

FORMATION AND DISSOLUTION OF MONETARY UNIONS: EVIDENCE FROM EUROPE, AND LESSONS FOR ELSEWHERE

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Working Paper 03-3

SCHOOL OF ECONOMICS
University of Adelaide
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ISSN 1444 8866

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ABSTRACT

With the establishment of the euro, many commentators have drawn positive lessons from European monetary union for monetary integration in other parts of the world. This paper argues that the European experience of the 1990s is richer than a simple story of the inevitability of monetary integration. The dissolution of the Yugoslav, Czechoslovak and Soviet currency areas between 1991 and 1993 meant that Europe had more independent currencies in 2002 than it did in 1991. These developments are not explained by the dominant theoretical framework for analysing currency domains, ie. the optimum currency area theory originating from Mundell and McKinnon. The crucial issues concerned who determines the conduct of monetary and fiscal policy, rather than the issues emphasized in OCA theory of whether macro policy will be effective or not. A typology of countries adopting a common currency distinguishes between microstates which use another country's currency for (private sector) transactions costs reasons, and currency unions involving larger states which are driven by (public sector) transactions arguments to do with adopting some form of common budget. Assessment of the relevance of OCA theory has implications for evaluating the prospects for monetary unions outside Europe.

JEL Classifications: F33; F02; E50

Keywords: monetary union, currency area

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September 2003

* Paper to be presented at the Australian Economists' Conference in Canberra on 29-30 September 2003. An earlier versions of this paper was presented at the 8th. Convention of The East Asian Economic Association in Kuala Lumpur on 4-5 November 2002 and a related paper was given at the conference on "Empirical Methods in International Trade", held in honor of Max Kreinin at the Johns Hopkins University School of Advanced International Studies in Washington DC on 5-6 January 2003 (revised version to be published in the Kreinin Festschrift (Pomfret, forthcoming)). I am grateful for helpful comments from the discussant in Kuala Lumpur, Chan-Hyun Sohn, from participants in the Washington conference, and from other readers of those drafts, especially Paul Bowles, James Dean, Ian McDonald and Ramkishen Rajan, as well as to Paul de Grauwe for inviting me to participate in the Workshop on Monetary Unions at the CESifo Venice Summer Institute on 21-22 July 2003.

The debate about why monetary unions are formed and dissolved has been stimulated by events in Europe, but issues of monetary union and choice of currency have come on to the political agenda across the world in recent years. Yet, the body of theory which economists use to analyse such issues, optimal currency area (OCA) theory, does not provide useful guidelines in explaining what actually happens. This paper argues that this is because OCA theory draws primarily on the framework of macroeconomic policy analysis, which is relevant for the choice of exchange rate regimes and policy, but is not critical to the discrete step of adopting or rejecting a common currency. Dissolution of monetary unions and opposition to monetary union typically revolve around disputes over control of monetary policy, rather than consideration of the criteria emphasised in OCA theory. Formation of monetary unions does not occur because the adherents have more factor mobility, openness or synchronized cycles, but because they are establishing common policies whose negotiation and implementation is further complicated by bilateral exchange rate fluctuations. In sum, a positive theory of monetary union formation, expansion and dissolution should focus on the control of monetary policy and the content of fiscal policy, rather than on the effectiveness of monetary and fiscal policy as instruments of macroeconomic stability.

The dominant theoretical framework for analyzing currency domains has been the optimum currency area theory originating from Mundell (1961) and McKinnon (1963). Much of the applied literature on currency area formation has come from Europe, following steps towards monetary integration within the European Union (EU) since 1970. The appearance of euro banknotes in January 2002 was a highly visible sign of monetary union among EU members, and many commentators have drawn positive lessons from European monetary union for monetary integration in other parts of the world. Yet, the process of currency union in Europe has not fitted in with the predictions of optimal currency area theory.

The European experience of the 1990s is richer than a simple story of the inevitability of monetary integration. In eastern Europe the number of currencies proliferated between 1991 and 1993 with the dissolution of the Yugoslav, Czechoslovak and Soviet currency areas, so that Europe had more independent currencies in 2002 than

it did in 1991. The second and third sections of the paper analyze the experiences of the European Union (EU), Yugoslavia, Czechoslovakia and the former Soviet Union. Although political considerations are part of the story, economic forces were critical for both monetary union and disunion, but they were not the economic factors identified in optimum currency area (OCA) theory. The crucial issues concerned who determines the conduct of monetary and fiscal policy, rather than the issue emphasized in OCA theory of whether macro policy will be effective or not.

The economic arguments for currency union and the optimal size of a currency area are now being actively debated in several parts of the world. Drawing on lessons from Europe's recent monetary experiences, the fourth section of this paper addresses the prospects for monetary union outside Europe, focussing especially on the independent currency areas in East Asia. Since September 1997, proposals have been floated to form an Asian Monetary Fund or create an Asian currency unit and steps have been taken to increase regional monetary cooperation among the ASEAN countries, China, Japan, and South Korea, but these fall far short of monetary union.

In the concluding section I argue that analysis of the formation of monetary unions has been hijacked by macroeconomists under the rubric of OCA theory. This approach has proven to be lacking, because it places too little emphasis on transactions costs. For microstates such as San Marino or Andorra the drawbacks of monetary independence have long been recognized in the onerous transactions costs. For larger countries such costs have been assessed as minor relative to the benefits of having an independent currency, irrespective of macropolicy arguments about the degree to which the currency's value should be pegged to some external standard. As the boundaries of the nation state change, most obviously in political unions as in Canada, Germany or Italy in the nineteenth century, public finance pressures for a common currency become overwhelming. These arguments had been dormant in the twentieth century, until economic integration within the European Union deepened and monetary union came on the agenda. The transactions costs of agreeing on and implementing common policies are too large when there are separate currencies whose relative value may change.

1. The Theory of Optimum Currency Areas

The modern theory of optimum currency areas (OCAs) dates from the seminal papers by Mundell (1961) and McKinnon (1963). The timing is significant in that the early 1960s were the high-water mark for Keynesian macroeconomic policy. Both of these papers were concerned with analyzing conditions under which macro policy could be effective in an open economy. Mundell emphasized breaks in factor mobility, while for McKinnon OCAs coincide with money illusion, which is related to degree of openness. For them, the emphasis was on establishing the geographical boundaries at which macro policy becomes effective, and hence the point at which abandoning currency independence becomes costly.

Before the OCA literature, the emphasis had been on the benefits of a common currency, or fairly rigidly fixed exchange rates.[1] In the early twentieth century the gold standard provided, in principle at least, a common global means of exchange even if national currencies were issued in differing denominations. Attempts to restore the gold standard, or establish a gold exchange standard, in the 1930s and 1940s were based on deep beliefs in the need for stable means of exchange for both domestic and international transactions. Through the 1950s and 1960s exchange rates among the major trading nations were generally stable.

