Monetary Systems in Developing Countries: An Unorthodox View

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Jose Luis Cordeiro*

May 2008

Abstract

This paper analyzes some recent theoretical and practical evidence in terms of economic results of different exchange rate systems. It begins with a historical review and a summary of fixed versus flexible exchange rate systems. Then it compares the experiences of recent currency unions, mostly unilateral, and their relative economic performance during the past currency crises in Latin America, East Asia and Eastern Europe. A set of issues is discussed in order to weigh the overall costs and benefits for several economies. These issues include exchange rates, GDP performance, inflation rates and foreign reserves. The case of Argentina is also considered separately, comparing mostly seigniorage costs and interest-rate savings. The benefits and costs of the producers (central banks/governments) and the consumers (citizens) of money are discussed separately. Free banking is also considered in a fast-changing world where there will probably be fewer but better currencies. Not just the euro is a reality now, but maybe the "amero" and the "worldo" or the "mondo" very soon.

Keywords: exchange rates, monetary policy, monetary union, dollarization, euroization
JEL classification: E42, E52, F02, F30

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In the beginning God created sterling and the franc.
On the second day He created the currency board and, Lo, money was well managed.
On the third day God decided that man should have free will and so He created the budget deficit.
On the fourth day, however, God looked upon His work and was dissatisfied. It was not enough.
So, on the fifth day God created the central bank to validate the sins of man.
On the sixth day God completed His work by creating man and giving him dominion over all God's creatures.
Then, while God rested on the seventh day, man created inflation and the balance-of-payments problem.

Peter B. Kenen (1978)

I. Introduction

For centuries up until the 1970s, except during occasional periods of war or other substantial disruption, the values of national monies were fundamentally defined by linking their values to some external asset. The key external assets through the early part of this century were gold and silver, just as they typically served before during millennia. After World War II, under the Bretton Woods system, nations pledged to maintain the values of their currencies within narrow bands of central parities defined against the US dollar, which was pegged (somewhat tenuously) to gold.

Only since 1973 have we had an international monetary system in which exchange rates of the national currencies of the three largest industrial countries, and some of the medium-sized industrial countries, float in response to market pressures without much official guidance. Indeed, most of the medium-sized industrial countries in Europe eschewed free floating and instead fastened their exchange rates increasingly tightly to the deutsche mark (for example, Austria and the Netherlands closely pegged their monies to the German currency during many years), and have now moved on to full monetary union with the euro.

For many developing countries, particularly those with less sophisticated financial systems, it may simply be unreasonable to think that there can be a credible anchor for expectations about monetary policy and for the exchange rate if the authorities do not establish some guide for the value of the money that they create in terms of some readily available alternative asset of stable value. Fixing the exchange rate is a simple, transparent, and time-honored way of providing such an anchor, and for many developing countries, there may be no readily available alternative.

The issue of separate national currencies has been hotly debated since the beginning of formal economic thinking with Adam Smith and the consolidation of independent nation states during the XVIII century. In fact, years later, John Stuart Mill said, in his *Principles of Political Economy*:

> *So much of barbarism however still remains in the transactions of most civilised Nations, that almost all independent countries choose to assert their*

nationality by having, to their own inconvenience and that of their neighbours, a peculiar currency of their own.

At that time, the central banks in the world could still be counted on a single hand. Since there were still many colonies, the United Kingdom created the system of currency boards for its possessions. A currency board was basically a fixed exchange rate regime in which the colonial power issued paper currency for the colony but kept the real assets back in its central bank. Since the currency of the colonial power was based on gold or silver, currency boards were ultimately tied to gold or silver.

The proliferation of central banks and currency boards in the early XX century enabled the creation of many separate currencies, which were still tied to gold and silver. However, the extensive use of paper money also allowed the possibility of “excessive printing,” with disastrous results, the worst of which was hyperinflation. The German hyperinflation of 1923 is a reminder of how bad things can get when the link between real physical assets (like gold and silver) and paper money is lost. That hyperinflation was stopped with the creation of a currency board linking a new German currency to the US dollar but, according to some authors, the total outcome of this tragic inflationary experience helped to pave the road for the rise of Hitler.

The German hyperinflation finished late in 1923, when the mark hit the parity of 4,200,000,000,000 per dollar and the government eliminated 12 zeros and created a new currency: the “rentenmark”. The rentenmark was born at the fixed exchange rate of 4.2 per dollar, which had been the original parity of the imperial mark before World War I. The German finance minister at the time, Rudolf Havenstein, died the very day that the new mark was created because of the “stress”, but Germany recovered its monetary stability. However, that was just the first in a long series of European hyperinflations. Austria, Greece, Hungary and Poland soon followed the tragic German example, both in terms of economic disaster and in political turmoil. Vladimir Ulianov, alias Lenin, is supposed to have said that “the best way to destroy the western civilization without firing a single shot is to debauch its currency.”

Even John Maynard Keynes was aware of the problems caused by inflation when he worked on the creation of a currency board for the short-lived and British-supported North Russian state. After World War II, the new Federal Republic of Germany took very seriously its commitment to sound money. Its first Chancellor, Konrad Adenauer, clearly stated: “Safeguarding the currency forms the prime condition for maintaining a market economy and, ultimately, a free constitution for society and the state.”

