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OESTERREICHISCHE NATIONALBANK

Stability and Security.

WORKING PAPER I 27
PROPOSAL FOR A COMMON CURRENCY
AMONG RICH DEMOCRACIES

RICHARD N. COOPER

ONE WORLD MONEY, THEN AND NOW

MICHAEL BORDO AND HAROLD JAMES

WITH A COMMENT ON BOTH PAPERS BY SERGIO SCHMÜKLER



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Editorial

On February 24 - 25, 2006 an international workshop on “Regional and International Currency Arrangements” was held in Vienna. It was jointly organized by George Tavlas (Bank of Greece) and Eduard Hochreiter (Oesterreichische Nationalbank). Academic economists and researchers from central banks and international organizations presented and discussed current research and tried to review and assess the past experience with and the future challenges for international currency arrangements. A number of papers and the contributions by the discussants presented at this workshop are being made available to a broader audience in the Working Paper series of the Oesterreichische Nationalbank and simultaneously also in the Working Paper Series of the Bank of Greece. The papers and the discussants comments will be published in *International Economics and Economic Policy*. This volume contains the sixth of these papers. The first ones were issued as OeNB Working Paper No. 120 to 122 and No. 125 to 126. This Working Paper contains two papers on the topic “What About a World Currency?”, one more affirmative and the other more critical. In addition to the papers by Richard Cooper and Michael Bordo and Harold James the Working Paper also contains the contribution of the designated discussant Sergio Schmukler.

June 9, 2006

Proposal for a Common Currency among Rich Democracies

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The Proposal

This paper suggests that some time in the not-too-distant future the governments of the industrialized democracies – concretely, the United States, the European Union, and Japan – should consider establishing a common currency for their collective use. A common currency would credibly eliminate exchange rate uncertainty and exchange rate movements among major currencies, both of which are significant sources of disturbance to important economies. One currency would of course entail one monetary policy for the currency area, and a political mechanism to assure accountability. This proposal is not realistic today, but is set as a vision for the second or third decade into the 21st century. Europeans, in creating EMU, have taken a major step in the direction indicated. Their idea could be taken further.

How Would a Common Currency Work?

The following paragraphs sketch how the common currency might be constituted, how it might be expected to function, and how it might be reached. The key components to a common currency area would be the United States, the members of the European Economic and Monetary Union (EMU), Japan, and probably the United Kingdom (which might by time of adoption in any case be a member of EMU). These countries constitute the core of the international monetary system, and are likely to do so for decades to come. They all have high incomes and similar structures of demand and output. Canada, Australia, New

Zealand -- indeed any of today's 30 members of the Organization for Economic Cooperation and Development (OECD) -- would be welcome to join, although for reasons given below becoming full members might be unwise. Members must have democratic governments, to ensure legitimacy. Other countries could, at the initiative of each, link their currencies to the key currency. The common currency could be given any name that commanded wide acceptance -- e.g., bancor (the name suggested by Keynes for his international central bank currency), crown, dirham (the name of the major Roman unit of currency), or ena (for europe-nippon-america). The common currency might, but need not, imply common banknotes for ordinary circulation. Member countries could continue to circulate banknotes containing national symbols, just as (before introduction of the new, hard-to-counterfeit higher-denomination bills) Federal Reserve notes within the United States could be separately identified with the twelve Reserve banks of issue, and even with different names. Euro coins also contain different national symbols. The central point is that they would be fully convertible into one another at a rigidly fixed exchange rate, and electronic payments would all take place in the common currency.

One currency requires a single monetary policy. Monetary policy could be made by a Board of Governors, made up either of pre-existing central bank governors (existing central banks would continue as branches) or of individuals appointed to long terms for their knowledge and probity, or of some combination of the two. If it were made up of governors of the national central banks alone, votes would be apportioned according to GDP, updated at regular intervals.

The Governing Board would decide monetary policy throughout the currency area. But it needs to be made politically accountable, a serious deficiency (in my view) with the

current arrangements of Europe's EMU, where the ECB must report to the European Parliament, but the latter body can take no effective action with respect to monetary policy. Only amendment of the Maastricht Treaty, requiring unanimity among all European Union members, can do that. In contrast, the US Federal Reserve, while independent of the executive branch of government, is not independent of the political process, hence political accountability, since its statutes are determined by simple legislation, which could be altered through the normal legislative process. The same was true of the German Bundesbank before its absorption into the framework of the EMU. A supra-national parliament is not required, however, to make the Board of Governors accountable. Its decisions could be over-ruled by a heavy (e.g. 70 percent) vote of national governments as represented by ministers of finance, with votes apportioned by GNP, who are ultimately accountable to parliaments. Such action would presumably be rare, but if in the collective judgement of governments the Board of Governors was pursuing grossly inappropriate actions, its actions could be countermanded. This possibility would itself likely be sufficient to keep monetary policy within the bounds of public acceptability.

The objective of monetary policy should be to maintain "stability of the currency," an artful phrase drawn from the statutes of the German Bundesbank, which leaves somewhat more latitude than the primary charge of the Maastricht Treaty to the European Central Bank to maintain "price stability." The Board of Governors should also look after the soundness and smooth functioning of the financial system, a responsibility erroneously not given to the ECB, acting as appropriate as a lender of last resort. And of course it should cooperate with governments in the pursuit of their general macro-economic objectives.

Rationale for the Proposal

Flexible exchange rates have obtained since 1973 among the major currencies of the world: the US dollar, the Japanese yen, the British pound, the Canadian dollar, and the continental European currencies centered around the German mark. In contrast to what Nurkse(1944) might have expected, the experience has not been a disastrous one, and indeed arguably floating exchange rates helped their economies navigate more smoothly among some major world disturbances, such as the oil price shocks of 1974, 1979-80, and 1986 and the German unification of 1990. On the other hand, some have argued that because world oil prices are denominated in dollars the three oil shocks themselves were caused by sharp movements in dollar exchange rates. While I find this implausible, the fact that the case can be put forward suggests the complexities of cause and effect when it comes to currency arrangements and their impacts on real economies.

Nominal and real exchange rates also responded strongly to the "fiscal twist" of the early 1980s, when the United States pursued an expansionist fiscal policy while Britain, Germany, and Japan, later joined by France, pursued contractionary fiscal policies. Whether one assesses the consequential sharp appreciation of the dollar in the early 1980s as benign or malign, it certainly had real and durable effects not only on foreign trade but also on the structure of output, not least because of high fixed costs sometimes associated with product entry into a national market (as emphasized by Krugman, 1989). Arguably the depth and duration of Japan's recession in the 1990s can be explained in part by excessive exchange-rate-induced industrial expansion in Japan in the mid-1980s, when the cheap yen made Japanese goods highly competitive in the American market.