The main economic benefit from a common currency (or fixed exchange rates) is lower transactions costs. This has long been accepted as the overwhelming argument for mini states (eg. Luxemburg, San Marino, Monaco) not to have independent currencies, but the argument becomes less potent as the currency area becomes large enough to have well-functioning forex (including forward) markets. A second benefit is that in larger currency areas disturbances are more likely to be offsetting, so that exchange rate changes are smaller, with less feedback on domestic prices.[2]

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[1] A single currency was viewed as the extreme case of fixed exchange rates – the only differences are transactions costs or petty inconveniences of acceptability and seigniorage. Rose (2000, 31), however, argues that empirically "The impact of a common currency is an order of magnitude larger than the effect of reducing moderate exchange rate volatility to zero but retaining separate currencies."

[2] The greater price stability is usually ascribed to random shocks being offsetting. Other mechanisms include reduction in weights of outliers in the CPI and reduction in the ratio of trade (or rather transactions

Following the move to generalized floating in the early 1970s, the choice of exchange rate regime and related question of OCAs became much more policy-relevant. During the 1970s and 1980s the debate was most virulent in western Europe, where some countries (eg. Belgium and Luxemburg) already had monetary unions and where the prime international monetary issue was European Monetary Union (EMU). The main disadvantage of adopting a common currency was seen to be the loss of monetary independence. Economists (eg. Eichengreen, 1990) compared the adjustment mechanism in US states to that in independent countries. If oil prices fall, for example, output will decline and unemployment increase in Texas or Alaska and these states would like to either (a) increase the money supply, in order to reduce interest rates and stimulate investment, or (b) devalue, in order to encourage non-oil exports and import-competing activities, but they cannot do either. The adjustment problem will be less if capital and labour are mobile, because the unemployed factors will move to other states, and in very open economies devaluation will not work because prices and wages immediately increase to wipe out any competitive advantage; hence the Mundell and McKinnon criteria for OCAs, respectively.

This approach remains essentially that of recent contributions, such as Alesina and Barro (2001; 2002). Although Alesina and Barro acknowledge a distinction between (a) "client" countries seeking an anchor for their monetary policy and (b) a group of countries creating a new currency (for example, in Alesina, Barro and Tenreyo, 2002, 2), their analysis centres on the conditions under which an independent currency would permit the exchange rate to be a useful macroeconomic adjustment tool. The issue, as with Mundell, is the extent to which having this extra macroeconomic policy tool is worth giving up the transactions benefits of being in a larger currency area. Alesina and Barro argue that the trade-offs might be mediated by history and geography in the real world, so that the type of country most likely to give up its own currency is a small open economy heavily trading with a particular large country and with a history of high inflation and a business cycle highly correlated with that of the potential anchor.[3]

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denominated in, potentially volatile, foreign currencies) to GDP.

[3] This list is similar to the criteria identified in the survey of the original OCA literature by Tower and Willett (1976) and in the textbook treatment by de Grauwe (2000). With several criteria it is difficult to

The outcome of the western European policy debate was the establishment of a common currency, the euro, around the turn of the century, but the process did not parallel predictions of the OCA literature. Although the EU did become more integrated with greater factor mobility and more open national economies, the pace of monetary integration did not follow these trends, and in the endgame capital controls were abolished as a step towards monetary union rather than monetary union being driven by greater factor mobility. Meanwhile, during the 1990s eastern Europe witnessed substantial monetary disunion as several currency areas disintegrated, despite high levels of economic integration (including factor mobility and the absence of money illusion) among their members. The next two sections analyze these divergent trends in Europe, prior to analysis in section 4 of their relevance to monetary integration elsewhere.

2. European Monetary Union

Starting with the European Coal and Steel Community in 1951 and more significantly the Treaty of Rome in 1957, Belgium, France, Germany, Italy, Luxemburg, and Netherlands set out on a process of western European economic integration. During the 1960s these six countries completed a customs union and introduced common policies, including the Common Agricultural Policy. In the Treaty of Rome there was, however, no mention of monetary integration and with more or less fixed exchange rates among the six signatories for most of the 1960s this remained a non-issue.

The first major step towards monetary integration, following large currency realignments in 1969 (the French franc was devalued by 11%; and the German mark (DM) revalued by 9%), was the 1970 Werner Report. The Werner Report provided a

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find a unique ranking of suitability for currency union; eg. a small open economy has the biggest gain from reduced transactions costs, but may also be most exposed to external shocks and hence has the most to lose from giving up the exchange rate as a macropolicy instrument. In one of the few empirical contributions to the OCA literature, Kreinin and Heller (1974) synthesized the various criteria into the single question of whether a country could better deal with external imbalance through adjustment of domestic demand or through devaluation; if the marginal propensity to import is high and demand elasticities for imports and exports are large, then expenditure reduction policies are likely to be a less costly approach than expenditure switching via devaluation, and currency independence is less valuable in this case. They concluded that among the OECD countries Italy, Sweden and Switzerland should be keenest to abandon their national currencies.

blueprint for EMU by 1980 in two steps: three years of narrower limits to exchange rate fluctuations, followed by the operation of rigidly fixed exchange rates and eventual withdrawal of national currencies. The program was adopted in June 1971, which was an inopportune moment as it coincided with the collapse of the Bretton Woods system of quasi-fixed exchange rates. In the new international monetary context, the member countries' currencies operated within narrow bands vis-à-vis one another and within a wider band vis-à-vis other currencies, of which the US dollar was the most important; because the European currencies as a group slithered together within the wider band, when this arrangement was launched in April 1972 it was christened the Snake. Within weeks the large member countries started to exit the Snake; the UK left in June 1972,[4] Italy in February 1973, and France in January 1974. France returned in July 1975, but after France's second exit in March 1976 the Snake had clearly collapsed into a DM zone with Germany plus some small countries.

Why did the Snake fail? The larger countries were unwilling to accept the constraints on their monetary policy independence which were imposed by the fixed exchange rates. The defectors faced a choice between deflation and quitting the Snake, and all took the latter option. The small countries currencies' (Denmark, Belgium, Luxemburg, and the Netherlands) remained pegged to DM. This division could be explained by OCA theory insofar as the small countries were highly open with little macropolicy independence under any exchange rate regime, but it could equally be explained by the benefits from lower transactions costs or greater policy credibility with a DM anchor.

More surprising than the Snake's demise was the brevity of the period before the European countries embarked on a second attempt at EMU. In 1977, the idea of reviving EMU was floated publicly by the President of the European Commission, Roy Jenkins, and was endorsed by the French President, Giscard d'Estaing, and the German Chancellor, Helmut Schmidt. With such support, the next step was inevitable, although ironing out technical details and bringing other large countries on board (notably Italy) took over a year.

[4] Denmark and Ireland also exited with the UK, but Denmark rejoined in October 1972. The Irish pound

Why did these key politicians address the post-Snake situation so quickly? An important consideration was that the Community's common policies, notably the Common Agricultural Policy (CAP), were difficult to administer with fluctuating exchange rates (Pomfret, 1991). With fluctuating bilateral exchange rates and a free internal market, the CAP support price system meant that the price of a commodity in francs or in DM could diverge daily with politically undesirable effects on producers or consumers. To avoid such volatility in national-currency food prices, a system of artificial exchange rates (so-called "green currencies") was implemented with monetary compensation paid to cover unanticipated costs of divergence between green and market exchange rates. In 1977 the net monetary compensation payments accounted for eleven percent of CAP spending, and the CAP took up over three quarters of the Community's total budget.[5] Moreover, the system's complexity offered opportunities for fraud, corruption, and niggling political disagreements (about when to adjust green exchange rates), as well as involving border measures which were incompatible with the principle of a common market. Some evidence of the relationship between CAP and the EMS is that those states benefiting most from the CAP tended to support the EMS, while the UK, Portugal and Greece were more sceptical.