The economics minister of Konrad Adenauer, Ludwig Erhard, considered by many the “father” of the post-war German economic miracle, went so far as to proclaim that monetary stability was a basic human right. Both rightist and leftist political parties in Germany share these views today. In fact, Karl Schiller, the Social Democratic economics minister from 1966 to 1972, uttered one of the strongest pronouncements on the need for sound money in parliamentary debate: “stability is not everything, but without stability, everything is nothing.”

A sound currency is a necessary, but not a sufficient, condition for the establishment of a stable government and the promotion of economic prosperity. Without stability there can be no sustainable growth, such is the importance of monetary stability as stated by most prominent economists. Adam Smith, considered by many the father of economics, wrote over two centuries ago:

> *Princes and sovereign states have frequently fancied that they had a temporary interest to diminish the quantity of pure metal contained in their coins; but they seldom have fancied that they had any to augment. The quantity of metal contained in the coins, I believe of all nations has, accordingly, been almost continually diminishing, and hardly ever augmented. Such variations therefore tend almost always to diminish the value of a money rent.*

During the XX century, and particularly after World War II, the international community grew from a few dozens to over 200 independent territories and countries, most of which started printing their own money. The incredible growth of central banking and the extensive use of fiat money resulted in many terrible episodes of high inflation and outright hyperinflation. Paul Volcker, former Chairman of the most powerful central bank of the world, has said about central banks:

> *We sometimes forget that central banking, as we know it today, is, in fact, largely an invention of the past hundred years or so, even though a few central banks can trace their ancestry back to the early nineteenth century or before. It is a sobering fact that the prominence of central banks in this century has coincided with a general tendency towards more inflation, not less. By and large, if the overriding objective is price stability, we did better with the nineteenth-century gold standard and passive central banks, with currency boards, or even with "free banking." The truly unique power of a central bank, after all, is the power to create money, and ultimately the power to create is the power to destroy.*

II. Floating or Fixing? An Orthodox Analysis

Since the collapse of the Bretton Woods system in 1973, there has been a rapid growth of literature dealing with different exchange rate regimes (see table 1). This proliferation of literature has been directly related to the proliferation of central banks around the world. It is possible to divide the exchange rate systems in floating (including anything from clean and dirty floating to bands, pegs and scheduled devaluations) and fixed (going from the historic gold and silver standards, currency boards, dollarization and full monetary union). In reality, of course, this division between floating and fixed exchange rates is just a simplification, since there is a wide spectrum of exchange rate arrangements.

Table 1: Floating versus fixed exchange rate regimes

Floating exchange rates	**Fixed exchange rates**
Clean floating, dirty floating	Gold standard
Band schemes	Silver standard
Micro-devaluations	Currency board (“dollar” standard)
“Tablitas” (in Latin America)	Dollarization (“euroization”)
Crawling peg	Monetary union

Source: Based on Cordeiro (1998)

The original fixed exchange rate regimes were based mostly on precious metals, like gold and silver, even though other commodities have been used throughout history (like seashells is the Pacific islands and cocoa in Aztec Mexico). Then came the currency board system started by Britain in the XIX century for its colonies, in such a way as to give them a credible money but keeping the gold reserves in the London (therefore, the currency board was just a variation of the gold or silver standard).

The now so much talked-about currency board is just one of the fixed exchange rate regimes in which a country issues a fully convertible currency backed by foreign reserves in another major currency. The first currency boards were based on the British pound, but many are now based on the dollar (we might call it the "dollar" standard) and even on the German mark (or now the euro). The discussion is currently shifting from currency boards to dollarization (which is really a generic name by which a country adopts officially a major foreign currency: "dollarization" if adopting the dollar, but could also be called "euroization" if adopting the euro) and full monetary unions.

After centuries of relative monetary stability, the world has basically passed from fixed to floating exchange rate regimes in the last 30 years. Yet, recent analyses have made clear that these floating rate schemes have ended many times in fiascos, particularly for developing countries. The first comprehensive academic study regarding the failure of floating exchange rate regimes was made by Kurt Schuler (1996). That analysis (*Should Developing Countries Have Central Banks?*) shows that central banks and monetary "independence" have been very costly for developing countries (see table 2). The overall result is that developing countries with floating exchange rate regimes have had lower economic growth, higher inflations, more currency controls and an overall worse economic performance.

Table 2: Performance of central banking versus other monetary systems (1971-93)

Monetary system	**Developed countries (all with central banking)**	**Developing countries with central banking**	**Developing countries with other monetary systems**
Economic growth per person per year, 1971-92			
--Median	2.3%	1.5%	2.4%
--Mean	2.0%	1.3%	2.7%
--Standard deviation	2.6%	7.2%	7.5%
Ever had inflation over 20% a year, 1971-93	26%	84%	28%
Ever had inflation over 100% a year, 1971-93	0%	35%	26%*
Had some currency controls in 1993	11%	89%	43%
Exchange rate depreciated against US$, 1971 versus 1993	63%**	90%	50%