More recently, the dollar-yen exchange rate reached 85 yen per dollar briefly in 1995 and then moved to 145 yen/\$ briefly in 1998, a swing of 70 percent over three years (and back to 108 yen/\$ by early 1999). The USA and Japan were both successfully pursuing low inflation monetary policies (Japan at 1 percent, USA at 2.3 percent increase in the consumer price index per year). What then justifies a swing of this magnitude? What disturbance does it create for trade (e.g. in stimulating anti-dumping suits by US firms) and for investment planning -- not only for exports, but for a domestic market subject to import competition? What disturbance does it create for balance sheets, especially of financial institutions? How many economically sound firms were thrown into bankruptcy? Might the prolonged recession in Japan -- including extensive overseas investment by Japanese firms -- be related in part to fear of wide swings in exchange rates? Are they hedging against future exchange rate uncertainty by diversifying their production across currency zones, especially into Europe and into North America? Exchange rate movements of this type certainly violate the expectations and contentions of advocates of floating rates in the 1960s (e.g., Johnson) and they cannot signify well-functioning international monetary arrangements.

The euro also went through some gyrations after its introduction in January 1999. It started at \$1.17 per euro, fell erratically to \$.83 in the fall of 2001, and subsequently rose to briefly to \$1.38 in late 2004 -- a swing of 66 percent -- before settling into the \$1.20-1.30 range during 2005. Surely one of the factors inhibiting investment in Europe and Japan in recent years is the prospect -- some would say the certainty -- that in the not-too-distant future the euro and the yen will appreciate substantially against the US dollar, nullifying any calculations of profitability made at today's exchange rates.

We should note another potential source of disturbance: the creation of the euro out of ten pre-existing currencies in early 1999. A number of economists (e.g. Bergsten(1997, 1999), Masson and Turtelboom(1997), Portes and Rey(1998)) have suggested that exchange rate volatility between the dollar and the euro may well be higher than it was between the dollar and the German mark before 1999. The reasons are partly structural -- euroland is much more self-contained than the individual countries were, so exchange rate variation will cause fewer internal disturbances, hence fewer calls for action to stabilize exchange rates; and partly institutional, since the newly created European Central Bank is charged with pursuing price stability, not stabilizing currency values. Thus the ECB need pay attention to exchange rates only insofar as their movements threaten price stability, and pronouncements by the ECB indeed indicate relative indifference to the dollar-euro exchange rate, except for several interventions in the fall of 2001, when the euro had depreciated extraordinarily.

This greater volatility could be greatly aggravated if during the next decade foreign exchange holders around the world decide to switch their claims substantially from US dollar-denominated ones to euro-denominated ones, as some have suggested will occur (e.g. Bergsten (1997), Portes and Rey (1998)). I have argued elsewhere (Cooper, 1999) that a rapid large-scale switch from dollars to euros is not likely to occur because of the absence of sufficient suitable euro-denominated securities, and that growing internationalization of the euro will occur more gradually and smoothly in a context of world economic growth. But if a rapid switch does occur, it is likely to take place in several episodes rather than all at once, leading to episodic depreciation of the dollar, but at a rate and to an extent that is impossible to predict, since the potential for such switching will be seen to be very large.

Exchange rates are increasingly determined by financial transactions, which overwhelm trade and other current transactions in their magnitude. Financial transactions are subject to bandwagon effects, as each player seeks to be ahead of others in the market, and institutional investors seek performance that does not deviate negatively from performance of their peers. Yet the erratic exchange rates determined by such behavior also govern international trade. Particular trade transactions can be financially hedged in the short run, at a cost; but investment for the purpose of engaging in trade cannot be similarly hedged. The result is likely to be both too little total investment, and too much investment in the wrong places, driven by the need of firms to hedge by locating within each major currency area, even if economic efficiency would be better served by locating elsewhere and importing. Furthermore, sustained misalignment of exchange rates is likely to increase protectionist pressures, as it did in the United States during the mid-1980s and in Europe during the early 1990s.

In short, movements in exchange rates, while providing a useful shock absorber for real disturbances to the world economy, are also a substantial source of uncertainty for trade and capital formation, the wellsprings of economic progress. Whatever benefits flexible exchange rates may provide as a shock absorber, and they are real, will be increasingly dominated and eventually overwhelmed by the costs of flexible exchange rates as a generator of economically unjustified shocks to productive activity. This worsening cost-benefit ratio makes a case for a common currency among the world's major economies. A common currency at the core of the world economy will also make easier the management of exchange rates by other countries.

The Adjustment Mechanism

How would the adjustment process work with such a scheme in place? How often would it have to work? Asymmetrical real disturbances leading to payments imbalances would of course lead to monetary contraction in regions experiencing negative shocks, and to monetary expansion in regions experiencing positive shocks. Those changes alone would lead to economic contraction and economic expansion, respectively. The possibility of economic contraction in response to negative shocks leads many economists to prefer flexible over any form of fixed exchange rate. Several important mitigating circumstances need to be mentioned.

First, Europe, Japan, and the United States are all large, highly diversified, open economies, so the likelihood is low that asymmetrical shocks would affect them differentially in a quantitatively significant way. Shocks for each region as a whole are likely to be diversified, and largely offsetting. (It is this factor that leads to some doubts about the inclusion of countries such as Australia or New Zealand, with their relatively high dependence on exports of primary products. But a decade or two hence they may be more highly diversified.)

Second, asymmetrical monetary shocks will virtually disappear with a common currency; that indeed is the point of the proposal. Neither diverse monetary policies nor diverse expectations about future movements of exchange rates would create adjustment problems among the participating regions, as they do now and will increasingly do in the coming years. These translate into real shocks through the movement of real exchange rates, a source of asymmetrical real disturbance that would be eliminated under the proposal.

Third, such asymmetrical real shocks as might occur can be mitigated by offsetting fiscal action, focussed on non-tradable goods. Governments would not of course have direct access to the common Monetary Authority; but they would have access to a broad capital market covering all of the participating countries.

Fourth, real wages could if necessary, over time, move down as well as up, since monetary policy focussed on the producer price index (see below) would leave room for differential movements in consumer prices. An international regime in which monetary authorities all successfully stabilize consumer prices requires long-run flexibility in exchange rates so long as nominal wages are inflexible downward, as they seem to be. Anchoring monetary policy in stable producer prices would avoid this implication.

Implications for Non-Members

Few countries of the world either have or desire freely floating exchange rates. Many fix their currency to some leading currency (or a basket of them); others allow market flexibility but intervene in the foreign exchange market to guide market expectations and to influence the exchange rate. Floating exchange rates among major currencies creates both a policy problem and an operational problem for these countries. The policy problem is to decide to which of the major currencies (or what combination of them) to orient the currency in question, and the operational problem is to choose a currency in which to engage in market intervention. These problems would not be acute if the major currencies did not move significantly against one another, and if such movements as did take place reflected mainly inflation differentials among the major countries, as was thought to be the case by advocates of flexible exchange rates in the 1960s (e.g., Johnson). But major

currencies have in the past decade experienced major swings against one another, creating serious problems for some, perhaps many, third countries in their exchange rate management. One of the advantages of a common currency in the core of the world economy is that countries could confidently frame their exchange rate policies with respect to this common currency – either fixing to it, if that seemed best, or maintaining a managed float against it. It would provide monetary stability for the world economy.