The European Monetary System (EMS) was established in March 1979, with eight of the then nine European Community members participating (the UK was the exception).[6] The new features (a new unit of account called the *ecu* and formal divergence indicators, which were christened the "rattlesnake") were cosmetic, but contrary to pessimistic predictions by many economists the EMS survived the 1980s unscathed. The EMS passed through three phases:

1. March 1979 – March 1983 -- many realignments,
2. March 1983 – January 1987 -- less frequent (and smaller) realignments,

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remained at par, and circulated side-by-side, with the British pound until 1979.

[5] Although the system was supposed to be symmetrical, countries paying into the common budget brought their green exchange rates into line with market exchange rates more quickly than countries receiving payments from the common budget, so that the net effect on the Community's budget was negative.

[6] This configuration meant that Ireland abandoned its de facto monetary union with the UK, and joined the EMU process leading to adoption of the euro. In case studies of Irish trade, Thom and Walsh (2002) find that breaking the currency union did not have an adverse impact on Ireland-UK trade, while Fitzsimmons et al. (1999) find that trade between Ulster and Ireland is greater than predicted by a standard gravity model

3. January 1987 – September 1992 -- no realignments.

Unlike the 1970s, the 1980s were favourable to monetary integration due to policy convergence, as all members accepted low inflation as a target.[7] Even beyond this, however, there was a greater willingness to subsume macropolicy to the EMS constraints. The key episodes concerned France in 1981-2, where the new Socialist government espoused expansionary macro policies but fairly quickly accepted the primacy of maintaining the EMS intact.

Why did the EMS not follow the Snake into oblivion? OCA theory would point to increased integration of factor markets and greater openness, but the 1980s were a decade of Eurosclerosis when little progress was made until the "1992" project for completing the internal market was adopted and implemented in the late 1980s and early 1990s.[8] A common explanation during the 1980s was that EMS members sought to take advantage of the German central bank's reputation by anchoring their currencies to the DM, but this too is an unconvincing explanation, because France and Italy had poorer inflation records in 1979-83 than the UK (which had a floating exchange rate) and because by the early 1990s France, not Germany, was the low inflation country of the EMS.

A more convincing argument is that EMU was perceived by the more federalist-minded EU members as necessary to prevent exchange rate fluctuations from undermining the policy consensus on the common market by accentuating adjustment pressures on inefficient national industries (Eichengreen, 1993, 1332). As mentioned above, the most salient of the sectors affected by the EU's common policies was agriculture, and the CAP had immediately become more difficult to administer with fluctuating exchange rates (Basevi and Grassi, 1993). This argument could be extended to the entire budget process; if the EU were to move to a more federal entity with a larger

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despite the absence of a common currency after 1979.

[7] Initial conditions in 1978-9 could, however, have provided a plausible explanation of failure if the EMS had collapsed quickly; the 1979-80 oil shocks had differential impact on EMS participants, as did the monetary policy change in the UK following Mrs. Thatcher's 1979 election victory.

[8] In 1982, on the twenty-fifth anniversary of the Rome Treaty, the (London) *Economist* newspaper had a cover picture of a tombstone dedicated to the death of the European Community. Although the *Economist* was a long-time Eurosceptic, this dismal view was widely held at a time when the Community appeared to be having trouble both in absorbing new members and in finding new initiatives. Even under these adverse

and more politically contentious budget, then it would be awkward to set contributions and benefits in a common currency when national currencies' relative values were changing daily by possibly substantial amounts. When the currency area literature refers to the benefits of reduced transactions costs with a common currency, this is typically interpreted as the costs facing private sector traders, but it also applies to the transactions costs within the public sector of a political entity covering multiple currency areas.

The success of the EMS encouraged European leaders to consider how to move from the EMS fixed exchange rates to full monetary union. The 1988/9 Delors Committee set out a timetable for EMU, by which:

- all EU members would join the EMS exchange rate mechanism (Spain entered the EMS exchange rate mechanism in June 1989 and the UK in October 1990),
- restrictions on movement of capital and on financial transactions within the EU would be abolished in 1990, with a two-year extension for poorer countries,
- a European Monetary Institute, forerunner of a European Central Bank, would be created in 1994 to coordinate monetary policy. National central banks would continue to exist but be independent of their governments and not grant credit to public corporations. Governments were to avoid excessive budget deficits,
- full monetary union with a common currency.

The December 1991 Maastricht conference set targets for policy convergence, which were formalized in a treaty signed in February 1992. The important point about giving the Maastricht agreement treaty force was that it indicated the political will in the majority of EU members to move to EMU.[9]

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conditions, the EMS had by 1982 survived three years, already outstripping the Snake's effective longevity.

[9] Gros and Thygesen (1990) set out the case for the institutional approach, based on establishing a European Central Bank, as a necessary and feasible method of attaining EMU. Many academic economists underestimated the importance of political will in making EMU happen. A widely-read article by de Grauwe (1994) contained a section entitled "The Maastricht road does not lead to EMU" and, given that the strategy devised in the Maastricht Treaty had proven "impracticable", he proposed an alternative road. Similar dismissal of the Maastricht approach was voiced by many other European economists (cited by de Grauwe) and prominent US macroeconomists (eg. Feldstein, 1992). In contrast, popular discussion often ascribes the post-1992 push to EMU to the personal efforts of Chancellor Kohl and President Mitterand, but it is striking that they followed the lead of Schmidt and Giscard d'Estaing who in both cases were from the opposite side of the domestic political divide.

The biggest challenge to the EMS exchange rate mechanism arose after German economic and monetary union occurred in 1990.[10] German interest rates rose as the government borrowed to finance reunification, and pressure to follow the German interest rate increases led to a major crisis in other EMS members in September 1992. The UK and Italy left the exchange rate mechanism, although Italy returned. Spain and Portugal introduced capital controls, but they were temporary; their currencies were devalued, and then the controls were removed. Sweden left the exchange rate system after raising interest rates to 500%. The lesson drawn from this episode was that fixed but adjustable exchange rates are unsustainable without capital controls. Given the agreement to abolish capital controls within the EU as part of the 1992 program, only two alternatives remained: the UK, Sweden, and Denmark have opted for floating exchange rates, and the other EU members have given up monetary policy. Establishment of the European Monetary Institute on schedule in 1994 effectively terminated independent monetary policy for the participating countries. A currency crisis in 1995, following depreciation of the US dollar which increased demand for DM, was far less significant than that of 1992.