Notes: *All these inflations occurred in former Soviet republics that used the Russian ruble until they began issuing their own currencies, or as part of a deceleration to much lower inflation in countries that replaced central banking with other monetary systems.
**The US dollar itself depreciated against gold, and is included among currencies that depreciated.
Data include all 152 countries of the world that had at least 1 million people in 1993 plus East Germany, South Vietnam, and South Yemen. Countries for which no data are available for a particular category are excluded from the calculations.
Source: Based on Schuler (1996)

In this careful study that covers the experience from 1950 to 1993 of 155 countries and territories (with at least 1 million inhabitants in 1993), Schuler writes:

Monetary policy in most developing countries today is like the old Icelandic banana trade [Iceland used to grow its own bananas in expensive local hothouses]: it yields a low-quality product at unnecessarily high cost to consumers… Very few currencies of developing countries with central banking have performed as well as the currencies of the major developed countries. Poor monetary performance has cost many developing countries much-needed economic growth. Even so, most economists and policy makers believe that every independent country should have its own central bank so it can produce an independent monetary policy. Guided by that assumption, many developing countries, most recently in the former Soviet Union, have established central banks…

Although the great majority of independent countries today have central banks, central banking is only one of many possible monetary systems. Other monetary systems have been more successful than central banking in providing high-quality currencies in developing countries. The characteristics of the successful systems have been:

- *a truly fixed exchange rate with gold or the currency of a major developed country.*
- *partial or, better yet, full convertibility into that currency; and*
- *strict rules that strongly discourage the government from using the monetary system to finance budget deficits.*

Historical experience suggests that developing countries that want high-quality currencies should abolish central banking.

People continue to believe that every independent country should have its own central bank in part because the historical record of central banking in developing countries has never received comprehensive scrutiny. This study for the first time compares a variety of measures of currency quality for all major countries since 1990.

A second major study was published two years later by three economists at the International Monetary Fund (IMF). Atish R. Ghosh et al. (1998) published their now popular *Currency Boards: The Ultimate Fix?* Their analysis, covering hundreds of separate observations based on different countries over shorter periods of time (exactly 2,386 observations of over 100 IMF members in the period between 1970 and 1996), also show much better results for countries with fixed exchange rate regimes. Specifically speaking, currency boards had greatly superior performances compared to floating exchange rate schemes: much higher growth, lower fiscal deficit, much lower inflation and smaller volatility (see Table 3).

Table 3: Floating exchange rates versus currency boards (1970-96)

Exchange rate system	Number of observations	GDP growth (%)	Fiscal deficit (GDP %)	Average inflation (%)	Inflation, standard deviation (%)
Floating	695	1.6%	4.4%	48.3%	38.2%
Currency Board	115	3.2%	2.8%	5.6%	2.6%

Source: Based on Ghosh et al. (1998)

The paper *Currency Boards: The Ultimate Fix?* has been quite important in corroborating, by the IMF, the ideas formerly expressed by Schuler. The study begins and ends with the following two corresponding paragraphs:

The growing integration of world capital markets has made it fashionable to argue that only extreme exchange rate regimes are sustainable. Short of adopting a common currency, currency board arrangements represent the most extreme form of exchange rate peg. This paper compares the macroeconomic performance of countries with currency boards to those with other forms of pegged exchange rate regime. Currency boards are indeed associated with better inflation performance, even allowing for potential endogeneity of the choice of regime. Perhaps more surprisingly, this better inflation performance is accompanied by higher output growth.

Our findings are generally robust, even when the possibility of endogenous regime choice is considered. Moreover, we find little evidence that currency boards result in more sluggish economic growth; on the contrary, countries with currency boards enjoyed significantly higher growth rates. That said, it bears emphasizing that currency boards are no "quick fix." Indeed, many countries would be hard pressed to undertake the necessary fiscal adjustment which underlines the solid macroeconomic performance enjoyed by currency board countries. Nonetheless, within the limitations imposed by the relatively small and specific sample of countries with currency boards, the evidence in their favor is unequivocal.

One year later, Ricardo Hausmann et al. (1999) wrote another influential paper at the Inter-American Development Bank (IADB). *Financial Turmoil and the Choice of Exchange Rate Regime* validates the previous ideas for Latin America, where fixed exchange rate regimes have generally been much better than floating exchange rate regimes:

We have argued that exchange rate flexibility has not been much of an asset for Latin America. It has not allowed for a more independent monetary policy. It has not permitted a more stabilizing monetary policy. It has produced higher real interest rates and smaller financial systems. It has prompted more indexed wage arrangements, making relative price movements more inflationary. De facto wage indexation and dollarization have affected the revealed preferences of the monetary authorities not to use the exchange rate flexibility they formally have. However, they have had to pay the price of that unused flexibility through higher interest rates.

If the benefits of exchange rate flexibility are limited and the costs are large, then fixing appears attractive. But if the currency is to remain fixed, what is the advantage of having your own currency? Imperfect credibility of the peg will make financial intermediation unnecessarily complex. This is expressed in the fact that not a single Latin American country today is able to place long-term debt denominated in its own currency. All long-term financial markets (e.g. those that fund infrastructure and housing needs) are denominated either in dollars or are indexed. In fact, even today, the only country where a worker can get an unsubsidized 30-year mortgage loan at 9% interest denominated in the same currency as his wage is Panama!

