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## MONETARY INTEGRATION IN HISTORICAL PERSPECTIVE

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## Monetary Integration in Historical Perspective

### ABSTRACT

Recent turmoil on European currency markets has caused doubts about the process of European monetary unification. This paper sets these developments in Europe within the historical context of other incidences of monetary integration. The examples documented here include both monetary integration among the regions of emerging nation states, such as Germany, Italy and Japan in the Nineteenth Century and German Economic Monetary and Social Union recently; and monetary unions among existing nation states, such as the Nineteenth Century German, Latin and Scandinavian Monetary Unions, and the contemporary West African Monetary Union and European Monetary System. These historical experiences, which are viewed from the standpoint of incentives of rational agents to participate in a collective action, indicate many economic and political economic difficulties to create a monetary union.

## **I. Introduction**

The recent collapse of several major currencies in the European Exchange Rate Mechanism has again highlighted the difficulties inherent in the process of monetary integration. The once seemingly inevitable progression to monetary union envisaged in the Maastricht Treaty has been at least delayed, if not completely derailed.

As some of the dust settles following the turmoil in European foreign exchange markets, it is all the more apparent that the planned European Monetary Union (EMU) is not unique. Rather, EMU is one more in a succession of currency arrangements which have been attempted both within emerging nation states and among existing states. Some of these arrangements lasted, and brought benefits to their members; others soon broke down. The aura of inevitability surrounding EMU, created by widespread consensus about its desirability, contributed to a sense of disjuncture with past experience. Now that the aura has been tarnished, the continuities with previous attempts to forge monetary unions are more apparent.

A fresh historical perspective on different monetary unions is therefore relevant to ongoing discussions about the future of EMU. This paper is designed to give a brief sketch of some historical experiences of monetary integration. The relevant histories are viewed within a political economy conceptual framework which considers the incentives of rational agents to participate in collective action.

## II. Conceptual Framework

The term *monetary integration* or *monetary unification* encompasses varying degrees of integration.

(1) In the weakest sense, monetary integration implies the linking of national currencies with fixed parities accompanied by a narrowing or vanishing band of exchange without common reserves or a common central bank. This is what Corden (1972) called the pseudo-exchange rate union. The coordination of economic policies, particularly monetary policies, is needed to prevent disequilibria in the balance of payments.

(2) The degree of monetary integration is enhanced by the establishment of public confidence in the irrevocable nature of the fixed exchange parities, accompanied by full convertibility between currencies for capital and current account transactions. This confidence normally emerges only after a substantial transition period during which de facto fixed exchange parities are successfully maintained or after some kind of political unification.

(3) However, full monetary integration or unification is only realized when a common currency issued by a single central bank circulates in the area of the monetary union.

The basic benefit from monetary integration is microeconomic in nature: users of a common currency economize on information costs and transaction costs. A member of a monetary union enjoys the benefits of increased trade as a result of the reduction or even disappearance of uncertainty about fluctuations in the exchange rates among member currencies. This benefit is partially delivered by pseudo-exchange union but fully realized only after the emergence of public confidence in the fixity of exchange rates. Only after full monetary unification is achieved, are the transactions costs arising from currency conversion eliminated, and the consequent benefits of increased trade and tourism enjoyed.

These microeconomic benefits are closely associated with the functions of money as a medium of exchange. Money economizes on the information costs required for transactions and allows the procurement of a stable bundle of goods at a lower cost than under barter. The use of a common currency carries an intrinsic externality as a result of its informational properties. These benefits from information spillover are nonrival in consumption; enjoyment by one member does not reduce the enjoyment of other members. This jointness in consumption is one characteristic of a public good.

A secondary benefit from monetary integration is macroeconomic. Mundell's theory of policy assignment indicates that the effect of regionally specific real shocks may be absorbed by flexible exchange rates. However, recent studies on

regime choice show that country specific monetary shocks can be better managed under fixed exchange rates or under highly managed exchange rates (e.g. Boyer 1978, Fukuda and Hamada 1987).

Whereas the primary benefits of joining a monetary union are microeconomic, the costs are mainly macroeconomic. The monetary independence of national economies becomes limited, particularly when international capital mobility is high and when wages and prices are rigid for some reason. Therefore the attainment of locally desired levels of unemployment and prices within the union may be sacrificed. The floating exchange rate system gives national economies the opportunity to follow a maximin strategy in the interplay of monetary policies. By joining a monetary union, a country gives up this maximin position and must adhere to the mutual consensus that results from policy coordination. Since countries differ in their rates of productivity growth, and in their preferences concerning the choice between unemployment and inflation, a fixed exchange rate or a single currency often means that the participating countries or regions will have to sacrifice attainment of their individual policy objectives.