Many countries, including some eligible to join the common currency (e.g. Australia), might find it advantageous not to do so. The more specialized an economy, especially in its foreign trade, the more subject it would be to asymmetric shocks, and the more useful might be a separate currency with its own exchange rate to provide a shock absorber in such situations. Each eligible country would decide for itself where the balance of costs and benefits lay, and of course this calculation might change over time.

Transition: Getting from Here to There

McKinnon (1984, 1996) has proposed an alternative, but not entirely dissimilar, arrangement between Germany, Japan, and the United States (EMU could easily be substituted for Germany). Concretely, as applied to Japan and the USA (see McKinnon and Ohno, 1997), the proposal involves determining a target exchange rate based on purchasing power parity of wholesale (not retail) prices and establishing a permissible band of 10 percent around this rate, with soft edges. The width of the band would be narrowed over time, as confidence in the system grew. Monetary policy in both countries would be keyed in the long run to stabilizing the respective domestic wholesale (in the US, producer) price indices. Concerted market intervention would attempt to keep exchange rates within the

permissible band, but such intervention would not be completely sterilized, to allow exchange rate intervention to influence domestic monetary conditions.

Wholesale prices are dominated by tradable goods, and lack domestic sales taxes and retail mark-ups. They also exclude services. Thus there should be a high correlation in the movement of British, European, Japanese, and American wholesale prices, such that monetary policy in each entity would be targeted on roughly the same price index. If they were successful, inflation rates measured by consumer prices in these regions would differ for a variety of reasons (e.g., changes in sales tax rates, greater competition in retail trade, changes in mix of services consumed and in prices of services), but such differences would presumably have little impact on international trade. Stability in wholesale prices would anchor monetary policy. Since price stability in wholesale prices would lead to some inflation measured in consumer prices, that would introduce some flexibility for adjustments in real wages in the face of nominal wage rigidity, thus facilitating adjustment to shocks both within and between economies. Stability in consumer prices, in contrast, introduces relative price rigidity in the presence of downward price inflexibility, which is widely observed, and thus impedes adjustment.

As an interim process for getting from here to the common currency, the prospective members could adopt the Keynes/McKinnon approach, described above, of targeting monetary policy on stabilizing national indices of producer prices. With low trade barriers these will be made up mostly of tradable goods competitively linked through foreign trade (some agricultural products are today the major exception, but even agricultural trade may be more liberalized after another round or two of multilateral trade liberalization). Over time, the indices could be brought into close direct correspondence, even be made formally

identical. International consultation and even coordination could take place over when (if ever) particular price movements might be excluded, e.g. an exceptional rise in world oil prices. (Indeed, prices of all crude materials might be excluded from the targeted index from the start.) Success in stabilizing closely related price indices in the participating regions should lead to medium run convergence of exchange rate expectations.

Conclusion

The proposal for a common currency among the large industrial democracies draws its rationale from three empirical prognostications. The first is that international financial transactions will continue to grow relative to international trade in goods and services, and that financial factors will come to dominate exchange rate determination even more than they do today. At the same time, the exchange rate will become even more important, as economies integrate further, in determining the profitability of trade and investment than it does today.

The second prognostication is that real shocks among these large economies will not be radically asymmetrical. Because they are large and diverse, disturbances within these economies are likely to be more important than disturbances between them, and adjustment to such shocks will be no more difficult, and perhaps easier, than adjustments to shocks within these economies.

The third prognostication is that financial markets will be just as fickle in the future as they have been in the past. That is to say, they will continue to fail to satisfy Harry Johnson's contention that they are far-seeing and universally stabilizing in their behavior.

Under these circumstances, by eliminating monetary and exchange rates as sources of asymmetric shocks among the participating countries, a common currency will conduce to more stable economic activity and possibly higher growth.

Endnotes

. Under anti-dumping regulations agreed in the Uruguay Round, a firm whose home currency has appreciated must adjust its foreign prices to the change within 60 days to avoid being charged with dumping; de minimus margins for dumping, including "dumping" produced by changes in exchange rates, are only two percent. In short, the anti-dumping rules expose normal business practice of list pricing to foreign customers to protectionist action in the presence of routine movements in exchange rates.

. Gros (1999) is more skeptical that dollar-euro exchange-rate volatility will be higher than pre-1999 dollar-DM volatility.

. In discussing international coordination of policies Keynes (1930) suggested that all major countries target the same index of prices of a basket of internationally traded commodities, ranging from aluminum to zinc. Concretely, writing under a gold standard, he suggested adjusting the official conversion price of gold periodically to maintain its value in terms of an index of 62 commodities -- the equivalent of targeting price stability of the index.

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One World Money, Then and Now

Paper for International Workshop on "Regional and International Currency Arrangements" on 24 and 25 February, 2006 at the Oesterreichische Nationalbank in Vienna.

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There is an undeniable and immediate appeal about the idea of a single world currency, analogous to that of a universal system of measurement. We are all frustrated whenever we try to change money at apparently unfair prices in airports or hotels. In 1866 a U.S. Congressional Coinage Committee expressed exactly this sentiment when it concluded that “the only interest of any nation that could possibly be injuriously affected by the establishment of this uniformity is that of the money-changers – an interest which contributes little to the public welfare.” (Russell 1898, p. 35) Going beyond the personal feelings, it is possible to make a broader argument.

One argument is about what we might like to do: In a global and inter-connected world, we should like to be able easily to assess values and prices and compare them from one end of the world to the other. The attraction of a single world currency is that it makes a simple snapshot comparison of prices at any one moment. Walter Bagehot and his influential periodical *The Economist* in the mid-nineteenth century pleaded vigorously in favor of what seemed like a common sense solution: “Commerce is anywhere identical: buying and selling, lending and borrowing, are alike all the world over, and all matters concerning them ought universally to be alike too.” (Bagehot 1869) This obvious appeal was accepted by all the luminaries of the time, including John Stuart Mill and Stanley Jevons. Over a century later, the frustration of losing money in repeated conversion transactions was often given as a rationale for European monetary union, and the same argument can today obviously be made on a wider and global scale.

A second version of the argument is stronger and predictive: it is about what we will do. In his work on “The Origin of Money”, Carl Menger (1892) at the height of the previous wave of globalization

argued that the advantage of using the same medium of exchange as one's potential trading partners leads a network of merchants to accept a common medium of exchange and unit of account.

In the nineteenth century, the idea of global currency convergence was greatly furthered by the chance nearly (but unfortunately not complete) neat arithmetic ratio of the major currencies, nearly five francs to one dollar, and nearly five dollars to one pound. At the beginning of the twenty-first century, at the moment when the euro rose from its original value to parity with the dollar, and the dollar was nearly an arithmetically neat figure of one hundred yen, the world currency movement received a further boost.

A third version of the argument emphasizes policy advantages. Thus, in a recent survey of "Financial Statecraft", Benn Steil and Robert Litan argue that a widespread dollarization would reduce the risk of financial crises in emerging markets. A more universal currency would minimize the risk of disastrous consequences of those crises, which include pauperization, the rise of anti-globalization sentiment, and the spread of mafia-like organizations that breed on financial distress (Steil and Litan, 2006).