The fact that long-term financial markets are either dollarized or indexed means that the balance sheets of corporations and individuals suffer from very serious exchange rate mismatches.

Hausmann et al. (1999) show that the Latin American experience suggests that letting the exchange rate go: forces an increase in interest rates, has a large inflationary impact and causes a major decline in output. The paper also addresses three critical questions: seigniorage, lender of last resort and governance structure. However, the response to those issues escapes the economic arena and falls into the political arena:

These three central questions need to be addressed in the context of concrete structures. In this respect, two models are in the air: mimicking the Euro, or adopting the dollar. The European approach would surely provide a more negotiable governance structure and a more formalized lender of last resort. However, right now no Latin American currency is considered reserve currency and an amalgamation of many weak currencies may not create a particularly strong one. Countries may fear that instead of reducing risks by adopting a single currency, they may be importing significant volatility from their very unstable neighbors. In particular, the launching of the new currency designed to substitute national moneys is unlikely to prompt asset holders to switch away from dollars or to generate long-term markets in the new currency. Hence, existing exchange rate risks and mismatches would survive.

Adopting the dollar would have clear advantages. It is the currency of choice for most international trade and for a large share of the region's financial assets and liabilities. Its adoption would eliminate most of the very large exchange rate risks that exist in the balance sheets of corporations, homeowners and banks.

Hausmann argues, also in other papers, that the main shock affecting Latin America is not so much the political shock as the economic shock of bad policies. *Financial Turmoil and the Choice of Exchange Rate Regime* ends ironically stating that:

For Latin America, the symbolic loss of its formal monetary institutions and the national currency is likely to be difficult. Globalization has caused the disappearance of many flagship airlines and the appearance of foreign artistic designs on the tails of British Airways jumbo jets. Would a dollar bill with Columbus on it be a proper symbol for the currency of the Americas?

A few months later, Ernesto Stein et al. (1999) at the IADB wrote a more specific paper. The study titled *Evaluando la Dolarización: Una Aplicación a Países de América Central y del Caribe* concentrated just on Central America and the Caribbean instead of all of Latin America. This paper finds that:

Countries with credible exchange rate commitments have had a lower and less volatile inflation… lower real exchange rate volatility and real interest rates.

Countries with credible exchange rate commitments reduce the financial fragility of debtors and the economic credit risk… and have experienced a more vigorous development of the financial system and a bigger economic growth.

The report

Since the 1960s, Central America and the Caribbean countries have served as a sort of monetary "laboratory". There are economies with different types of floating exchange rate regimes, currency boards (like the Cayman Islands and Bermuda), dollarization (British Virgin Islands and Panama) and, we may add, full monetary union (Puerto Rico). This diversity of exchange rate regimes allows the analysis of several critical issues like transaction costs, banking spreads, optimum currency areas, monetary independence, interest rate volatility, external shocks, commercial integration, trade opening, financial sector depth, long-term mortgages, inflation convergence, fiscal policy cyclicality, asymmetric shocks, labor mobility, wage flexibility, economic cycles, transfer payments, lender of last resort, deflationary adjustments, seigniorage, etc. Overall, after a cost and benefit analysis, the report says:

> *In the previous discussion it was established that the monetary independence (and the exchange rate flexibility associated to it) in the countries of Central America (and more generally in those of Latin America) does not seem to have stabilizing effects regarding either the domestic interest rates nor the fluctuations of economic activity.*

Guillermo Calvo (1997, 1999) has also been working extensively on the issue of dollarization and its implications for Latin America. He discovered the importance of *liability dollarization, fear of floating* and the volatility of interest rates, regardless of the exchange rate flexibility for the so-called floating schemes. Jeffrey Frankel (1999) studied the movements of interest rates in the USA and its effects on nominal rates in Argentina, Brazil, Hong Kong, Mexico and Panama. He found that the effect is much larger in countries with floating exchange rate regimes (Brazil and Mexico) compared to economies with fixed exchange rate regimes (Argentina then, Hong Kong and Panama). These results suggest that, as opposed to several theories, the exchange rate flexibility does not isolate or protect domestic interest rates from international interest rate movements.

Sebastian Edwards (2001), Edwards and Magendzo (2001), and Eduardo Levy-Yeyati and Federico Sturzenegger (2001 and 2002) show somewhat contradictory results. Even though there is no doubt that fixed exchange rate regimes produce on average lower inflation than floating exchange rate regimes, there is some discrepancy about growth and fiscal discipline. The differences can be attributed to data limitations, sampling procedures, information availability, "control group" problems, "matching estimator" approaches, methodological considerations, time spans considered, variables analyzed, and *de jure* versus *de facto* exchange rate regimes. These differences continue an interesting theoretical debate; however, the practical outcomes of floating versus fixed exchange rate regimes are very evident to the careful analyst. Ordinary citizens, particularly in developing countries, would agree that fixed exchange rates give at least more security.

III. Floating or Sinking? An "Unorthodox" Analysis

Several studies argue that the few decades of floating exchange rate regimes have not been good for world monetary stability, and particularly worse for developing countries. Now let us move from the academic theories to the practical world. Inflation, devaluation, exchange rate fluctuations, high interest rates have had two terrible results: first, growing poverty and, second, increasing inequality (for Latin America see Cordeiro, 2000b). The result is that the rich get richer and the poor get poorer.