Another cost that was explicitly recognized in 19th century, somewhat neglected later, but recently reemphasized, is the foregoing of seigniorage revenues. If countries allowed foreign coins under a metallic system to circulate within their borders as legal tender, they gave up the coinage charge which they could have earned by reminting the foreign coins into their own currency. Today, seigniorage is earned through requiring the

holding of currency on which no return is paid, for example, through required bank reserves. Differences in the degree of dependence on seigniorage revenues among potential member countries in a currency union mean that the opportunity costs of foregoing this revenue are unevenly distributed. Large differences have the potential to destabilize a union, as Grilli (1989) has argued. Although individual nations may forfeit seigniorage on their own currencies as the result of creating a unified currency, seigniorage revenue may be earned instead on the common currency in a monetary union. Whether a member would on balance lose from foregoing seigniorage at the national level would depend on the mechanisms stipulated for distribution of common revenues amongst members.

The benefits and costs of monetary integration thus have several characteristics. First, in contrast to benefits of monetary integration, which are international and have a public-good nature, the sacrifices made by joining a monetary union are mostly national. This contrast between the benefits and costs of monetary integration is a crucial element when we apply the calculus of participation to the problem of monetary integration.

Second, the benefit-cost payoff to participating countries changes over time. Initially, the costs of sacrificing domestic economic objectives and an independent monetary policy are large. As capital market integration proceeds, so the financing of fiscal deficits becomes easier and hence these adjustment costs become smaller. However, the common benefits of monetary

integration are enjoyed only at a later stage. For example, the saving of the costs of currency conversion occurs only after a complete exchange rate union has been attained, and the benefits arising from the stability of exchange rates can be reaped only after confidence in the fixity of parities has been established. Therefore, the benefits may be attained only in the long run, and uncertainty remains whether they will actually be realized, whereas the costs of sacrificing an independent monetary policy are incurred with certainty at an early stage. If currency markets detect any time inconsistency as a result of an unsustainable temporal distribution of costs and benefits, they will require a premium to hold a national currency during the progression towards full integration.

Third, the openness to trade and factor flows of the economy of a monetary union member country has an important influence on the magnitude of the benefits and costs which she derives from monetary integration. If an economy is relatively open, with large import and export flows relative to domestic transactions, the costs of adjusting its output or employment level for balance of payments reasons will be small (McKinnon 1963). The savings in currency conversion costs will also be proportionately larger in a more open economy. If the economy is closed, however, these savings will be less significant, while the costs of adjustment will be relatively large. Prior integration of the markets for goods and services and factors of production among member countries may increase the desirability of monetary integration

by increasing average levels of openness. However, Feldstein (1992) makes the case that monetary integration is not necessary for the benefits of other forms of economic integration to be enjoyed. de Grauwe et al (1992) have taken issue with him on this.

In order to understand the actual process of monetary integration, however, the mere consideration of the benefits and costs does not suffice. One has to analyze the incentive for each participant --- whether a nation or a region within an emerging nation --- to join a monetary union (Hamada 1985, Ch. 3). In other words, the political economy of creating a monetary union must be studied.

According to the theory of rational participation (for example, Riker and Ordeshook 1973, chapter 3), an individual decision unit decides to participate in a collective action if the expected benefit is larger than the expected cost. The rational decision for a country contemplating membership in a monetary union is to join if the benefits from participation, such as the reduction in uncertainty, are larger than the costs, such as the sacrifice of an independent monetary policy.

When the benefits of collective action exhibit a public-good character, however, the amount of collective action may be less than Pareto optimal. Olson showed this by applying the theory of public goods to collective action (Olson 1965; Olson and Zeckhauser 1966). Following the Samuelson principles of public goods provision, a rational individual decides on the level of

public good provision by equating the marginal private benefit from the public good with the marginal cost of supplying a unit of the good. Thus, the supply of the public good may be less than optimal because an individual decision unit does not take account of the external effect on other decision units. Therefore, even when a consensus exists concerning the objective of a collective action, the amount produced may be too small.

An interesting testable hypothesis about group behavior emerges: that the behavior of a large group will be different from that of a small group. The shortfall in supply of a public good will be more likely in a larger group because the free-rider problem will be more acute if each member shares in the common benefit to only a small degree. A second hypothesis is that the decision unit which receives a relatively large proportion of the benefit of public goods will be more willing to bear a larger than proportional share of the cost. As a corollary, a smaller decision unit may have disproportionate influence since her participation affects the level of benefits enjoyed by the larger. A small decision unit may therefore take advantage of a large one (Olson 1965).

Olson's theory of collective action can be supplemented by the theory of political entrepreneurship or leadership studied by Wagner (1966) and developed in more detail by Frohlich, Oppenheimer, and Young (1971). If an agent with political entrepreneurship can persuade the group of the effectiveness of collective action in spite of the apparent excess of individual

cost over individual benefit, then the optimal amount of collective goods may be supplied, with some leadership surplus left over for that agent.

These insights from the political economy literature may be applied to the decision of a country to participate in a monetary union. This decision is based on a comparison of the gains from joining a union with the costs and is an all-or-nothing decision. The addition of a new member to a monetary union generates externalities for existing members, who may experience the benefits listed earlier. However, the potential member decides on participation based on individual costs and benefits. Hence, the failure of individual rational actors to take account of such externalities may mean that a currency union is smaller than optimal (Casella 1990, Hamada 1985). The role of a nation which serves as monetary entrepreneur is to broker compromises among potential participants to overcome the coordination problem. This may require offering non-economic incentives (or coercing) or subsidizing the short-run costs of smaller members in order to encourage their participation. In the context of monetary unions, a 'free rider' is a country which unilaterally fixes its currency to that of an existing union in order to enjoy the benefits of such association, but without the multilateral commitment to exchange fixity which binds monetary union members and may cause them adjustment costs.