In this paper, we look at the major arguments for monetary simplification and unification before explaining why the nineteenth century utopia is an idea whose time has gone, not come.

1. Transaction Costs:

The most obvious consequence of a universal standard of monetary measurement is that it makes transactions easier and cheaper, and might thus be expected to increase the number of mutually beneficial economic interactions. At the outset of the last great era of globalization, in the 1850s and 1860s, with a move to free

trade following the Cobden-Chevalier Treaty of 1860, a serious effort to introduce a unified world money occurred. Already in 1848 John Stuart Mill in the *Principles of Political Economy* casually remarked that only political obstacles stood in the way of an inevitable world monetary unification ("let us suppose that all countries had the same currency, as in the progress of political improvement they one day will have", Mill, p. 614). The transaction costs of a diversity of coinages was very considerable, since precious metal coins (of different degrees of fineness) circulated across national frontiers, and created complicated problems of measurement.

Some of the answers, it was hoped, could be found in regional monetary unions, in that neighboring countries tended to trade more frequently with each other, and currencies moved across their frontiers. The most important and influential such union, although not the most successful one, was the Latin Monetary Union of 1865, which was intended as a solution to the problem of silver coins of 835 fineness minted in Italy and Switzerland flooding into France and Belgium, where a 900 fineness was still in place. Each country still minted its own coins, but they were of a standard weight and fineness, so that the Belgian, French and Swiss francs and the Italian lira were in practice identical. The high water mark of the movement to world money was the international monetary conference called by Napoleon III in 1867, which was intended to establish a similar agreement on a broader international stage. The extension of the LMU principle – originally developed in the 1863 International Statistical Conference in Berlin – would involve a definition of a dollar as an equivalent to five francs, and of the British pound to five dollars or twenty-five francs. Such a redefinition would mean only relatively small changes in the

metallic equivalent of the U.S. and British currencies (the pound was at a par of 25.22 Francs).

In the debates of the 1860s, some economists drew on historical arguments in their support. The Franco-Polish economist L. Wolowski in 1868 quoted Turgot as stating that "gold and silver are constituted, by the nature of things, as money and universal money, independently of all convention and all law." (Einaudi 2001 p.76) Mill set out by regarding money as a foreign commodity, whose "value and distribution must therefore be regulated, not by the law of value which obtains in adjacent places, but by that which is applicable to imported commodities – the law of International Values." (Mill, p. 607)

The reference to Turgot makes the most important point about these early debates. They proceeded from the assumption of a universal reference in metallic money, and aimed at the simplification and rationalization of national moneys in terms of weights of precious metals.

The vision of 1867 was never realized, and the experience of the 1860s is a good illustration of some of the difficulties on the road to monetary union. The small differences in existing values from the 25:5:1 ratio frustrated any agreement. The British delegates thought that the world should be united around a sterling standard, Americans already looked to the dollar, a few Germans thought that a new German currency could be the basis for the world's money, and most of the French unsurprisingly liked Napoleon III's suggestion, which the principal French negotiator, de Parieu, liked to trace back to Napoleon's uncle musing on the state of the world on the island of Saint Helena. (A small minority, however, called for a more rationally decimal approach, in which the new currency would simply be based on decimal multiples of grams of gold.) (Einaudi 2001)

The major gains of such a move would have been a simplification of some of the more complicated arithmetic of currency conversion in making commercial transactions in the late nineteenth century. But it would not have made much of a difference in policy terms to a world where the major industrial countries in practice accepted the gold standard from the 1870s.

2. Establishing Credibility

The second argument for ambitious schemes of cross-national monetary integration is concerned with improving the policy environment. In particular, there arises in some political cultures a conviction that the state cannot really be trusted to maintain a stable currency, usually because of a poor fiscal regime and strong political pressures. Hence pressure for independent central banks, or – in an environment when these too would be likely to be influenced by the pervasive force of politics – for making a money that is incapable of abuse. The argument about the desirability of “tying hands” (a term originally coined by Giavazzi Giovannini and Pagano, 1986) was the most frequent one made in the early stages of the debate about a move to a European Monetary Union, when in the 1980s many European states had a very bad policy environment (Giavazzi Giovannini and Pagano, 1986; Melitz, 1988)

The character of the political problem is easily demonstrable by reference to the early history of the Latin Monetary Union (Einaudi). Not all governments found it easy to maintain the policies that would sustain convertibility. Italy posed a problem to the LMU because it almost immediately faced the massive cost of the war of unification against Austria (1866) and introduced an inconvertible paper currency issued by the central bank (Banca Nazionale del Regno). Another

problem was highlighted when another high deficit country, the small Papal States, joined the LMU, and over-issued low value silver subsidiary coinage. Napoleon III swallowed his outrage because he did not want to offend French Catholics by condemning the monetary policy of the Holy Father. When other countries, such as Greece, wanted to join the LMU, France insisted that the Greek subsidiary coinage be minted in France, in order to subject the quantity of issue to real control. Without really tight and complete domestic controls, the only way of making the international monetary union incapable of abuse was an extensive restriction of sovereignty.

Sovereignty became more and more important as a political good in the course of the nineteenth and twentieth centuries, with the advance of democracy or popular government. This trend was already obvious in British populist reactions to the government's plans of the 1860s to go for an international currency by making a slight alteration to the British mint parity. The satirical magazine *Punch* accused the Chancellor of the Exchequer of "debasing the sovereign ... to please the French." (Einaudi, p. 156)

Since larger scale war was infrequent in the nineteenth century (with the exception of the German, Italian and U.S. civil wars or wars of unification in the 1860s), the fiscal issues behind the confidence debate did not appear as clearly as they did in the twentieth century. But it was not just a matter of military cost: the twentieth century was the great period of national money, in which states insisted on monetary sovereignty in order to facilitate domestic policy objectives (especially full employment) (Polanyi 1944, Eichengreen 1992a). States also appreciated the room that monetary policy gave for the expression of power in international affairs (Gilpin 2000). But both of these applications involved high costs, and generated inflation and

hyper-inflation. The increasingly urgent proposals for world money are best understood as ways of reducing these costs. It was vital to endow a currency with an external source of credibility.

“Hard fixes” that looked closer to monetary unions were adopted largely in order to establish anti-inflationary credibility in political economies that had been destroyed by prolonged experience of fiscal deficits and inflation. The hard fixes – or more generally the bolder and more comprehensive proposals for world union – were also intended to deal with the so-called “original sin” problem (Eichengreen and Hausmann 2004): the weakness in emerging market economies that results from the inability to borrow long-term in domestic currency. In emerging markets, companies faced an unpleasant choice, in that if they incurred liabilities in domestic currency, they could only borrow short term and there would be a term mismatch with their assets. If they borrowed in a foreign currency, they would be vulnerable to exchange rate deterioration. The consequence is that such companies did not borrow as much as they should have done; and this result may help explain the well known Lucas paradox that so little capital actually flows to poorer economies where there are plentiful potential productivity gains (Clemens and Williamson 2000). In addition, sovereign borrowers in emerging markets with original sin risk debt crises because of balance sheet mismatches following sudden stops or reversals of capital inflows.