Some comprehensive recent studies found that there is a negative relationship between inflation and growth that is both statistically and economically significant. Atish R. Ghosh and S. Phillips (1998) expanded on previous work of Stanley Fisher (1993), Robert Barro (1995) and Michael Bruno (1995) in a very detailed analysis titled *Warning: Inflation May Be Harmful to Your Growth*, which abstract states:

> *While few doubt that very high inflation is bad for growth, there is less agreement about the effects of moderate inflation. Using panel regressions and*

allowing for a nonlinear specification, this paper finds a statistically and economically significant negative relationship between inflation and growth, which holds robustly at all but the lowest inflation rates. A "decision-tree" technique identifies inflation as one of the most important determinants of growth.

In Latin America, the experience of the so-called "Lost Decade" of the 1980s has been terrible. Inflations reached astronomical figures, just as the economies fell in severe recessions and suffered heavy contractions. While food prices in Nicaragua increased from a normalized value of 100 in 1980 to nearly 1 trillion in 1991, the GDP contracted 3.5% per person per year, the very worst result in all of Latin America (see table 4). At the other extreme, Panama had the lowest inflation in the continent (even lower than in the USA) and the highest real growth (2.3% per person per year, excluding the year of the USA blockade). No wonder that Nicaragua had the more "floating" system while nearby Panama had the more "fixed" system. In fact, the famous exiled Cuban writer Carlos Alberto Montaner says ironically: "when the currencies float, the people sink."

Table 4: Inflation during the "Lost Decade" of the 1980s in Latin America
(Food price indices, based on 1980 = 100)

Country	1980	1985	1990	1991
Nicaragua	100.0	1,156.7	33,913,149,677.7	966,894,484,150.7
Argentina	100.0	130,233.5	2,200,188,392.5	4,823,327,568.9
Brazil	100.0	8,386.8	215,935,200.6	1,068,717,291.6
Peru	100.0	3,137.8	138,781,388.4	606,614,932.3
Bolivia	100.0	1,968,948.1	12,373,600.0	15,046,600.0
Uruguay	100.0	596.3	11,470.8	21,272.4
Mexico	100.0	1,034.8	14,033.9	16,856.6
Ecuador	100.0	426.0	3,079.4	4,496.5
Venezuela	100.0	201.0	1,576.4	2,170.6
Dominican Republic	100.0	202.0	871.8	1,466.0
Costa Rica	100.0	471.5	1,014.0	1,277.2
Colombia	100.0	296.1	935.5	1,219.2
Paraguay	100.0	220.1	853.4	1,025.5
El Salvador	100.0	200.2	684.3	806.0
Chile	100.0	230.8	611.3	769.3
Jamaica	100.0	211.3	431.8	668.3
Guatemala	100.0	135.2	405.9	537.2
Trinidad and Tobago	100.0	196.0	394.7	418.5
Honduras	100.0	114.5	195.9	281.6
Bahamas	100.0	128.7	177.5	192.8
Barbados	100.0	140.2	179.7	188.3
USA	100.0	130.5	158.4	165.2
Puerto Rico	100.0	117.8	132.0	155.5
Panama	100.0	120.4	123.2	127.1

Source: Based on official country statistics and IMF

The 1980s "Lost Decade" in Latin America was followed by the 1990s decade of worldwide currency crises. The 1990s have also served as a monetary "laboratory" to compare the failure of many floating (i.e., sinking) exchange rate regimes versus the relative success of fixed exchange rate regimes. The first of such crisis was the "tequila" crisis started by the devaluation of the Mexican peso on December 20, 1994. In less than one year the exchange rate dropped from about 3 to 8 pesos per dollar (see table 5). In addition to that, the inflation reached 52%, the country lost US$ 25 billions in foreign reserves and the GDP contracted by a whopping 7% (and almost 10% in per capita terms). The "tequila" crisis was of such unseen magnitude that many Mexicans thought that the Apocalypse was coming. They compared the four major economic disasters (devaluation, inflation, capital flight and recession) of this unexpected crisis to the four apocalyptic "beasts" of a biblical passage:

> *And in the midst of the throne, and round about the throne, were four beasts full of eyes before and behind…*
>
> *And the four beasts said Amen…*

Table 5: The four apocalyptic "beasts" of the floating ("sinking") exchange rate regimes

Year	**1995**		**1997-1998**		**1999**	
Country (exchange rate)	**Mexico (floating)**	**Argentina (fixed)**	**Indonesia (floating)**	**Hong Kong (fixed)**	**Brazil (floating)**	**Argentina (fixed)**
Exchange (per US$)	$3 \rightarrow 8$	1	$2\text{ K} \rightarrow 10\text{ K}$	7.75	$1.2 \rightarrow 1.8$	1
Inflation (%)	52%	1%	62%	3%	9%	– 1%
Δ Reserves (US$ bill)	– 25	nil	– 5	nil	– 35	nil
GDP growth (%)	– 7%	– 4%	– 18%	– 3%	– 1%	– 3%

Source: Based on official country statistics and IMF

Farther south in the continent, Argentina went through the contagious effect of the "tequila" devaluation, but the Argentine peso was not devalued. Argentines suffered no devaluation, no inflation, no loss of foreign reserves, and a milder recession. The Argentines, who are less religious than many Mexicans, did not expect the Apocalypse and held strong to their currency. Proud and ironically, they said: "ché, it is not the Argentine peso that is equal to the dollar, but the dollar which is equal to the Argentine peso".