The final stage of EMU began in January 1999 with the introduction of the euro for transactions. The European Central Bank (successor to the European Monetary Institute) in Frankfurt now conducts monetary policy for the euro region. In January 2002 the new banknotes were introduced and by July the old currencies ceased to be legal tender in the twelve participating countries. Of the OECD countries covered by the Kreinin and Heller analysis, Italy is indeed in the monetary union, but the two other "most likely members" are not, because Switzerland is outside the EU and Sweden is skeptical about union. Ten of Kreinin and Heller's less likely members are inside the eurozone, but the UK and Denmark or not; again the division between insiders and outsiders has

[10] Although not well-integrated into the currency area literature, German economic and monetary union clarified some issues. Technically, monetary union was not difficult. There were associated costs of increased unemployment in East Germany and higher interest rates in West Germany, but the extent to which these costs were due to monetary union and the extent to which they were due to other policies, especially the imposition of uniform wages, is debatable. This and subsequent experiences undermine the argument of Dowd and Greenaway (1993) that switching costs explain the inertia of currency use, although that argument may have been stronger in the past, eg. the pound's dominance as a global currency outlived Britain's dominance as an economic power by half a century and the bezant and silver peso were used as international monies long after the decline of the imperial powers that introduced them.

nothing to do with OCA-style criteria and everything to do with attitudes towards European political union.

3. Monetary Fragmentation in Eastern Europe and the CIS

While western Europe was moving towards EMU, in the rest of Europe the trend during the 1990s was towards an increase in currency areas. The dissolution of Yugoslavia in 1991 was accompanied by the appearance of new national currencies in the five successor states.[11] The velvet divorce in Czechoslovakia was followed by the emergence of separate Czech and Slovak currencies. After the dissolution of the Soviet Union in December 1991, the majority of the successor states attempted to retain a common currency, but by November 1993 the ruble had been replaced by fifteen national currencies.

In some of these cases, the issue of a national currency had a symbolic element driven by national pride, but in practically all cases there were pressing economic considerations. A key problem for currency unions embracing several countries is who controls monetary policy? The issuer of money gains the seigniorage, but the costs in terms of higher inflation are spread across the currency union.

A single issuer has an incentive to print money to solve its financial problems. This happened after the break-up of the Austro-Hungarian Empire in 1919 tempted Austria to solve its financial problems by printing money; Czechoslovakia and Hungary left the currency union. The dissolution of Yugoslavia after 1991 had the same result, as the government in Belgrade pursued an inflationary monetary policy. Slovenia and Croatia enjoyed no benefit from the expenditure (and in the latter case was being attacked by military forces funded out of the inflationary finance) and immediately delinked themselves from the Yugoslav dinar. Even with a peaceful and reasonably amicable political separation, disagreement over monetary policy may make joint decision-making infeasible. One reason for the Czech and Slovak Republics to issue separate national currencies in 1993 was because they wanted to pursue differing monetary policies, with

[11] The process continued in the late 1990s as Kosovo and Montenegro left the Yugoslav/Serbia currency

the former placing greater emphasis on price stability and the latter wishing to use deficit financing to alleviate the costs of transition from central planning.

Having several centres of money creation is unsustainable because of the free-rider problem. Casella and Feinstein (1989) had made this point in the EMU context, but it was most clearly illustrated by the experience of the Soviet successor states.[12] Even after the dissolution of the USSR in December 1991, the ruble continued to be used as a common currency by the successor states. In 1992 the Baltic countries and Ukraine issued national currencies, because they wanted to pursue differing monetary policies to Russia.[13] The other eleven successor states exerted no real pressure for change, and indeed often stressed the benefits of retaining the common currency, fearing that the increased transactions costs associated with proliferating currencies would exacerbate the already substantial decline in output. Nevertheless, by the end of 1993 the currency union had disintegrated, mainly because the free-rider problem was fuelling inflation (Pomfret, 1996, 118-29).

By traditional arguments the Soviet Union was an OCA, and this remained true of the successor states as a group. Initially, the International Monetary Fund supported retention of the ruble zone and, on occasion, even cited OCA theory as justification.[14] By late 1992 and early 1993, however, it was apparent that the institutional situation was not

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area.

[12] Flandreau (1993) argues that the free-rider problem was averted in the Latin Currency Union in the nineteenth century by agreements on sharing seigniorage, ie. if one country issued more money the other union members would also expand their money supplies proportionately. This was only viable because of the union's limited membership (Belgium, France, Italy, Switzerland and later Greece) and common views on monetary policy.

[13] The Baltic countries were the most committed to re-establishing market economies and, more than other parts of the Soviet Union, recognized aggregate price stability as a precondition for relative prices to play their signalling role. The Ukrainian leadership, on the other hand, was the most committed to using monetary expansion to alleviate the costs borne by those hurt by the end of central planning, with little regard for any inflationary consequences. These differing views reinforced the fact that these four republics had been the most independent-minded in the final year of the Soviet Union, so that there was also a political desire for monetary independence as a symbol of nationhood. Goldberg, Ickes and Ryterman (1994) characterized the situation in public finance terms: "participation in a currency union may facilitate the continuance of a pattern of fiscal transfers and political influence within a region that otherwise would be sharply altered". For them, the argument for leaving the ruble zone was to free a country from the inherited patterns of fiscal transfers so that they could conduct new policies or, in other words, to reduce the transactions costs of policy reform.

[14] The IMF was particularly influential in a situation where policymakers were unfamiliar with macroeconomics, which had been irrelevant in the centrally planned economies. The role of the IMF is debated in Pomfret (2002) and other papers in that special issue of *Comparative Economic Studies.*

conducive to the ruble zone's survival. Even though Russia had sole control over the supply of banknotes, it was unable to control credit creation. Every member of the zone could create ruble credits and use them for its national expenditure, while the costs of credit expansion (in terms of increased inflation) were spread across all members of the ruble zone. When, in the second half of 1993, Russia took firmer measures to gain full control over monetary policy, this was unacceptable to the other ruble zone members. In November 1993 the remaining members introduced national currencies.[15]

The key issue in the collapse of the ruble zone was control over monetary policy. The ruble zone might have been an OCA, as defined by factor mobility or openness, and the replacement of the ruble by national currencies imposed substantial increases in transactions costs on the small open economies in the zone. Nevertheless, abandoning the common currency was ultimately in everybody's interest, given that the existing monetary arrangements were producing hyperinflation and that no alternative monetary institutions were acceptable to all members.

4. Monetary Integration outside Europe

Monetary unions are currently under discussion in several parts of the world. There is, however, little historical experience to draw upon. For the most part, the second half of the twentieth century was characterized by an international monetary regime in which the number of currencies matched the number of economies, apart from a handful of micro-states using a larger country's currency or sharing a common currency. Rose (2000, 11n. and 41) lists 82 countries and territories that used another country's currency or were in a currency union between 1970 and 1990. They are all small, with the most populous being the African CFA countries, whose combined population is just under a hundred million people, the rand zone countries of southern Africa, Panama and Liberia. The last two are

[15] The official timing of the introduction of national currencies was complicated by the fact that some countries issued coupons and other quasi-currencies before formally adopting a national currency. War-torn Tajikistan continued to use the Soviet ruble until it introduced its own currency in 1995, but after November 1993 the Soviet ruble was not accepted in any other country. In the putative Russia-Belarus economic union, Russia is insisting on a single emission centre for money (Article 22 of the December 1999 Treaty), while Belarus's pressure for retention of its national bank contributes to the delay in moving

examples of countries using another country's currency rather than being in a genuine union.