Like the LMU, the historical record on this search for externally endowed credibility is at best patchy. Most of the very celebrated fixes, whose architects were feted as the heroes of international finance, came unstuck within a decade or less: the great German stabilization of 1923-4 after the hyper-inflation, when Hjalmar Schacht orchestrated a very hard fix on the dollar, which blew up in the world

depression; the Chilean stabilization of 1979, which led to a banking and financial crisis three years later; or Domingo Cavallo's currency board-like stabilization of Argentina in 1990 (Frankel and Rose 1998). The development of the European Monetary Union is impressive, but the institution of independent central banks was laid down in the Maastricht Treaty as a prerequisite for the accession to the monetary union; and it might be argued that with a credible commitment to independent central banks there was no longer any need for the additional step of monetary union as a disciplining measure.

3. Stopping Bad Policy in Other States

A frequent source of concern in the international monetary system, however, is not concerned with bad policy in one's own country, but about the bad effects of spillovers from bad policy in other countries, especially very powerful countries. This case for monetary internationalism was made very forcefully by von Hayek in the 1930s, which was the great age of monetary nationalism as well as of strikingly bad policies. Hayek reached the conclusion that "independent regulation of different national currencies cannot be regarded as in any sense a substitute for a rationally regulated world monetary system." (von Hayek, 1939, p. 74)

In the postwar era, the main form this sentiment took was the belief that the policies of the United States were harming the rest of the world. This sentiment gave rise to Keynes' attempt to devise the *bancor* as a non-dollar currency; to the famous Rueff and de Gaulle critique of the mid-1960s, as well as to French attempts to introduce a collective reserve unit (which in a very watered-down version

produced the SDR, which cannot really be regarded as a money); to later attempts at the IMF to devise a "substitution account"; and was an accompaniment at both a political and academic level to the European drive to monetary integration. In 1988, for instance, Robert Triffin renewed the critique of the "fantastic US deficits and capital imports" which were "unsustainable as well as unacceptable" and revived the idea of a substitution account denominated in ECUs. (Triffin 1988, 42) French President Valéry Giscard d'Estaing at the first economic summit at Rambouillet in 1975 denounced flexible exchange rates as a "decadent" idea that fostered the abuse of monetary standards.

If it were true that one large and powerful country were pursuing very harmful monetary policies, this line of argument would have an obvious appeal; but at the same time, it might well face difficulties in actually implementing a world monetary reform, in that the large country might well not feel sympathetic to the critique and would use every opportunity to block or frustrate the implementation of "reform". Such was indeed the fate of *bancor*, the French 1960s CRU, and the substitution account.

4. Political Integration via Money

Most of the literature on monetary unions puts a great degree of emphasis on "political will" as explaining the emergence and also the collapse of monetary unions. Nineteenth century Europe in consequence developed a state theory of money, associated most prominently with G.F. Knapp. Most successful cases of currency unions emerged in a national setting, such as the United States or the German Empire of 1871, where a single political system was required before currency could be standardized. The monetary unions were

successful when the political situation worked. Conversely, the Austro-Hungarian currency union, and the single currencies of Yugoslavia and the Soviet Union fell apart with the dissolution of the political structures that had kept them in place. (Cohen 1998; Bordo and Jonung 2003) Political integration in this rationale appears as a necessary and inescapable accompaniment of monetary integration.

At the end of the twentieth century, the idea of supranational monetary unions was revived again, especially in Europe. Some of the rationale behind European monetary integration was concerned with a reduction of transactions costs as a way of making capital markets operate more efficiently; and with establishing an externally generated mechanism in some states (notably Italy) that could give political weight to fiscal reform. But there was a third, and more fundamental, driver of European monetary integration. In Europe, the push to monetary union was part of a process that was intended to drive closer political union, and the logic of monetary union required (and continues to require) a further degree of political coordination, in particular in regard to fiscal policy. This had been seen from an early stage. Already in 1950, Jacques Rueff had prophesied that "Europe will be made by money or it will not be made."

The Fading Attractions of Monetary Union:

The reasons for monetary integration as set out above are becoming increasingly less persuasive.

1. The transaction costs argument is obviously permanently attractive, but transactions costs have been reduced by more extensive currency markets and by the possibility of using hedging to eliminate risk in forward transactions. Most analysts now recognize

that the theory of optimum currency areas does not fit very well with the story of actual monetary unions.

The Optimum Currency Area argument was developed in the early 1960s by Mundell (1961), McKinnon (1963) and Kenen (1969) early in response to the ongoing debate over fixed versus floating exchange rates. An OCA was viewed as a geographic area in which the benefits of a single currency in terms of reduced transaction costs outweighed the costs of giving up the use of domestic monetary policy to offset the effects of asymmetric shocks. The early approaches to OCA assumed a Keynesian world with nominal wage rigidity and labor immobility. In such an environment a monetary union between disparate regions would only work to the extent that it was complemented by a fiscal union (fiscal federalism), which would compensate those areas already affected by the shocks which an independent monetary policy could have offset. Such a fiscal arrangement generally depends on a high degree of political integration. In addition to the degree of labor mobility, the theory stressed openness: the more open an economy as measured by the share of traded goods, the greater the benefits of a reduction in transaction costs.

OCA criteria were extended for the discussion about EMU in the 1980s and 1990s (Eichengreen 1996). Empirical evidence on the degree of labor mobility within Europe, the incidence of asymmetric shocks, and the possibility of fiscal federalism concluded that the European Union was not an OCA, and that it compared unfavorably with the experiences of federations such as the US or Canada. Despite this negative evidence, the EMU project was successfully driven forward by the political agenda for European integration.

A recent evaluation (Bordo 2003) suggests that since the launching of EMU, limited progress has been made in meeting the OCA criteria. This raises the possibility that areas which do not qualify ex ante as OCAs may actually ex post become OCAs. Frankel and Rose have thus recently argued that ex post integration of goods and capital markets follows monetary union. In rationalizing production across national boundaries, the asymmetry of real output movements between members is reduced, and hence there is less of a need either for fiscal transfers or for the preservation of independent monetary policies.¹

The recent debate seems to reinforce the conclusion of Goodhart (1995, p. 452) that : "The evidence therefore suggests that the theory of optimum currency areas has relatively little predictive power.... The boundaries of states rarely coincide with optimum currency areas, and changes in boundaries causing changes in currency domains rarely reflect shifts in optimum currency areas."

2. In terms of economic stabilization, original sin is becoming less of a problem with a combination of a better policy environment in many emerging markets, and more sophisticated financial markets. Mexico, for instance, in 2000 started to issue three and five year fixed rate bonds, and by 2003 was issuing twenty year bonds. Moreover in smaller advanced countries which have original sin in the sense that they needed to issue foreign currency denominated debt, the likelihood that this exposed them to financial crisis is remote (Bordo and Meissner 2005). Indeed over the past fifteen years, many countries have embarked on a "graduation" that makes the discipline imposed

¹ Eichengreen 1992b and Krugman 1993 present the opposed case, that monetary union leads to increased specialization between countries rather than rationalization, and hence increases rather than reduces the likelihood that the correlation of output movements would be negative.

by a strong or irrevocably fixed external anchor less essential to economic success.