Besides the four economic beasts of the "tequila" crisis, Mexico suffered a huge banking crisis that ended up costing over US$ 100 billion. On the other hand, Argentina cleansed its banking system at no expense to its taxpayers. One year later the Argentine banking system became the strongest and most international in South America, and the government did not have to act as a lender of last resort or even use an emergency credit line of US$ 6 billion from the IMF.

Mexico lost a lot of money during the "tequila" crisis that could have gone not just into a currency board but directly into full dollarization. Robert Mundell, 1999 Nobel Prize laureate, said in the middle of the 1995 crisis that in order to:

> *Establish credibility, a successful fixed exchange rate system in Mexico would have to begin as a currency board, applied at least to new transactions, in which peso notes are increased only as a consequence of increases and decreases in central bank holdings of foreign exchange reserves.*

In a 1999 trip to Mexico, just before receiving the Nobel Prize, Robert Mundell said again that Mexico should go into a currency board and that "even a monkey can manage a currency board". In fact, a monetary union between Mexico and the USA is much more attractive than the present one between Finland and Portugal. Mundell, originally from

Canada, has hinted that his own native country is more likely to be united with the USA than with itself. Indeed, the Western and Eastern Canadian provinces have more in common with its neighbor to the South than with themselves.

Another example of the failure of the "sinking" exchange rate regime was the 1997-1998 East Asian crisis. The July 1997 devaluation of the Thai bath started a sinking spiral that ruined much of East Asia. Another interesting comparison is Indonesia with a floating exchange rate regime versus Hong Kong with its fixed exchange rate regime. Indonesia devalued its currency sharply, had a whopping inflation, lost many of its foreign reserves and had an incredible economic contraction; while Hong Kong held steady thanks to its currency board. Generally speaking, the more "flexible" exchange rates were (as in Malaysia, Philippines, Thailand, South Korea and Indonesia), the worse the economic results. On the other hand, the more "rigid" the exchange rates were (as in Hong Kong and China, and less so in Taiwan and Singapore), the better the performance. (According to some measures, Taiwan and Singapore outperformed Hong Kong, for example, the former had higher GDP growth in local currency, though lower in US dollar terms.)

During the East Asia crisis, two Nobel Prize laureates were openly proposing a currency board for Indonesia and other countries. Merton Miller (Nobel 1990) and Gary Becker (Nobel 1992) argued that defending the exchange rate would have avoided the series of competitive devaluations that devastated large parts of East Asia. Gary Becker also said that a fixed exchange rate would reduce corruption and would increase the fiscal and monetary responsibility. He explained that:

> *While free-floating exchange rates provide the greatest flexibility in adjusting to changing economic circumstances, it is argued that most developing countries should instead choose to tie the value of their local currencies to the dollar, mark, or yen. Since developing nations usually have rudimentary tax systems together with a developed country's appetite for government spending, they are often tempted to resort to financing government expenditures by printing money, which debases their currencies. No country with full foreign-reserve backing for its money supply can have runaway inflation for the simple reason that power over the printing press is taken away from governments. Unfortunately, most developing countries do not have complete backing for their currencies, so the growth of their money supply is not automatically constrained.*

Another currency crisis exploded in 1999, this time in Brazil. While the Brazilian real collapsed and sunk into poverty all of the country, after loosing US$ 35 billion in foreign reserves, Argentina did not devalue thanks to its currency board. Some members of the Brazilian Central Bank were prosecuted for illegally enriching themselves while the currency, and most of the population, was sinking. Farther south, the central bankers of Argentina could not "play" with the foreign reserves for their own benefit, since their currency board eliminated the discretionality of a typical central bank. (Unfortunately for the Argentines, their currency board is now gone and the peso began freely "sinking" with its devaluation in January 2002.)

The other major monetary episode of the 1990s was the Russian "vodka" crisis. In August 1998, Russia devalued the ruble and the currency began a free fall that destroyed most of its value (see table 6). Next to big "devalued" Russia are tiny Estonia and Lithuania, which kept their fixed parities thank to their currency boards (8 Estonian Kroons equal to DM 1 and 4 Lithuanian litas equal to US$ 1). It is very interesting to note that not only did Estonia and Lithuania have relatively good economic performances in 1998, but so did Latvia (whose central bank operates a pseudo currency board based on the SDR) and Finland (which is part of the European Monetary Union). However, nearby Norway and Sweden suffered more the impact of the "vodka" crisis in part because their currencies are not "fixed", even though Norway and Sweden are farther away from Russia than the other four countries.