### III. Monetary Integration in the Formation of Nation States

Historical examples of monetary integration can be found in the process of forming new nation states. The experiences of such countries as 19th Century Germany, Italy and Japan, which developed relatively late, are particularly interesting because the process of monetary and currency unification in these countries meant uniting currencies issued by local provinces into a single national currency (Hamada 1985, Ch.3). The recent German Economic Monetary and Social Union provides a modern example of this process. Finally, a case of monetary disintegration, as the Austro-Hungarian Empire was broken up, sheds further light on factors important to integration by illustrating the reverse process.

#### (1) Germany

The creation of a united Germany in 1871 followed a long period of gradual economic harmonization. In 1834, the Zollverein, a customs union of 18 German states, was created. Member states agreed to relax internal customs barriers (Henderson 1984). The collection of customs duties at the borders of the Union and their distribution to member states necessitated a stable means of exchange among those with their own currencies. In 1838, the Zollverein states agreed to fix the values of their currencies to the Cologne mark of fine silver. Two currencies associated with the larger states predominated: the thaler of Prussia was the major currency of northern Germany while the florin was used in Bavaria and other southern German states. As

the driving force in the move to expand the Zollverein, Prussia thus played the role of monetary entrepreneur by promoting increasing measures of integration.

Although the 1838 agreement helped establish a firmer relationship between the two main currency blocs, there were still seven currencies circulating in the German states at the time of unification in 1871. All the pre-unification currencies had silver as their basis. Thirty-three banks had the right of note issue. The process of monetary unification took place in three stages. First, the mark became the new currency unit in 1871 and the minting of gold coins was regulated. The value of the mark was defined with respect to circulating silver coins which were to be gradually withdrawn from circulation. This shift towards a gold standard was consolidated in the second phase of monetary unification in 1873 when the use of silver as legal tender was restricted to small denomination coins. As the second major nation (after Britain) to adopt the gold standard, Germany increased the momentum of the move towards gold in other countries. Third, in 1875, the Prussian Bank became the Reichsbank with a charter of serving as state bank for the entire new German state. Although the other banks retained their right of issue, these rights were gradually circumscribed, until in 1935, the last five banks had their issuing privileges cancelled. German monetary unification was largely complete by the end of the third phase, only four years after political unification. However, the process had followed years of gradually increasing

economic integration.

## (2) Italy

The unification of Italy in 1861 happened so rapidly and the new state was born in such turmoil that there had been little opportunity to give thought to her structures and institutions.

At the time of unification, there were five different currencies, and five banks of issue, which increased to six when Rome was

added as a region in 1870. It was decided to make the Piedmontese

lira the new national currency, now called the Italian lira. The

lira became the basic unit in a bi-metallic system in which the

rate of gold-silver conversion was fixed at 15.5 to 1. Other

coins were to be retired and reminted. The various regional banks

resisted attempts to remove their rights of note issue. In 1893,

however, the Bank of Sardinia, which had emerged as the fastest

growing and largest bank, formally became the Bank of Italy by

merging with the Tuscan banks. The last two original banks were

relieved of their right of issue in 1926. The process of monetary

unification took longer in Italy than Germany, in part due to

continuing economic problems inherited from pre-unification, and

in part owing to the lack of a strong, distinct monetary

entrepreneur.

## (3) Japan

In Japan during the Tokugawa period, the central government

monopolized the coin issue, which was based on a bi-metallic

system of gold and silver with auxiliary use of copper and iron

coins. The right of note issue was however left to the feudal

lords of the provinces, subject to central government control.

Often local notes were issued to ease the financial difficulty of local lords; sometimes, it was to provide liquidity to offset the deflationary effects of the coinage policies of the central government. At the time of the Meiji Restoration, 1700 kinds of notes were in issue in 244 provinces --- probably the largest number of issuing agents within the borders of a single nation.

Following the Restoration, the government introduced the yen as the new currency unit in a decimalized system. Yen coins were issued in both gold and silver at a ratio of 1 part gold to 16.11 parts silver. Although the system was bi-metallic in name, it was at first a silver standard in practice (Muhleman 1895). Local notes were redeemed by the central government during 1872-1879, and new national banks given the right of issue. In 1899, following inflation, caused by excessive issue of inconvertible notes, and subsequent deflation, the Bank of Japan became the single bank of issue. Ultimately, Japan too came to adopt the gold standard.