3. Monetary policy in the world in general is improving with a better understanding of appropriate goals and instruments. In particular, there is a generalized understanding that bad policy hurts the country that is pursuing it, without bringing much in the way of long term gain. Advanced countries have developed a domestic fiat money nominal anchor based on central bank independence and inflation targeting (both explicit and implicit). There is hence less of a need for coercive action to stop big and powerful states from undertaking the wrong sort of monetary action. Apart from this, it would not be easy to make such external pressure on policy really effective.

4. On the political level, it is doubtful whether monetary and political union can any longer be presented as the reason why states in contemporary Europe are unlikely to go to war with each other. The European experience is also recognized as a quite unique one, that is not easily transferred to other parts of the world. The political framework underpinning EMU depended on two states of more or less equivalent economic weight, France and Germany, reaching a balanced deal. It is difficult to see what state relationships would provide a similar basis for monetary integration in East Asia, Latin America, or the Middle East.

A new view of money:

We have a different concept of money to the one that underlay the nineteenth century discussions. Then there was an assumption of a single reference external to the state, which was most obviously reflected in the definition of value in terms of precious metals. We might term this a Newtonian conception of the world, in which there

are measurable terms that can be used to establish fixed and determinate relations. (By a curious coincidence, Isaac Newton was one of the key influences in establishing this view of money in Britain, whose currency order proved to be paradigmatic for nineteenth century stabilization). Mill described "the whole doctrine of international values" as possessing "a unity and harmony which is a strong collateral presumption of truth." (Mill, p. 627)

In the twentieth century, however, views of money shifted to a more Einsteinian or relativistic conception. Measures of value that can move relative to each other are helpful in terms of dealing with large shifts in relative prices, that will affect different countries very differently. In particular, we may not wish so much to use money as a metric to compare all international prices at one moment, but rather to compare prices over a time dimension in one particular context. But in order to do this, a different management of money is appropriate in different contexts.

In particular, globalization is associated with big changes in the relation of tradable to non-tradable prices. Emerging market countries are likely for some time to experience rising inflation as prices for services rise, corresponding to the increased incomes producers of tradables derive from selling to global markets (Belassa effect). Correspondingly, mature markets are likely to experience periodic bouts of anxiety about deflation, as competition on markets for tradable goods and services drives down prices.

Requiring these two types of countries to have a single currency or a permanent fix would be likely to produce serious problems in one or both. The mature markets should have monetary policies that are less restricted than they were in the past by fears of deflation. The

emerging markets should be free to conduct tighter policies to minimize the possibilities of destabilizing surges in asset prices.

In the absence of the monetary flexibility given by an exchange rate system, political pressures in both blocs will be likely to lead to the adoption of measures that are more destructive of prosperity than a multiplicity of currencies: in particular, the mature economies would be more likely to see the solution to the deflationary danger in terms of measures of trade protection and restriction. Moves to world currency would therefore be likely to lead to restrictions on world trade; and the world trade system is better off with the possibility of adjustment mechanisms through exchange rates. It is the demand for an adjustment mechanism that the Einsteinian view of monetary standards can satisfy, and the Newtonian one cannot.

The history of relations of core and periphery:

The tensions between core and periphery have a historical dimension that makes it difficult to conceive of a true global currency, as opposed to a small-scale union between a number of countries at the core (such as EMU) or at the periphery (such as the CFA franc area). Such strains can be observed in previous monetary eras, when the international monetary order, under the gold standard or in Bretton Woods, mimicked aspects of an international money. Under the pre-1914 gold standard, the core or developed countries were fixed on gold, but the periphery had episodes of trying to conform to the golden rule, and then being forced off (Bordo and Flandreau 2003). That was an exercise in transferring instability and its costs from the core to the periphery, that could be managed politically in a world of imperialism (in some cases, such as the British empire, the extension of imperial rule with its guarantees of order may have

provided a compensatory counter-weight to the instability generated by the single money). It could not really be managed in a world in which the periphery has a greatly enhanced self—confidence, and in which democratic institutions are spreading.²

A good – if terrifying – example of what can go wrong is of one peripheral country which for reasons connected both to international political prestige and because it hoped to get better access to foreign funds believed it should tie itself to the gold standard of the core. In order to join the single world money of the time, Russia under Finance Ministers Bunge and Vishnegradskii first imposed a severe deflation on itself, that is often blamed for the famine of the early 1890s; then it experienced a series of asset price booms and busts tied to inflows of foreign capital. In relation to industrial shares and other securities, some of the cost was born by foreign investors; but in regard to agricultural property, the inflation of assets radicalized the small farm owners, and contributed to the growth of revolutionary sentiment.

Another famous example of the difficult of monetary management in the periphery was Argentina, which (like Russia) was growing in the late nineteenth century at a spectacular pace. Within four years of stabilizing the currency on a metallic standard (in 1881), it experienced a surge of capital inflows (with a current account deficit of 38 percent of GDP in one year, 1884), and a wave of speculation that led to the government introducing a separate, domestic paper standard. Again, and as in Russia, inflation and speculation prompted massive social unrest.

² There was no obvious solution to the problem of the periphery: countries that avoided the gold standard discipline and floated suffered the adverse balance-sheet effects of devaluations; while those who followed the gold standard ran the risks of speculative inflows followed by collapses. Both cases are explicable as a weakness following from inadequate financial development, that goes deeper than simply the question of the choice of exchange rate.

The Bretton Woods era has recently been at the center of a revival of interest, as a model for Asian currencies' relations to the U.S. dollar. Dooley, Folkerts-Landau and Garber 2003 suggest that it offers an attractive analogy in that dynamic Asian producers have accepted a mutually beneficial bargain similar to that of West Germany and Japan in the 1960s. In this interpretation, dynamic growth areas are happy to accept an undervalued exchange rate and imported inflation in order to generate jobs by an export subsidy through the undervalued currency. In Germany and Japan, export interests pressed heavily against any suggestion of revaluation, in the Japanese case blocking it entirely, and in the German case delaying revaluations until they were both too late and too small to correct the problem. DFG interpret the modern Chinese commitment to maintain a peg, with only small or cosmetic shifts, in a similar way. It cannot be explained on stability or anti-inflationary grounds. The mutual benefits mean that this is a quite stable system, that would offer a suitable basis for a world money.

The parallel between the 1960s and the present is actually not a very good one. In particular, it is not clear that the 1960s deal was perceived as being mutually beneficial in Japan or Germany, and these countries (equivalent to an emerging market periphery) had no input in making U.S. monetary policy. There is no doubt, however, that the result was highly controversial in Germany and Japan in the 1960s. It clearly brought a high level of inflation, which was offensive in particular to an emerging sense of what the Bundesbank's theorists liked to refer to as a "stability culture". The surplus positions and capital flows which were the consequence of the increasing undervaluation of the expanding currencies were absorbed by central banks, which saw big increases in their dollar reserves. In the face of

some criticism from the central banks, the German and Japanese governments explained the accumulation of reserves as a price their countries needed to pay for the security provided by the United States. Indeed, the Bundesbank President, Karl Blessing, in March 1967 signed the so-called Blessing letter, in which he committed the Bundesbank not to exchange its surplus dollars for gold in an explicit recognition that this was the price that Germany needed to pay for the maintenance of the U.S. military presence in Germany.