Table 6: More "sinking" versus "fixed" exchange rate regimes

Year	**1998**		
Country (exchange rate)	**Russia (floating)**	**Estonia (fixed)**	**Lithuania (fixed)**
Exchange (per US$)	6 → 21	8*	4**
Inflation (%)	28%	8%	5%
Δ Reserves (US$ bill)	– 5	nil	nil
GDP growth (%)	– 4%	+ 4%	+ 5%

Note: *Currency board in Estonia used the German mark (DM) as its anchor currency
** Currency board in Lithuania used the US dollar (US$) as its anchor currency
Source: Based on official country statistics and IMF

This "unorthodox" analysis would not be complete without comparing the economic performance of countries before and after fixing their exchange rates. Besides comparing the success of fixed versus floating exchange rate regimes on a regional basis, it is also important to compare the success of moving from a floating to a fixed exchange rate regime. Argentina was the first such case in the 1990s, even though there were many currency boards before that time (Hong Kong probably being the previous case most known). In April 1, 1991, Argentina created its currency board and left behind a huge creeping hyperinflation that reached 4,923.6% in 1989. The immediate effects of "fixing" the exchange rate were evident (see table 7).

Table 7: Before and after "fixing" the exchange rate regime

Country	**Argentina (1991)**		**Bulgaria (1997)**		**Ecuador (2000)**	
Year (exchange rate)	**1990 (floating)**	**1992 (fixed)**	**1996 (floating)**	**1998 (fixed)**	**1999 (floating)**	**2001 (fixed)**
Inflation (%)	2,500%	25%	311%	1%	67%	25%
Reserves (US$ bill)	6	10	1	3	1	2
Debt (% GDP)	50%	40%	116%	81%	120%	80%
Fiscal deficit (% GDP)	– 4%	– 1%	– 13	– 2%	– 7%	– 2%
GDP growth (%)	– 3%	+ 9 %	– 11%	+ 5%	– 7%	+ 5%

Source: Based on official country statistics and IMF

From 1991 to 2000, the economic performance of Argentina was good on average: the country almost trebled its foreign commerce and its GDP grew almost 6% yearly despite the 1999 collapse of its major partner (Brazil), the other world currency crises, and the alleged overvaluation of its currency and commodity products. Furthermore, Argentina became the leading "pole" in South America for the "new economy" while it sent many of its "old economy" industries to poorer Brazil. Obviously, there was a painful restructuring, but Argentina became more competitive. In 1990, the Argentinean GDP per capita was just above US$ 3,000 per person; by 2001 it was over US$ 7,000. However, the large and uncontrolled devaluation of 2002 changed all of this.

Bulgaria was another relatively large economy that fixed its currency last decade. In 1996, Bulgaria was reaching hyperinflation, there was a systemic banking crisis and the overall economic situation was catastrophic. On July 1, 1997, a currency board was created at the exchange rate of leva 1,000 to DM 1. Since then, the recovery has been impressive, regardless of the very difficult situation in the Balkans.

Ecuador is another recent example of a country fixing its currency. In 1999 the country was heading towards hyperinflation, the government officially defaulted on its foreign debt, the bank accounts were frozen, the financial system collapsed, and the rumors about a coup d'état kept increasing. Then, on January 9, 2000, the President said publicly that he would dollarize the economy. Just that announcement made his popularity increase immediately from 3% to 27% and interest rates fell from over 200% to less than 20%. Nonetheless, the President was overthrown two weeks later but the dollarization process continued. On September 9, 2000, the US$ became official legal tender in Ecuador, and the economic recovery is heartening.

Fixing the exchange rate to a strong anchor seems positive according to most historical evidence. Furthermore, "fixing" the currency helps to "depolitisize" the economy. The economic stability that Argentina experienced while its recent currency board lasted was unusual (considering the political scandals, kickbacks and other forms of corruption among its top ministers and senators). The same could be said about Bulgaria, which has survived very well all the mayhem of the Balkan wars next door (Bosnia and Herzegovina, Croatia, Kosovo, Serbia). And Ecuador is recovering fast in spite of the two quarreling Congresses working in parallel during several weeks. If Bulgaria and Ecuador had "floating" exchange rate regimes now, their currencies, and their inhabitants, would be sinking very badly (just like Argentina is now).

The fact that countries in such critical conditions as Bulgaria and Ecuador managed to quickly "fix" their exchange rates indicates that there really are no pre-conditions for a currency board or even full dollarization. Indeed, the more extreme cases of "markization" in Kosovo (September 1999) and Montenegro (November 1999) and dollarization in East Timor (February 2000) show that sheer political will can achieve it. The dollarization of El Salvador (January 2001) and the legalization of the dollar, in parallel with the quetzal, in Guatemala (May 2001) occurred under more stable conditions. And there were news that even Afghanistan considered dollarization in order to restart its moribund economy. Several of the previous cases show that the "myth" of having "enough" (whatever that might mean) foreign reserves is just that: a "myth". The citizens of a country always have a certain amount of internal monetary resources to live on, and "fixing" the currency just means exchanging those monies for hard currency. If at the time of "fixing" the exchange rate there are more international reserves than the monetary base, then some foreign debt can even be paid with the remnant. If there is less, then some money can be borrowed or some assets can be sold. Indeed, selecting the right exchange rate before "fixing" is much more important than the actual amount of international reserves.