This section examines developments in Africa, the Americas and Asia. Elsewhere, six Gulf states have expressed interest in forming a currency union by 2010.[16] Kazakhstan has proposed a common currency for the Eurasian Union by 2010. In Australasia there have been blueprints for an Australia-New Zealand monetary union, but they seem distant from actual policymaking as long as the two countries remain independent.[17]

Africa

The main examples of currency unions in the second half of the twentieth century were in Africa. Their distinctive feature was the influence of imperial history.[18] The CFA franc zone and the rand zone can both be seen as cooperative unions among independent countries, but they are sustained by substantial incentives from France and South Africa. In this respect they resemble the ruble zone of 1992, in which Russia provided assistance to other zone members in the form of subsidized energy prices and low interest supplies of cash. Both the CFA and the rand zone have, however, a clear centre of monetary policy and hence no free-rider problem of the kind that destroyed the ruble zone.

The CFA franc zone evolved from the monetary arrangements established by France in 1945 for its African colonies. After the colonies became independent in 1960, two regional central banks were established; one for West Africa now covers Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau (since 1997), Mali, Niger, Senegal and Togo, and the other for Central Africa covers Cameroon, The Central African Republic, Chad,

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towards monetary union.

[16] They are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates; see Fasano and Iqbal (2002). The Arab Monetary Fund, which commenced operations in 1977, represents all twenty-two members of the League of Arab States, but its economic impact has been negligible.

[17] The New Zealand literature is reviewed in Bjorksten (2001) and Crosby and Otto (2002) provide an Australian perspective.

[18] In Liberia, an independent state founded by ex-slaves from the USA, the US dollar was widely used from 1847 until the 1980s; it became the sole legal tender during World War II. A central bank, established in 1974, began issuing coins in 1982 and notes in 1989. The reasons for the change appear to be a mixture of assertion of nationalism and desire to finance public spending. A similar sequence occurred in Cuba after the war of 1898 made it a quasi-colony of the USA; as the government became more independent it began issuing a paper currency in 1934.

The Republic of Congo (Brazzaville), Gabon and Equatorial Guinea (since 1985).[19] The common currency was retained, and its value remained unchanged against the French franc from October 1948 until January 1994, when it was devalued by fifty percent. Since January 1999 the CFA franc has been pegged to the euro.

The regional central banks appear to have enjoyed a greater measure of independence than national central banks might have enjoyed and therefore were better able to deliver price stability.[20] Bayoumi and Ostry (1997) report that the average rate of inflation, in terms of the GDP deflator, between 1964 and 1993 was six percent for the CFA zone and fifteen percent for non-CFA sub-Saharan African countries. This might, however, have had more to do with the pegged exchange rate to the franc than with central bank independence. Operation of the zone's reserves and settlement of each regional central bank's payments and receipts in foreign currencies are managed by the French Treasury, which acts as guarantor of the CFA franc's convertibility. The true underpinning of the monetary union was the role of France in offering balance of payments support. Thus, although the CFA franc zone does not fit comfortably with OCA criteria[21] and the price stability has been a double-edged sword,[22] the monetary union has existed for over half a century because of preferential French aid to zone members.

Former British colonies abandoned their pre-existing currency arrangements soon after independence, and the key difference from the ex-French colonies was the lack of British financial inducement to operate common currencies. Post-independence currency unions, such as the East African Union, dissolved as governments saw few benefits to offset the lack of monetary independence. The main exception to the collapse of

[19] Mali withdrew in 1962 and rejoined in 1984. Mauritania withdrew from the union in 1973. Equatorial Guinea is a former Spanish colony and Guinea-Bissau a former Portuguese colony. For more on the historical background of the CFA zones see de Sousa and Lochard (2003), who find that the currency union stimulated intra-zone trade but not by a great amount.

[20] The two banks were, however, dominated by the largest economies, ie. Côte d'Ivoire in West Africa and Cameroon and Gabon in Central Africa (Fouda and Stasavage, 2000).

[21] Monga (1997), using nineteen OCA criteria, concluded that eleven out of the thirteen CFA franc zone countries would be better off with their own national currencies.

[22] The CFA franc was substantially overvalued during the decade preceding the 1994 devaluation and the beneficial effects of that devaluation could have been realized earlier with a different monetary regime. Bayoumi and Ostry (1997) report an average annual GDP growth rate for 1964-93 in the CFA countries of 3.1 percent and in non-CFA sub-Saharan African countries of 3.8 percent.

common currencies among ex-British colonies was the cluster around South Africa.[23] A striking feature of the rand zone, as opposed to dollarized economies, is that South Africa has formal arrangements to share seigniorage with the countries in which the rand is legal tender (Lesotho and Namibia), and the South African central bank is prepared to act as lender of last resort in these countries. In this sense the rand zone is similar to the CFA franc zone where a large economic power offers incentives to poorer countries to use a common currency. Otherwise, the disparity in economic size between South Africa and the other countries means that the rand zone has more in common with the mini-states argument for using a common currency than with monetary union among equal sovereign states. Grandes (2003) finds that the countries in the rand zone, as well as reaping some compensation for loss of monetary independence through seigniorage and access to South Africa's capital markets, have enjoyed greater macroeconomic stability than other members of the Southern African Development Community.

Among proposals for new monetary unions, eleven members of the Southern African Development Community are debating monetary union using the US dollar or anchored to the South African rand.[24] In West Africa, five countries (Gambia, Ghana, Guinea, Nigeria, and Sierra Leone), currently with their own currencies, have agreed to create a new common currency in the West African Monetary Zone (WAMZ). Furthermore, there is a project to merge WAMZ with the West African part of the CFA zone to create a thirteen-member common currency area. Concerns about these projects have been voiced on the basis that there will be insufficient constraint on the fiscal behaviour of the dominant economy, Nigeria (Debrun, Masson and Pattillo, 2002).

[23] The shared monetary history dates back to the 1920s when South Africa's currency became the sole legal tender in Bechuanaland (later Botswana), British Basutoland (Lesotho), Swaziland, and the UN trust territory of South West Africa (now Namibia). The rand zone has formally existed since South Africa, Botswana, Lesotho and Swaziland signed the Rand Monetary Agreement in 1974. Botswana exited in 1976 and Namibia formally joined shortly after becoming independent in 1992. Swaziland, Lesotho and Namibia introduced national currencies in 1974, 1980 and 1993 respectively; all remain at par with the rand. The rand is legal tender in Namibia and Lesotho, and widely used in Swaziland.

[24] The eleven include South Africa, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania and Zimbabwe, plus Zambia which has not yet committed to negotiating but is expected to do so. The other SADC members (Angola, the Democratic Republic of the Congo, and Seychelles) have stated that they will not join the monetary union.