There is clearly no modern analogy to this side of the Bretton Woods bargain. China has no reason to imagine that it should defer to the United States over security issues. Both sides are likely to have long term divergences in the interpretation of where their interests lie. The U.S. will be worried about deflation and the loss of jobs; and China will want to raise incomes more substantially in order to ward off political discontent. If these preferences emerge as major political themes, the link between the currencies becomes unsustainable. The Chinese preference would seem deflationary to the US, and the US preference inflationary for China. (This kind of divergence over overall goals is already noticeable in the debate about whether Lithuania and Estonia are suitable candidates for EMU because of their high inflation rates, that demand a stricter monetary response.)

It is striking how the most widely touted proposals for world money do not attempt to deal with the issue of who is making policy and in whose interest. Robert Mundell's most precise formulation of the path to world money took an agreement of a "G-3" (the United States, Euroland and Japan) as its basis: "The simplest approach would be to select one currency as the anchor and assign the central banks of the other two the task of keeping their currencies fixed to the anchor currency. Responsibility for monetary policy would be

coordinated by the anchor currency area. Other things being equal, the largest currency area would be the best candidate as anchor.” This approach may appeal to European sensibilities, in that it identified Europe as providing the largest currency area. But it is already beginning to look dated. Should we use the renminbi as the anchor currency when China becomes the largest currency area?

The currency arrangements of the past that most resembled a proposal for a world money relied on the clear strategic superiority of the part of the world whose money was the key to the international system. Many observers in consequence believed that the security system and the monetary order were intertwined. When both the security and the economic balance is shifting quickly, as they are at present, the political dynamics that are essential to successful currency and monetary unions are simply not there. Fortunately, “Einsteinian money” is capable of accommodating shifts that were politically destructive in the Newtonian world.

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Discussion

Exchange Rate Arrangements and Disarrangements: Prospects for a World Currency

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Abstract

This note evaluates the prospects for a world currency, using as a departure point the papers by Bordo and James (2006) and Cooper (2006). The note argues that a world currency is unlikely in the foreseeable future and probably undesirable. Although more evidence is needed, there seem to be no strong forces towards the creation of new monetary unions among the countries with major currencies or between those countries and the periphery. Based on recent experience, the note also argues that one of the main benefits to establish a world currency, the elimination of exchange rate uncertainty, is likely less important than commonly believed. No matter how rigid a currency arrangement is, initiatives to dissolve it tend to appear as bad times arise. Still, the present equilibrium of no world currency leaves unresolved many difficult issues related to the functioning of the domestic and international monetary systems.

JEL classification codes: F31; F33

Keywords: currency regimes; currency union; floating exchange rates; peg; financial crises

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The debate on the merits of a world currency and, more generally, currency unions and hard pegs continues to receive the attention of world-renowned economists. Two good recent examples are the papers by Bordo and James (2006) and Cooper (2006) on the prospects for a world currency. Other good examples are Mundell (2005), Obstfeld (2000), and Rogoff (2001). The opinions are quite diverse and contradictory. At one extreme are Cooper (jointly with Mundell), proposing one currency mainly for Europe, Japan, and the U.S. At the other extreme, Bordo and James argue that the historical proposal for a world currency is an idea “whose time has gone, not come.”

The debate about a world currency is part of a larger debate on whether countries should fix or float their exchange rates. For those who believe that financial market imperfections or monetary shocks are the primary sources of disturbances, it is natural to propose fixing the exchange rate, and at the extreme eliminating the currency, to reduce those shocks. They would argue that these shocks negatively impact investment and the overall real sector, generating efficiency losses. Also, to the extent that there is a significant transaction cost to convert currencies, abolishing a currency would increase trade and economic activity. See, for example, Frankel and Rose (1998, 2002). These arguments tend to be stronger for the case of less developed countries, where governments introduce more shocks on the financial/monetary side, lack credibility, and have consequently underdeveloped financial sectors. The recent thinking disfavors soft pegs, arguing for rigidly fixing through currency boards (although they also became somewhat discredited after the Argentine crisis), unilateral adoption of other currencies, or a monetary union. On the contrary, those who believe that idiosyncratic shocks to fundamentals are relatively more important tend to support flexible currency

arrangements. They would argue that exchange rates act as shock absorbers under nominal rigidities and asymmetric shocks, facilitating the adjustment of the economy. See, for example, Broda (2004), Duarte and Obstfeld (2005), and Edwards and Levy-Yeyati (2005).

The arguments in favor and against a world currency tend to be based on a-priori views on the relative importance of different shocks. More work would be needed to substantiate the pros and cons of a world currency, and back the assumptions behind those claims. The paper by Bordo and James provides some historical analysis in this direction.

In this note, I provide some additional evidence based on recent experiences. In particular, I argue that the recent history makes a world currency unlikely in the foreseeable future and probably undesirable, thus agreeing more with the position of Bordo and James as opposed to that of Cooper. There seem to be no strong forces towards the creation of new monetary unions among the regions with major currencies (Europe, Japan, and the U.S.) or between those regions and the periphery. If any currency union were to materialize, the more likely scenarios would be regional arrangements or the unilateral adoption of major currencies by less developed countries. I also argue that one of the main benefits to establish a world currency, the elimination of exchange rate uncertainty, is likely less important than commonly believed. No matter how rigid a currency arrangement is, initiatives to dissolve it tend to appear as bad times arise. Despite the unlikely prospects for a world currency, the present equilibrium leaves unresolved many difficult issues related to the functioning of the domestic and international monetary systems.

In the rest of the note, I illustrate first how exchange rate uncertainty is not completely vanished, even in very rigid currency arrangements. Then, I discuss the prospects for future currency arrangements.

2. Some Recent Evidence on Currency Disarrangements

Although one of the main arguments in support of a world currency is to reduce financial and monetary shocks, countries continue to be subject to idiosyncratic external shocks, even if a country's currency is abolished. Here I illustrate with three examples how countries try to adjust to negative shocks and how arrangements that appear very rigid become unsustainable and tend to disintegrate. As a result, monetary and financial discipline is not as strict as commonly believed and uncertainty remains, as the system seeks solutions to circumvent the constraints imposed by rigid arrangements.

The first case is that of Argentina, which had a currency board for almost 11 years. This regime basically backed each peso one-to-one with U.S. dollars held by the central bank, tightening the monetary authority's ability to print money and devalue. After the Asian, Russian, and Brazilian crises, Argentina fell in a currency-debt-growth trap. The currency became overvalued, debt turned unsustainable, and the economy became stagnant. The situation deteriorated in 2001, with people fleeing the system and exchanging pesos for dollars. As the economy suffered a sharp monetary and real contraction, the federal and provincial governments with little resources started to issue their own currencies to pay public employees, as illustrated by Figure 1. The phenomenon was so widespread that these quasi-monies accounted for 27 percent of the cash and quasi-monies in circulation in March 2002, with a total of 13 quasi-monies

issued, including one by the federal government. See Figure 2. That does not count the quasi-monies issued by the new private barter clubs, which emerged to mitigate the deteriorating economic contraction. See Figure 3. Argentina was forced to abandon its currency board, devalue, and default between late December 2001 and early January 2002.