#### (4) GEMSU

The most recent example of monetary union following political unification is the German Economic Monetary and Social Union (GEMSU) Treaty between West Germany and the German Democratic Republic (East Germany) which came into force on 1 July 1990. Driven by the political necessity of symbolic unity but also by fears of economic instability in the GDR, the treaty made provision for a two-tier system of conversion of Ostmarks

(OM) into Deutschmark (DM). Salaries and wages, pensions, debt contracts and personal savings up to OM 2000 were converted at a rate of 1 for 1. This rate was well in excess both of black market exchanges of DM for OM prior to union and of measures of purchasing power parity. Other balances were converted at the rate of 2 OM to 1 DM, resulting in an average conversion rate of 1.8 to 1 for all exchanges. West Germany as the dominant partner in the union undertook the role of monetary entrepreneur in initiating the union and in underwriting the fiscal consequences.

Although it is too soon for much scholarly research into the economic consequences of this union, Akerlof et al (1991) provide some early assessments. The conversion of labor costs at the preferential level has caused a cost-price squeeze for eastern German firms since they have been unable to raise prices. This is because demand for their goods has declined dramatically as eastern Germans took advantage of their newly gained purchasing power to obtain western products of higher quality. Fears of an inflationary spending boom by eastern Germans appear to have proved groundless since there is evidence that the eastern personal savings rate rose following unification. However, a large fiscal burden has followed unification as a result of the costs of harmonizing physical and social infrastructure, and of selling off or closing bankrupt firms caught in the cost-price squeeze. In the absence of politically unpopular tax increases, the German budget deficit has swollen. As a result, the German inflation rate has moved above that of other northern European

nations for the first time in years. Monetary policy has been left to bear the brunt of the battle against inflation, resulting in the high interest rates which caused unsustainable strains on many EMS partners.

(5) National Disintegration: Austro-Hungary

At a time when several nations are disintegrating into component regions, and the newly independent regions are considering new currency arrangements, some recent research has focussed on the monetary implications of political breakup. This is, of course, the converse to the process of monetary union formation which we have thus far considered, but it does fit some of the patterns and confirm some of the assertions made here.

Dornbusch (1992) and Garber and Bruce (1992) chronicle the breakup of the Austro-Hungarian Empire into the separate nations of Austria, Hungary, Czechoslovakia, Rumania, Poland and Yugoslavia following World War I. Prior to breakup, the Austrian crown, issued by the Austro-Hungarian Bank located in Vienna, was the currency of the Empire. During the War, the Bank had increasingly become involved in financing the fiscal deficit of the Imperial Government. After the breakup of the Empire, the new states continued to use the crown, constituting a de facto monetary union. However, the Austrian government used its privileged access to the Bank to secure continued inflationary financing of its spending. The negative spillovers from sharing a common currency over which they had no control soon became more apparent to the other new states as hyperinflation set in.

Attempts to shore up the currency union through allowing formal representation of other states on the board of the Bank failed.

In 1920, Yugoslavia and Czechoslovakia were the first of the new states to require that crown notes circulating in their territories be stamped with their own mark in order to be legal tender, thus de facto creating their own currencies and rupturing the monetary union. The macro-stabilization of these economies in the wake of hyperinflation required further drastic measures. The consequences were particularly severe for the states which were slow to leave the crown monetary area. Thus without the overarching political system of control and decision making under the old Empire, there was no framework for credible coordination of monetary policy; the Austro-Hungarian crown currency area did not long survive the end of the Austro-Hungarian Empire.

#### **IV. Monetary Unions among Nation States**

The incidences of lasting monetary union among states which are not moving towards political integration have been relatively rare. We will discuss here three historical examples: the German Monetary Union with Austria, which was short lived, and the Latin Monetary Union and the Scandinavian Monetary Union, both of which lasted several decades. Then we will describe two present day examples, the West African Monetary Union and the European Monetary System (and the move to European Monetary Union).

### (1) German Monetary Union

In 1857, as part of moves to expand the Zollverein, the German Monetary Convention was established between Austria and the German states which were Zollverein members. A new metric measure called the Zollpfund was agreed on as the basic currency unit, replacing the Cologne mark. Parities were reassigned to the thaler and florin accordingly. Provisions were made for the minting of new gold coins, called crowns, and silver coins, called Union thalers, although these coins did not achieve wide circulation. The union with Austria did not last long because the Austrian government soon abrogated the agreement and retained its fluctuating paper money. Following the Seven Weeks War, the Monetary Convention was formally dissolved in 1867, although it remained in force between the participating German states until the new arrangements were agreed after political unification in 1871. Although the union with Austria was short-lived, it did provide further impetus towards the integration of monetary relationships between the German states. The break with Austria illustrates the problem of joint control and coordination in unions where political jurisdiction is divided and where interests differ.

### (2) Latin Monetary Union

The Latin Monetary Union was established in 1865 between several other European states, not long after the German Monetary Convention. Although it lasted considerably longer than the German Union, its survival was critically dependent on France as

the dominant member. The Union was created on the basis of the bimetallic system established in France by Napoleon in 1803, under which the ratio of exchange of gold to silver was fixed at 1 to 15.58. Other countries also adopted this system --- Belgium (from 1832), Switzerland (1850), Italy (1862). As a result, relatively stable exchanges prevailed between them which eased the path to union later.