The Americas

In the Americas, the debate has centred on the costs and benefits of dollarization as practiced by Panama.[25] The actual Latin American examples of dollarization involve fairly small economies and the phenomenon seems akin to the decisions of European mini-states to use larger neighbours' currencies, although in Latin America the situation has been complicated by frustration in achieving macroeconomic stability with an independent national currency. Hence the taxonomic category of Alesina et al. (2002) of "client countries" seeking a monetary anchor. The largest country to set out along this kind of route, Argentina under its pre-December-2001 currency board regime, accepted dollarization in the form of circulation of the US dollar as legal tender alongside the local currency, but this proved different from monetary union or full dollarization insofar as when it came to a crunch in December 2001 the national currency was quickly re-established as the sole currency.[26] In 2000 Ecuador abolished its national currency, and in 2001 El Salvador and Guatemala legalized use of the US dollar. In Latin America, there is no question of countries moving to dollarization having any say over US monetary policy.[27]

In Canada, discussion of the desirability of monetary union was revived in the late 1990s.[28] In March 1999 the Canadian House of Commons voted on a motion to study a common currency for the Americans, but the motion was defeated 175-67. Monetary union with Canada had, however, not been discussed in the USA. As John McCallum, a

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[25] The papers in Salvatore, Dean and Willett (2003) provide a range of viewpoints and case studies on dollarization in the western hemisphere. Bogetic (2000) describes the Panamanian case.

[26] Other examples, such as Israel in the 1980s, suggest that a process of *de facto* dollarization does not inevitably lead to disappearance of the national currency, and indeed the norm is for the government at some stage to reassert the primacy of the national currency rather than to confirm the drift to using a foreign currency.

[27] Kenen (2002) distinguishes between currency domains and monetary policy domains. When conducting monetary policy for the US dollar, the Federal Reserve Board thinks only of the impact on the US economy, not on the impact on all dollar-using economies. Thus, dollarization is not the same as having a common currency with a monetary authority which deliberately serves the whole currency area. The USA has also been unwilling to act as a lender of last resort or share seigniorage with countries who dollarize, although the former was among the Reserve Bank of Atlanta's responsibilities when it operated in Cuba in the 1920s and the latter was considered by the US Treasury in the context of a bill unsuccessfully proposed in the US Senate in 2000 (Helleiner, 2003).

[28] Thomas Courchene floated the idea many years ago, and it reappeared in the Canadian policy-oriented press at the end of the 1990s, see Grubel (1999) and Courchene and Harris (1999). It has, however, never attained "mainstream" status and appears especially distant after the US-Canada rift following the March

former university professor now a government minister, points out "the European Union model, in which independent states share decision-making and sovereignty, is alien to American thinking and American history", and he describes the USA as being "light years" away from allowing any other country a formal say in US monetary policy (McCallum, 2000, 2). Given the equally strong Canadian antipathy to adopting the US dollar and allowing monetary policy to be formulated in the USA, US-Canadian monetary union is far away.

Monetary union has been vaguely on the agenda in Mercosur since December 1997. Eichengreen (1998) argues that the desirability of monetary union depends upon what sort of organization Mercosur members want to create; if it is simply a customs union, then separate national currencies can coexist, but if the goal is deeper integration then this may be inconsistent. Such a conclusion fits with the analysis in Section 2 of the EU, which was pressed towards monetary union as common policies became more significant. More recently events have, however, cast doubt over whether even the customs union is sustainable when the two largest Mercosur economies' bilateral exchange rate diverges as much as the Argentine-Brazil rate did in the late 1990s and early 2000s. To some extent this is reminiscent of the impact of the 1969 franc-DM realignment in kick-starting actions towards EMU.

The other area of the Americas where monetary union is seriously on the agenda is in the Caribbean (Worrell, 2003). The members of the Caribbean Economic Community (Caricom) signed an agreement for monetary union in July 1992, which remains in force, although it has not yet been implemented.[29]

In sum, in the Americas, despite recent debates about dollarization, there has been little movement towards monetary union. The process has been restricted to unilateral adoption of the US dollar by a few small economies. The larger countries show little propensity towards entering monetary unions in the near future, despite the satisfaction of

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2003 invasion of Iraq.

[29] The nine existing currencies consist of four (Bahamas, Barbados, Belize, and the Eastern Caribbean currency area) which are pegged to the US dollar at rates which have not changed since the 1970s in quasi-currency board arrangements and five which are officially floating, although the Central Bank of Trinidad and Tobago intervenes to such an extent that the currency is effectively pegged to the US dollar (Guyana, Haiti, Jamaica and Surinam are the other floaters).

OCA criteria (such as openness or factor mobility) for some country pairs. The crucial sticking point is the focus on the US dollar, and the unwillingness of the USA to share monetary sovereignty. Economically unstable countries may adopt the dollar as a credible monetary rule, usually as a macroeconomic stabilization measure *in extremis*, but with the option of withdrawing if and when they choose to reclaim monetary independence.

East Asia

The emergence of Asian regionalism can be dated from the aftermath of the 1997 Asian Crisis and started in the area of monetary cooperation, involving the so-called ASEAN+3 group of the ten ASEAN countries plus China, Japan and South Korea. That was partly in reaction to dissatisfaction with the IMF's role in the international monetary system, but the collapse of the 1999 WTO meetings in Seattle and the diminishing significance of APEC (including the half-hearted attempt by the USA to kick-start further trade liberalization at the 1999 APEC summit through its P5 initiative with Australia, Chile, New Zealand and Singapore) led to new approaches to trade liberalization in the Asia-Pacific region.[30] Bilateral negotiations were begun in 1999/2000 by Japan with Singapore, South Korea, Canada and Mexico, by South Korea with New Zealand and Chile as well as with Japan, and by Singapore with New Zealand (concluded in 2000), Australia, Canada and other countries.[31]

Although the heads of some Asian central banks had met on a fairly structured basis before 1997, the Asian Crisis provided the stimulus for new proposals.[32] In particular, the International Monetary Fund's handling of the Asian Crisis came under criticism in the region for the amount and timing of IMF assistance and for inappropriate conditionality. The lead in proposing new institutional responses was taken by Japan,

[30] With respect to regional trading arrangements, a third wave of regionalism was gathering force in the closing years of the twentieth century. This was led by Asian countries, which had thus far been the strongest bulwarks of nondiscrimination – Japan and South Korea within the WTO and China and Taiwan outside the WTO (Pomfret, 2001, v-vii). Lloyd and Lee (2001) analyze the forces behind the new regionalism in Asia.

[31] On the new bilateral agreements see Rajan, Sen and Siregar (2001) and Scollay and Gilbert (2003).

[32] Fukasaku and Martineau (1996) provide a pre-1997 perspective on monetary cooperation and integration in East Asia.

which floated the idea of an Asian Monetary Fund (AMF) at the ASEM Finance Ministers' meeting in Bangkok in September 1997. Subsequently Hong Kong and the Philippines have gone further and proposed creating an Asian currency unit (Lloyd and Lee, 2001, 215).[33]

The Japanese arguments in support of the AMF have been fourfold (Ogawa, 2001). First, the IMF financial support for the crisis-hit countries was too little and too late. Of course, the validity of the argument that the IMF supplied too little from its own resources depends upon some assessment of what was necessary; Malaysia weathered the crisis without any IMF assistance at all. Second, East Asian countries are underrepresented in the IMF. This apparent inequity is, however, solely a Japanese issue; the other seven countries listed by Ogawa (China, South Korea and the five original ASEAN members) had a combined GDP share of 6.3% and a post-1999 quota share of 6.2%.[34] Third, an AMF could help prevent regional contagion in future crises. This argument is related to criticisms of the tardiness of the IMF's responses in 1997, and its validity depends on both the extent to which one accepts the contagion hypothesis and on whether one believes that faster or bigger or better directed assistance could have forestalled contagion. Fourth, an AMF could better conduct regional surveillance and muster peer pressure to forestall crises than could an institution based in Washington DC.