One could naturally argue that the case of Argentina is special and would not apply to a monetary union among developed countries. While it is true that Argentina is perhaps extreme, it serves to illustrate how a very rigid monetary arrangement that lasted for a long time could be dismantled in a relatively short span. Two other examples show that backlashes are not necessarily specific to developing countries.

Discussions in Europe suggest that the euro, perhaps the most prominent and successful monetary union, could also be subject to setbacks. Several articles and comments already discuss the possibility of Italy leaving the euro, while the party “Liga Norte,” allied to Prime Minister Berlusconi started a campaign against the euro, blamed for the economic recession. See, for example, Bloomberg June 24, 2005 and Europa Press June 21, 2005. Moreover, in the 2006 Davos conference, Nouriel Roubini argued that the economic divergence in Europe is “a serious problem for some EMU countries (Italy, Portugal, and Greece) and ... may eventually lead to a collapse of EMU.” Also Martin Wolf argued in the Financial Times (May 25, 2005) that “a forced withdrawal from the eurozone is perfectly conceivable” in the case of Italy.

Another example is the U.S. during the recession of the early 1990s. Maurice Obstfeld (2000) said that to deal with the contraction “the state of California even

attempted to run an independent monetary policy by issuing I.O.U.s, which were later ruled unconstitutional, and paying state workers with them.”

In sum, these examples suggest that any currency arrangement could be dissolved, and that monetary uncertainty is never vanished completely, even in the most solid currency regimes. While the exit costs rise with the rigidity of the system, lowering the probability of exit, the breakups of rigid arrangements also tend to be more costly.

2. Prospects for Future Currency Arrangements

Based on the recent experience and discussions, one could argue that a world currency is unlikely to materialize soon, and even in the long run. First, there does not seem to be consensus on world currency. First, there is no political will to create that type of arrangement at present times. Moreover, the cost-benefit analysis of different regimes does not seem to favor fixed regimes. Developed countries do not need a fixed regime to gain credibility and are unlikely to enter into arrangements with developing countries. Moreover, to the extent that financial markets generate volatility, credible monetary authorities can dampen it with effective policy instrument. Not even in developing countries there is consensus for fixed regimes. However, in some cases, regional arrangements might be favored or the adoption of a strong currency by small open economies, integrated with a major country, is at times suggested.

Despite the apparent poor prospects for establishing a world currency, there are still many complex unresolved issues in the international and domestic monetary systems that will continue to generate substantial debate. For example, how much attention should be given in developed and developing countries to fluctuations among major currencies?

How should emerging economies be integrated to the international financial system? Can and should they let their currencies fluctuate freely? How could that fluctuation be achieved without undermining their domestic economies? What is the optimal level of reserves for emerging countries? What currencies should be used as reserve currencies? How extensive is the appearance of “graduation” of some emerging economies? How much long-term debt can they issue in domestic currency to avoid mismatches? How much monetary independence can developing countries achieve? How dependent are they on changing international financial conditions?

To conclude, it is difficult to conceive a world with a one currency. But that does not mean that the current monetary arrangements in the world lack problems or are sustainable. Opinions on the optimal arrangement are varied and change over time, depending on political and economic events. Expect more proposals in the years to come.

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Index of Working Papers:

January 2, 2002	Sylvia Kaufmann	56	Asymmetries in Bank Lending Behaviour. Austria During the 1990s
January 7, 2002	Martin Summer	57	Banking Regulation and Systemic Risk
January 28, 2002	Maria Valderrama	58	Credit Channel and Investment Behavior in Austria: A Micro-Econometric Approach
February 18, 2002	Gabriela de Raaij and Burkhard Raunig	59	Evaluating Density Forecasts with an Application to Stock Market Returns
February 25, 2002	Ben R. Craig and Joachim G. Keller	60	The Empirical Performance of Option Based Densities of Foreign Exchange
February 28, 2002	Peter Backé, Jarko Fidrmuc, Thomas Reininger and Franz Schardax	61	Price Dynamics in Central and Eastern European EU Accession Countries
April 8, 2002	Jesús Crespo-Cuaresma, Maria Antoinette Dimitz and Doris Ritzberger-Grünwald	62	Growth, Convergence and EU Membership
May 29, 2002	Markus Knell	63	Wage Formation in Open Economies and the Role of Monetary and Wage-Setting Institutions
June 19, 2002	Sylvester C.W. Eijffinger (comments by: José Luis Malo de Molina and by Franz Seitz)	64	The Federal Design of a Central Bank in a Monetary Union: The Case of the European System of Central Banks
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July 15, 2002	Andrew Berg, Eduardo Borensztein, and Paolo Mauro (comment by Sven Arndt)	67	An Evaluation of Monetary Regime Options for Latin America
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September 30, 2002	Sebastian Edwards	74	The Great Exchange Rate Debate after Argentina
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June 7, 2004	Markus Knell, Helmut Stix	88	Three Decades of Money Demand Studies. Some Differences and Remarkable Similarities
August 27, 2004	Martin Schneider, Martin Spitzer	89	Forecasting Austrian GDP using the generalized dynamic factor model
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Oktober 4, 2004	Gabriel Moser, Fabio Rumler, Johann Scharler	91	Forecasting Austrian Inflation
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April 4, 2005	Ester Faia	97	Financial Differences and Business Cycle Co-Movements in A Currency Area
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March 24, 2006	Gerhard Fenz, Martin Spitzer	119	An Unobserved Components Model to forecast Austrian GDP
April 28, 2006	Otmar Issing (comments by Mario Blejer and Leslie Lipschitz)	120	Europe's Hard Fix: The Euro Area
May 2, 2006	Sven Arndt (comments by Steve Kamin and Pierre Siklos)	121	Regional Currency Arrangements in North America
May 5, 2006	Hans Genberg (comments by Jim Dorn and Eiji Ogawa)	122	Exchange-Rate Arrangements and Financial Integration in East Asia: On a Collision Course?
May 15, 2006	Petra Geraats	123	The Mystique of Central Bank Speak

May 17, 2006	Marek Jarociński	124	Responses to Monetary Policy Shocks in the East and the West of Europe: A Comparison
June 1, 2006	Josef Christl (comment by Lars Jonung and concluding remarks by Eduard Hochreiter and George Tavlas)	125	Regional Currency Arrangements: Insights from Europe
June 5, 2006	Sebastian Edwards (comment by Enrique Alberola)	126	Monetary Unions, External Shocks and Economic Performance
June 9, 2006	Richard Cooper Michael Bordo and Harold James (comment on both papers by Sergio Schmukler)	127	Proposal for a Common Currency among Rich Democracies One World Money, Then and Now