Following discoveries of gold in the 1850's in California and Australia, gold became relatively cheaper, driving silver from circulation. This would have resulted in de facto adoption of a gold standard in bi-metallic countries if they had not decided to reduce the fineness of their silver coins. However, since the devaluations were uncoordinated, the established system of international exchange rates was upset. In these circumstances, Belgium proposed to France that they coordinate policies regarding metallic fineness of coins and terms of monetary issue. This proposal culminated in the Latin Monetary Union Agreement of 1865, whereby France, Belgium, Italy and Switzerland agreed on the issue of gold and silver coins of standard fineness which circulated freely as legal tender in member countries. A standard coinage or seigniorage charge was announced. Greece joined the union in 1867. A number of other states in Europe, such as Spain, Rumania, Serbia, Bulgaria, Austria and Finland, and in South and Central America, adopted a similar coinage system without formally joining the Union. Efforts to involve other leading nations led to the International

Monetary Conference of 1867 in Paris, but the lack of interest in Britain and the hostility generated by the Franco-Prussian war blocked further extension of the union.

The bimetallism of the Union came under pressure as new supplies of silver discovered in Nevada in 1873 came on the market; also, since firstly, the new German state, and then Holland (in 1873), opted for a gold standard, silver flowed from there into the mints of Union members, with a corresponding outflow of gold. In 1874, the coinage of the basic 5 franc silver piece was limited and in 1878, was suspended altogether, other than for token subsidiary coinage. The Union was then described as following a 'limping bi-metallic standard', with gold as the effective basis and silver for incidental use (Clough 1952). The Union treaty was amended to provide that each state would redeem its silver circulating in other states in gold on termination of the Union. Due to the superior economic power of France, the union was asymmetrical. Large numbers of foreign silver coins accumulated in the Bank of France: Willis estimated that in the event of termination in 1905, France would have had to collect 250 million francs in gold from Belgium, 270 million from Italy and 14 million from Greece. None of them could have met even their reduced obligations under an 1885 treaty revision. Willis therefore concluded in 1905 that the union was "doomed to existence in its present condition for an indefinite period (p.267)", despite frequent statements about the desirability of its dissolution. The union effectively broke down at the outbreak

of World War I when a paper standard was introduced, but was formally dissolved only when Belgium withdrew in 1925.

### (3) Scandinavian Monetary Union

A monetary union was formed between the neighboring Scandinavian countries of Sweden and Denmark in 1873. Norway joined this union in 1875. A common currency unit, the krone, which was gold based, circulated as legal tender in member countries. In Sweden, note issue was in the hands of the Bank of Sweden and private banks, while in Norway and Denmark issue was restricted to the Bank of Norway and National Bank of Denmark respectively. The union was extended to cover note circulation when in 1894, note issuing banks in Norway and Sweden agreed to accept each other's notes at par. Denmark joined this agreement in 1900. From 1905, the conditions of circulation of note issue were amended to allow for commission to be charged on foreign notes. Despite this added cost, joint circulation of notes continued until the outbreak of World War I, when redemption of bank notes was suspended and the union in effect ended (Nielsen 1933).

### Present Day Unions

#### (4) West African Monetary Union

The longest surviving present day monetary union is the West African Monetary Union (WAMU) between seven countries of Francophone West Africa. This union was created around the Central Bank of West African States (BCEAO) in 1962 and has continued since then, with a major revision in its operating

arrangements in 1974. WAMU is one region in the wider CFA Franc zone in francophone Africa, originally established in 1948. In the other region, six central African states have a common central bank, the Bank of Central African States (BEAC) which issues in each a separate currency which is legal tender in all six. Our focus here, however, is on the former region, WAMU, which constitutes a more tightly defined monetary union. In WAMU, the BCEAO issues a common currency, the CFA franc, which is tied to the French franc at a rate of 50:1 with the support of the French government. This support now takes the form of an overdraft facility at the French Treasury with which the bulk of foreign exchange reserves of the union are deposited. In return, France exercises direct influence over the affairs of the union through appointees on the Board of the Bank. She also exercises considerable indirect influence on individual members through concessional assistance and commercial links.

Within WAMU, the Cote d'Ivoire, accounting for almost a third of total GDP, is the dominant state. Monetary policy within the Union operates in a fairly decentralized fashion in that National Monetary Committees in each member country decide on the issue of currency within the overall credit allocation guidelines decided by the BCEAO board. The Bank itself sets rediscount ceilings for each member, reserve ratios and the rediscount rate. Total bank lending to a member government may not exceed twenty per cent of total revenues from the previous year. The Union has come under strain in recent years as a result of the

overvaluation of the CFA franc relative to other currencies due to its peg to the relatively strong French franc.

However, without French support in maintaining the convertibility of the CFA franc in particular, one of the main *raison d'être* of the union would be removed. The union is notable for low levels of intra-union trade (only 7.5% of total international trade is with union members) and factor market integration, hence the external link to larger trade markets is all the more important (Robson 1983, Bhatia 1985). Broughton (1991) has suggested that WAMU does not meet conventional criteria for an optimal currency union. Its survival should be understood rather as a result of the link to the French franc. Hence, it is a form of monetary standard, more than a currency union per se, in which the external anchor has brought discipline and credibility to the economic policy regime of member countries.