The four arguments have some merit and struck chords with policymakers outside Japan, but they are not conclusive arguments for a new institution. Some of the suggestions could be handled within existing institutions. For example, in 1998 the Southeast Asian countries proposed an ASEAN Surveillance Process and requested ADB technical support, and the ADB has subsequently taken on a regional surveillance role through its Asia Recovery Information Center.[35] The fundamental reason for the AMF's

[33] More limited currency union has also been considered, especially within Southeast Asia, eg. at Hanoi in 1998 ASEAN heads of state directed the secretariat to study the feasibility of an ASEAN currency (Bayoumi and Mauro, 1999; Madhur, 2002).

[34] Indonesia, Malaysia, the Philippines and Singapore all have IMF voting weights greater than their share of world GDP, as calculated by Ogawa. The complaints about Japanese under-representation go back beyond 1997, and the suspicion is that the unpopularity of the IMF's response to the 1997 Crisis provided an opportunity for Japan to cloak its dissatisfaction under a broader Asian mantle.

[35] The IMF's surveillance mechanism is bilateral, so the regional nature of the ASEAN proposal was innovative. The ASEAN Surveillance Process became operational in March 1999 with a coordinating unit at the ASEAN Secretariat in Jakarta and national units in the ten member countries (Manupipatpong, 2002,

lack of progress has been the opposition from other IMF members, notably the USA, to duplication of roles. Support within the region has also been lukewarm, although the episode has generated new initiatives and thinking about Asian monetary arrangements.[36]

A weaker version of the AMF proposal emerged at a meeting of Asia-Pacific finance ministers and central bankers in Manila in November 1997.[37] The Manila Framework called for a regional surveillance mechanism, enhanced economic and technical cooperation in strengthening domestic financial systems and their regulation, and measures to strengthen the IMF's response financial crises. Although the topics are reminiscent of the AMF proposals, the tone is in terms of supplementing the central role of the IMF.

A more important forum for regional financing arrangements emerged out of meetings begun in March 1999 among the ASEAN Plus Three countries (the three being China, Japan and South Korea).[38] The most significant of these meetings was that of the thirteen countries' finance ministers in Chiang Mai in May 2000, where a regional financing arrangement was established with one billion US dollars in commitments. The Chiang Mai Initiative (CMI), which became effective in November 2000, allows countries to swap their local currencies for major international currencies for up to six months and for up to twice their committed amount.[39] The CMI is framed in terms of supplementing the IMF's role insofar as countries seeking liquidity support must also look for IMF assistance although bilateral swaps under the CMI are not conditional on IMF negotiations being completed. By March 2002 six bilateral swaps, worth $14

112-5). At a meeting in Sydney in March 1999 the Australian government proposed that a regional surveillance information facility be based at the ADB in Manila, and provided financial assistance through AusAID. Staff of the ADB's Regional Economic Monitoring Unit now prepare the *Asia Recovery Report* twice a year and maintain a website at http://www.adb.org/REMU/aric.asp.

[36] The following paragraphs draw on Manupipatpong (2002) and Murase (2002) for information about the various developments and on Bird and Rajan (2002) for policy options raised in the process.

[37] The fourteen economies represented in Manila were the first six ASEAN members, China, Hong Kong, Japan, South Korea, Australia, New Zealand, Canada and the USA.

[38] China had supported the IMF's approach to the 1997 crisis and its "mainstay" role was acknowledged at the December 1998 APEC summit in Kuala Lumpur. China, however, felt that it received little practical reward and relations with the USA soured in the first half of 1999 over the US intervention in Kosovo and bombing of the Chinese embassy in Belgrade. Bowles (2002) contrasts the coolness of Jiang Zemin's visit to Japan in December 1998 with the conciliatory nature of Zhu Rongji's visit in October 2000.

[39] The CMI superseded the ASEAN swap arrangement, which had been in place since 1977 but at its maximum the facility only amounted to $200 million.

billion, had been concluded under the CMI (Manupipatpong, 2002, 118). The CMI has the potential to evolve into the role foreseen for the AMF as lender of last resort in crises, and, with combined forex reserves of around $800 billion, the ASEAN Plus Three countries have the resources which dwarf the assistance given in 1997-8.[40]

Monetary coordination is less advanced. A case is often made for exchange rate fixity to forestall competitive devaluations by countries competing with one another across a range of traded goods and also to encourage direct foreign investment. The simplest solution would be region-wide pegs to the dollar, or even dollarization; McKinnon and Schnabl (2002), for example, conclude that East Asia is a "natural dollar zone". In the years up to 1997 such an arrangement was more or less maintained among the ASEAN countries, China, Hong Kong, South Korea and Taiwan by their *de facto* pegs to the US dollar, but this led to, disastrous in some cases, swings against the yen. [41] Including the yen in an Asia-wide dollar bloc, as with a yen bloc, is a political non-starter.[42]

Proponents of a common currency see that as the best solution to the competitive devaluation threat. In addition, a larger currency area could reduce the required level of forex reserves, because offsetting shocks would reduce the need for a lender of last resort (Stockman, 2001). A single currency is also advocated as allowing the East Asian countries to speak with a single voice in international financial fora.[43] The advocates of a common currency have, however, not addressed the institutional question of how the common exchange rate is determined (and hence how monetary policy is conducted for the entire currency area), who would determine when the lender of last resort acts, and who would speak with the single voice.

The evidence from currency union in Europe is that for the micro-states the transactions costs for private sector agents were too high with a separate currency, for the

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[40] Henning (2002) provides fuller documentation of East Asian monetary cooperation and the CMI.

[41] The third currency phenomenon, as it applies to Southeast Asian countries, is analysed by Bird and Rajan (2002b).

[42] Dollarization is politically implausible apart from extreme cases. The only example in the region is East Timor, whose new independent government decided not to introduce a national currency, but the obvious foreign currencies (of Indonesia or of Australia) were politically unacceptable.

[43] This point, which addresses the Japanese concern about its low voting weight in the IMF, has also been raised by Korean economists (Oh and Harvie, 2001, 261).

new independent states monetary policy was too controversial to cede to a foreign or supranational authority, and for the would-be-federalists of the EU public policy was too difficult with multiple independent currencies. For East Asia's medium-sized and large states, the reduction in private sector transactions costs are insufficient to compensate for renouncing macroeconomic policy independence, while the prospects for federalism or other political union are too distant to make the public-sector transactions costs relevant.

