably and unconditionally waives immunity from jurisdiction and immunity from execution with respect to any action or proceeding in any of the above-mentioned courts in connection with this Guarantee. For the purpose of any action or proceeding in the Grand Duchy of Luxembourg in connection with this Guarantee, STET hereby elects domicile at the principal office of the Fiscal Agent acting pursuant to the terms and conditions of said Bond, for all acts, formalities or procedures in connection with this Guarantee.

STET-SOCIETA FINANZIARIA TELEFONICA PER AZIONI

April 21, 1981

Managing Director

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