#### (5) EMS and EMU

The development of the European Monetary System since its inception in 1979 has offered a striking contemporary example of the process of monetary integration. The EMS was founded as a "flexible, symmetric version of the Bretton-Woods system" (Keenen 1992), following long standing plans of monetary union in Europe. The Werner Report of 1970 envisaged monetary union by 1980, although the turbulent environment of the 1970's was not conducive to economic harmonization. Harmonization implies the process whereby the differences in key national economic

indicators such as the inflation rate, interest rates and levels of government deficits and accumulated debt gradually narrow. By contrast with the Seventies, remarkable harmonization of intent at least, if not always harmonization of actual economic conditions, took place in the Eighties amongst the original eight ERM members. The eight were joined by Spain in 1989, the UK in 1990, and Portugal in 1992. After frequent early adjustments to the Exchange Rate Mechanism, there were no major realignments from 1987 until September 1992. This period of quiet contributed to the sense of inevitability in the progression towards EMU, but proved to be the lull before the storm of suspensions and devaluations of member currencies in September.

Increasingly, the Deutsche Bundesbank has served as the monetary anchor of the EMS by virtue of the size of the German economy and strength of the Deutschmark. This strength was jealously guarded by the Bundesbank with its reputation for high inflation aversion. In a decade when anti-inflationary political commitment ran high, the credibility offered to the EMS by Germany through the ERM came to be valued by politicians in other European countries. Late ERM entrants such as Britain sought entry as a mechanism for disciplining domestic wages and prices. By joining the currency system, entering nations signalled an anti-inflationary stance to the market and bought into the credibility of the Bundesbank, with benefits in terms of lower interest rates. By claiming that their economic policy options were limited through the constraints of EMS membership,

politicians could avoid some of the blame for higher unemployment and lower income in uncompetitive industries which failed without the protection of a depreciating exchange rate.

However, the monetary discipline provided by the Bundesbank became punitive as Germany suffered the real fiscal shock of unification. The costs to other countries of enjoying Bundesbank credibility soared, as high German real interest rates were transmitted throughout the ERM. Members with below full employment felt the effects of the squeeze on interest sensitive sectors like housing and construction. The growing divergence of costs and benefits opened the door for speculators to start to bet that the ERM link was too costly for weaker currencies to sustain. Despite regularly reaffirmed commitments to preserve these currency links, and despite defensive purchases of weaker currencies by central banks, the speculative attacks of September 1992 succeeded in forcing several devaluations. Despite the stated intention of those forced to suspend to return to the system, confidence in the ERM bands was severely undermined.

## **V. Insights From Historical Experiences**

These historical experiences provide several insights (Hamada 1985). First, political integration usually preceded complete monetary integration, while other forms of economic integration sometimes preceded and sometimes followed political integration. In 18th century Germany, the formation of a customs union preceded political integration and necessitated monetary

integration. In Italy, however, political integration, necessitating a common currency occurred before the free movement of goods and factors was achieved. In Japan, free trade had already been achieved when the Meiji government completely centralized political power, but the free movement of labor occurred only after the Meiji Restoration. The circumstances which precipitated the recent German reunification necessitated both full economic and political unification simultaneously.

Second, monetary unions across national borders often did not last long because the political integration needed to consolidate them did not occur. These unions were effective, at least in the short run, only if political leadership was provided by a dominant country, if the number of members was few, and if there was extensive economic integration. In the cases of the longer lived monetary unions described, France provided the leadership of the Latin Monetary Union, and her influence undergirds the current West African Monetary Union. Swedish leadership initiated the Scandinavian Monetary Union. With only three member countries which were closely integrated both geographically and culturally, the Scandinavian Union proved remarkably stable over time. The disintegration of the Austro-Hungarian monetary system after the collapse of Empire provides a graphic illustration of the difficulties of resolving complex issues of monetary coordination without credible means of political coordination to ensure cost and benefit sharing.

Third, the existence of a metal money, or metal monies, was

helpful in anchoring an exchange rate union. This is because the need for coordination is substantially reduced when there is common commitment to a standard which constrains allowable economic policy options. In unions with a metallic base, the issue of irredeemable paper money by some members caused severe tensions. This was the experience of the Latin Monetary Union when Italy and Greece issued paper notes not backed by metal. Adherence to the gold standard undoubtedly strengthened the Scandinavian Monetary Union. Indeed, the gold standard system itself may be seen as a form of giant pseudo-currency union. The simplicity of the rules of the system made it possible for wide spread participation with minimum policy coordination. In more recent times when currencies no longer have a metallic base, a commitment to maintain a firm currency has also served as the basis for ongoing monetary union. This is the case both in WAMU, with its peg to the French franc, and in the EMS, with the de facto link to the Deutschmark.