5. Conclusions

What can we learn from the recent history of monetary union and disunion in Europe that might be relevant to the embryonic East Asian financial integration and other proposed monetary unions? One negative lesson is that the optimum currency area literature provides little practical guide to actual currency area formation. Optimality implies maximizing the difference between benefits and costs, but the only real benefits from currency union are lower transactions costs; transactions costs would be minimized if the whole world used the same currency. For OCA theory to operate at a sub-global level, there must be market imperfections. Because the imperfections vary across countries and over time, generalizations about OCAs are impossible and outcomes predicted by OCA theory may be endogenous if currency area formation reduces intra-area distortions.

The OCA literature assumes a background of optimum monetary policy.[44] The eastern European and former Soviet Union experience has shown that a currency union without appropriate monetary policy instruments is a far worse evil than the higher transactions costs from independent currencies, even when the independent currency covers a small national economy. Western European monetary union also stalled on the monetary policy hurdle in the 1970s and only overcame the hurdle when, in the 1990s

[44] With this assumption the OCA literature was hijacked by monetary theorists, and discussion (eg. of EMU) tended to revolve around monetary policy conflicts among potential members of a currency union. The argument of this paper is that monetary policy is not why currency union (as opposed to currency boards or other hard pegs) occurs, although monetary policy disputes may trigger currency disunion (as they did in the ruble zone). The eurozone was not constructed around an anchor currency and the EU's non-euro countries show no common pattern of being, say, the least open or having less synchronized cycles with Euroland; indeed, Denmark or Sweden would, on OCA-theoretical grounds, appear to be better candidates for currency union with the six original EU members than would the Iberian countries or Greece.

most, but not all, of the EU members accepted the loss of sovereignty inherent in a common central bank.

Monetary union also tends to imbed some degree of fiscal policy cooperation. Kenen (1969) argued that in federal states such as the USA or Canada regional idiosyncratic shocks generate automatic and prompt redistribution via fiscal rules, and other federal systems all embody some degree of fiscal insurance. In the EU the problems of operating common fiscal policies when members' contributions and benefits fluctuated with volatile bilateral exchange rate changes were a critical reason for maintaining the momentum for monetary union in 1977-8 and in 1992, when member states appeared to be abandoning the project due to the costs of lost monetary independence. Note that this argument is about the *content* of common policies, such as the EU's Common Agricultural Policy, and not about the need for fiscal discipline, e.g. in the form of deficit caps which received high profile in the Maastricht conditions and the Eurozone's Stability and Growth Pact (de Grauwe, 2000).

The close nexus between currency union and both monetary policy and fiscal policy highlights the distance that East Asia has to go before an Asian currency union is seriously on the political agenda. Monetary policy has to be ceded to a single central bank (or equivalently to a rigid rule such as the Gold Standard embodied). Moreover some degree of fiscal insurance may be necessary to convince all countries of the benefits. Yet, in East Asia the political will to give up national autonomy over macro policies is far away.[45]

On the other hand, many scoffed at the prospects for EMU in the 1970s (and some still failed to recognize its likelihood right up until the introduction of the euro). There are obviously pressing arguments for currency union. In the EU, these are associated with the project for economic and political integration. As many have started to observe in recent years, the relationship between monetary integration and economic integration (and

[45] Smaller currency unions, such as a Thai-Lao baht zone or a Greater Chinese monetary union (combining the RMB, Taiwan and Hong Kong dollars), may be politically more viable even though monetary policy authority is derogated to Bangkok or Beijing. This already happens in the Singapore-Brunei monetary union (Ngiam and Yuen, 2001), which has lasted since 1967 in a similar fashion to the Belgium-Luxemburg economic union (BLEU) in Europe. As the BLEU illustrated, this is not necessarily a stumbling block to wider monetary integration.

political integration) is two-way and mutually reinforcing. There remains, moreover, a lingering feeling that economic forces for currency union may be gathering pace in an era of increasing globalization. What are those forces?

What seems to be absent from the existing literature are convincing empirical estimates of the benefits of currency union in reducing transactions costs. The Commission of the European Communities (1990) in measuring the "costs of non-Europe" estimated large benefits from completing the internal market and from monetary union, but the exercise was clearly biased in the direction of finding such benefits in order to justify the policies. Krugman (1993) drew attention to the absence of serious consideration of the nature or magnitude of transactions costs in debates over the international financial system. Frankel and Rose (1998) further analysed the two-way causality between economic integration and monetary union, and one aspect of that paper was addressed in greater depth by Rose (2000), who found that the impact of monetary union on trade was much larger than the impact of fixed exchange rates.[46] Although this indicates movement towards investigating the nature and extent of the reduction in transaction costs, the literature is still at an early stage. Some authors have suggested that globalization and factors such as the growth of e-commerce have reduced the usefulness of minor currencies to their holders (von Furstenberg, 2002), although the effect of e-commerce on the optimal size of monetary unions could go in either direction (Costa

[46] Rose's results have been criticized for being based on a small and unrepresentative sample; of his 33,903 bilateral trade observations, only 320 are classified as "within currency union" trade and most of these involve a tiny economy and a much larger neighbour. Later studies have generally found smaller, but still statistically significant, impacts of currency union on trade (see, for example the debate between Nitsch (2002) and Rose (2002) and the estimates by Rose and van Wincoop (2001)). Alesina, Barro and Tenreyro (2002, Table 8) summarize the empirical studies. In a similar study of trade in the 1870-1910 period, López-Córdova and Meissner (2003) conclude that "It is reasonable to assert that bilateral trade would be about 3.30 times larger when both countries belonged to a monetary union." Glick and Rose (2002) argue from time series data that changes in monetary unions have been associated with changes in bilateral trade, but the monetary changes are often associated with other large shocks whose impact is hard to isolate. Nitsch (2003) finds that, out of some sixty cases of currency union dissolutions in the Glick-Rose dataset, over two-thirds broke up within a decade of the end of a colonial relationship; the end of the ruble zone, which is not in the dataset would increase the percentage still further. Case studies reach mixed conclusions about the effect of currency area dissolution on trade. Thom and Walsh found no impact in Ireland. Schoor (2003) identifies a 15-20% decline in CIS trade as being due to the collapse of the ruble zone in 1992-3 but ascribes this decline mainly to the need for bilateral balancing (ie. if the ruble zone had been replaced by convertible national currencies, as in the Baltics, then there would have been no trade loss).

Storti and de Grauwe, 2002). There has been no attempt to measure whether the transactions costs of small currency areas have been rising.

To conclude, the main determinant of currency area size is transactions costs. Micro-states often do not have independent currencies, whether they use a foreign currency (as in San Marino or East Timor) or have an asymmetric union (as in BLEU or Brunei-Singapore). Large states have a single currency, even though the regions of the USA or Canada or China are diverse.[47] For the micro-states, the transactions costs for private sector agents would be too high with a separate currency. For the large states the transactions costs for the public sector's economic decision making would be too great with multiple independent currencies.

[47] Single country currency areas rarely break up unless the political union disintegrates. Apart from economically meaningless separate currencies (eg. Scottish bank notes or Manx coins circulating in the United Kingdom), when separate currencies do circulate in different regions of a country, this is a signal of effective or incipient political disintegration.

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