These findings can also be related to the calculus of participation. The benefits of monetary unification can be enjoyed only when strong confidence is attained in the fixed parities or when a single currency is circulated. Therefore, the metallic content of currencies was important in creating confidence in the exchange rate union. Some effective political integration was still necessary to sustain that confidence over prolonged periods of time.

Fourth, these historical experiences suggest the difficulty of maintaining two kinds of money in circulation at the same time. Gresham's Law was always at work: the currency of higher quality was either hoarded or exported, leading to an excess of the currency of lower quality in the union. This was the experience of the Latin Monetary Union, which received inflows of silver following the adoption of the gold standard in Germany and elsewhere. Moreover, when there were two kinds of money, conflicts of interest often arose. In the Latin Monetary Union, for example, France had a vested interest in using silver as the standard currency while others favored gold. In Japan during the Tokugawa Period, conflict over the metallic content of gold and silver coins arose between merchants around Tokyo where gold was more popular and those around Osaka where silver was more popular (Oishi 1974). In the ERM, where weaker currencies circulate side-by-side with stronger ones, the recent devaluations were forced by runs out of the weaker currencies, forcing their relative price to fall in order for private agents to hold them.

Fifth, the cost of participation in a monetary union in the nineteenth century involved the sacrifice of seigniorage, not the cost of policy adjustments. The costs associated with the underutilization of resources incurred in order to correct a disequilibrium in the balance of payments were hardly perceived before the Great Depression (Guggenheim 1973). Recent studies of the EMS have revived interest in the seigniorage issue. Emerson et al (1992) simulated the effect of EMU on those member

countries most dependent on seigniorage revenue. According to their estimates, only two (Greece and Portugal) of the four countries currently earning more than 1% of their GDP in seigniorage would forfeit more than 1% of GDP in revenues under the envisaged EMU. Consequently, Emerson et al. argue that the micro welfare benefits from fixity in exchange exceed the opportunity costs of this nature even for these nations.

## VI. Quo Vadis Europe?

The momentum behind the move to complete monetary union in Europe, which gathered after the Delors Commission report in 1989, has now been slowed if not halted. Feldstein (1992) has argued that it is the implicit influence of Germany over the EMS which contributed to the push for greater monetary integration in the form of EMU. EMS members came to favor the explicitly 'democratized' monetary institutions of a formalized EMU to the de facto rule of the Bundesbank. This logic was borne out in recent months, as Europe paid some of the price of German Reunification through the spillovers of restrictive monetary policy. The push to a more broadly coordinated monetary policy in the form of EMU was not fast enough, however, to prevent the destabilization of the ERM.

The future of the tightly managed three step Maastricht plan for EMU is now in question as a result both of the shaking of the ERM and of the apparent political disillusionment of voters with plans for European Union. A case now exists for a two speed

implementation of EMU plans. In this scenario, the core currencies (essentially those which escaped with their bands intact in recent months) will move rapidly to unification to prevent further possibility of attack, while the peripheral economies will converge slowly in economic performance until the time when their exchange rates can credibly be linked.

One hundred years ago, Europe also enjoyed a relatively high degree of monetary integration. The emergence of the Italian and German nation states had significantly reduced the number of continental currencies in circulation. The currency standard of the Latin Monetary Union, consisting of France, Belgium, Italy, Switzerland and Greece, was widely followed by non-members such as Spain, Austria and Finland. This brought some measure of certainty to European currency exchanges. In addition, the Scandinavian Currency Union eliminated the need for currency exchanges in this group of northern European nations. The tide towards monetary integration reached high watermark in 1867 at the International Monetary Convention. There, France attempted to persuade other nations to join the new Latin system. For political and economic reasons, important actors like Britain, Germany and the US refused. The burden of maintaining the union in subsequent years fell heavily on France. One hundred years later, perhaps this lesson of history has been well learned. France has been among those most insistent in securing German participation in future stages of EMU, thereby providing a broader economic base and greater credibility for the process.

This historical survey of experiences of monetary integration has shown the need, in the absence of an external (metallic) anchor, for credible political arrangements to resolve coordination problems brought about by monetary union. Only politically legitimate institutions have the authority to address the delicate fiscal questions which are raised by monetary integration. For example, fiscal redistribution across regions may well be necessary to ameliorate the effect of shocks in a single currency area. Redistribution through the federal fiscal apparatus is an important factor in facilitating adjustment to regional shocks within the United States currency area (Sala-i-Martin and Sachs 1991). However, Eichengreen (1992) has pointed out that the prevailing political winds in Europe, favoring subsidiarity and decentralization, are inimical to establishing a lasting monetary union, which requires strong centralized coordination mechanisms. Even under a two speed scheme for EMU, foreign exchange dealers are likely to be suspicious if the broader political and economic coordination questions are not explicitly resolved. Traders' suspicions are premised on an implicit version of the rational actor framework sketched in this paper: despite protestations to the contrary, members of a currency union will not continue to participate if the perceived costs diverge from the benefits for too long. The feasibility and hence credibility of a future currency regime may be judged by the appropriateness of its institutions for resolving spillovers which alter the temporal or spatial distribution of costs and

benefits among members. As recent events show, even small initial doubts about credibility can multiply at exponential rates and can provoke a currency run which may undermine even the most detailed and careful plans for monetary union.

## REFERENCES

ALERLOF, G. et al. 1991. "East Germany in from the Cold: The Economic Aftermath of Currency Union." Brookings Papers on Economic Activity 1.

BHATIA, R. 1985. "The West African Monetary Union." IMF Occasional Paper 35.

BOYER, R.S. 1978. "Optimal Foreign Exchange Market Intervention." Journal of Political Economy 86:1045-1055.

BROUGHTON, J.M. 1991. "The CFA Franc Zone: Currency Union and Monetary Standard." IMF Staff Working Paper 91/133.

BUITER, W.H., C.CORSETTI & N.ROUBINI 1993. "Excess Deficits: Sense and Nonsense in the Treaty of Maastricht." Forthcoming: Economic Policy.

CASSELLA, A. 1990. "Participation in a Currency Union." NBER Working Paper No.3220.

CLOUGH, S. 1952. Economic History of Europe. Boston: DC Heath and Co.

CLOUGH, S. 1964. Economic History of Modern Italy. New York: Columbia Univ Press.

CORDEN, W. M. 1972. "Monetary Integration." Essays in International Finance No.93. Princeton: Princeton University Press.

de GRAUWE, P. et al. 1992. "In Reply to Feldstein." Economist July 4: 67.

DORNBUSCH, R. 1992. "Monetary Problems of Post-Communist States: Lessons from the end of the Austro-Hungarian Empire." IMF Research Department Seminar Paper, August.

EICHENGREEN, B. 1991. "Is Europe an Optimum Currency Area?" U.Cal.Berkeley Working Paper 91-150.

EICHENGREEN, B. 1992. "Should the Maastricht Treaty be Saved?" Working Paper 1-10, Center for German and European Studies, U.Cal Berkeley.

EMERSON, M. et al. 1992. One Market, One Money. Oxford: OUP.

FELDSTEIN, M. 1992. "The Case against EMU." Economist 13 June: 19-22.

FROLICH, N., J. A. OPPENHEIMER & O. R. YOUNG. 1971. Political Leadership and Collective Goods. Princeton: Princeton University Press.

FUKUDA, S. & K. HAMADA. 1987. "Towards Implementation of Desirable Rules of International Coordination and Intervention." Chapter 11 in Y. Suzuki & M. Okabe (eds.), Towards a World of Economic Stability. Tokyo: University of Tokyo Press.

GARBER, P. M. & M. G. SPENCER. 1992. "The Dissolution of the Austro-Hungarian Empire: Lessons for Currency Reform." IMF Working Paper, July.

GRILLI, V. 1989. "Seigniorage in Europe." Chapter 3 in de Cecco & Giovannini (eds.), A European Central Bank?. Cambridge: CUP.

HAMADA, K. 1985. The Political Economy of Economic Integration, Cambridge: MIT Press.

HENDERSON, W. 1984. The Zollverein, 2nd Edition. London: Frank Cass.

KENEN, P. 1992. EMU After Maastricht. Washington: Group of Thirty.

KRAMER, H. R. 1971. "Experience with Historical Monetary Unions." In H. Giersch (ed.), Integration durch Währungsunion. Mohr, Tübingen: Institut für Weltwirtschaft an der Universität Keil.

MAYER, T. & G. THUMANN. 1990. "Paving the Way for German Unification." Finance and Development (December) 9-11.

McKINNON, R. 1963. "Optimum Currency Areas." American Economic Review 53:712-724.

MUHLEMAN, M. 1985. Monetary Systems of the World. New York: Charles Nicholl.

NIELSEN, A. 1933. "Monetary Union." Encyclopedia of Social Science, vol. 10. New York: MacMillan.

OISHI, S. 1974. Ooka Echozen no Kami Tadasuke (The Lord of Ooka Echizen). Tokyo: Iwanami Shoten.

OLSON, M. 1965. The Logic of Collective Action: Public Goods and the Theory of Groups. Harvard Economic Studies Vol. 124, Cambridge: Harvard University Press.

OLSON, M. & R. ZECKHAUSER. 1966. "An Economic Theory of Alliances." Review of Economics and Statistics 43.

RIKER, W.H. & P.C. ORDESHOOK. 1973. An Introduction to Positive Political Theory. Englewood Cliffs, NJ: Prentice Hall.

ROBSON, P. 1983. Integration, Development and Equity. London: George Allen and Unwin.

SALA-i-MARTIN, X. & J. SACHS. 1991. "Fiscal Federalism and Optimum Currency Areas: Evidence from the US." NBER WP.3855.

STOLPER, G. 1967. The German Economy: 1870 to the Present. New York: Harcourt Brace and World.

UNGERER, H. et al. 1990. "The European Monetary System: Developments and Perspectives." IMF Occasional Paper 73.

WAGNER, R. E. 1966. "Pressure Groups and Political Entrepreneurs: A Review Article." Papers on Non-Market Decision Making 1

WILLIS, P. 1901. A History of the Latin Monetary Union. Chicago: U. Chicago Press.