In terms of quantifying the costs and benefits of some different exchange rate systems, Willem Buiter (1999) did an analysis of several choices for Canada and concludes that full monetary union with the USA would be the most advantageous (and later he also studied the similar case of the UK with the euro). Francisco Gil Diaz (1999), the current minister of finance of Mexico, also concluded that if would be convenient for Mexico to dollarize unilaterally. He additionally estimated the savings in terms of reducing the foreign debt, and found the startling number of US$ 33 billion in just a decade after the debt crisis of 1982. Andrew Berg and Eduardo Borensztein (2000) have done recent work on the pros and cons of full dollarization. They mostly computed the advantages of lower interest rates compared to the disadvantages of seigniorage lost. Their conclusion is that both in unofficially dollarized countries and in highly integrated countries (with the country of the anchor currency) it is in general a positive decision. Similarly, Zeljko Bogetic (2000a) concludes that the benefits of fixing a weak currency to a strong anchor currency outweigh the costs. Bogetic does a more comprehensive analysis that not only includes the perspective of the "dollarizing country" (analyzing seigniorage loss versus currency and country risk, plus several other factors) but also considers the perspective of the "anchor country" (analyzing seigniorage sharing and "power and prestige" considerations, among other important issues). It is interesting to note here that the biggest advantage is for the "dollarizing country". Barro (1999) considered a non-conventional way to share the seigniorage and Kurt Schuler (2000a) has written as well about seigniorage sharing and the *International Monetary Stability Act* proposed to the US Congress (2000).

The devaluation of the Argentine peso in 2002 deserves a very special comment. After more than a decade of stability under a currency board, the Argentine peso was devalued by Eduardo Duhalde (the fifth president of Argentina in a period of less than two weeks). However, instead of a moderate devaluation and a smooth floatation, as predicted by economists favoring flexible exchange rate systems, the peso has been in a free fall since January 2002. The currency hit the mark of 4 pesos per dollar only three months later, and there was no end in sight. The floatation of the peso has been a complete economic disaster and was used to confiscate the savings of the citizens (*corralito*), break private contracts and destroy property rights. Even though 4 out 5 Argentines favored keeping the system of convertibility, the government in turn chose to devalue the currency. We should ask, who benefited? Certainly not the majority of the people, who even demonstrated against the devaluation and the confiscation of their money. In fact, one of the main reasons why Argentina had entered into the currency board, besides stopping inflation, was to reduce monetary corruption. Jose Maria Ibarbia (1999), one of the Argentine legal advisors of the 1991 convertibility law, has in fact written extensively about devaluation, inflation and corruption.

In early 1999, Carlos Menem, then president of Argentina, proposed to change the currency board for a full dollarization in order to avoid a future devaluation, and to reduce the country risk and the interest rates. Many economists came with different analyses in terms of the costs and benefits of completely dollarizing Argentina. Gabriel Rubinstein (1999) made one of the most popular and comprehensive studies (see table 8), including a whole book under the name of *Dolarización*.

Table 8: Benefits of dollarization in Argentina

	GDP growth* (%)	**Jobs created** (number)**	**Fiscal savings*** (US$ mill)**
1. Elimination of peso interest rates	1.0	80,000	720
2. Reduction of dollar interest rates:			
2a. Less 100 basis points	1.9	150,000	1,900
2b. Less 300 basis points	5.8	460,000	5,700
2c. Less 500 basis points	9.6	770,000	9,500

3. Current seigniorage	Depends on signing an agreement with the USA		
4. Future seigniorage			- 250
5. Total:			
5a. Minimum (1 + 2a + 3 + 4)	2.9	230,000	2,370
5b. Average (1 + 2b + 3 + 4)	6.8	540,000	6,170
5c. Maximum (1 + 2c + 3 + 4)	10.6	850,000	9,970

Notes: *Estimates based on country risk and industrial production simulations.
**Estimates based on a constant GDP-employment elasticity of 0.7 for 1996-97.
***Estimates based on constant increase of GDP-revenue rate of 14% for 1998.
Source: Based on Rubinstein (1999)

After the dismal results of the January 2002 devaluation of the peso, Pedro Pou (former president of the Argentine central bank) said that “the benefits of a floating currency are an illusion, the economy needs to have an anchor”. Pou (2002) also said that Argentina needed to return urgently to a currency board or dollarize. Even Jeffrey Sachs (2002), not a “fan” of dollarization and an early vocal enemy of this system in Ecuador, conceded that dollarization was the best that Argentina could have done:

> *I do not know another nation with Argentina's capacity to abuse, manipulate, freeze, confiscate and periodically replace the national currency and the contracts set in it. The currency board was introduced precisely to break this record. Dollarization would have ended it decisively…*
>
> *Dollarization would have accomplished something that Argentine governments have not done in more than a century: it would have enabled them to follow through on a commitment to protect the value of the currency. This would have marked a historic breakthrough.*
>
> *For that reason, too, it is likely that dollarization would have allowed a faster unfreezing of bank deposits and restoration of public confidence in the banking system. Much of last year's bank run was of peso deposits fleeing an expected devaluation, rather than flight from the banks per se.*
>
> *Devaluation, with the right accompanying policies, might still work. Yet in practice, we may well be on a course marked by a flagrant violation of property rights, growing confusion and corruption, arbitrariness and escalating social unrest.*

Over six years after the disastrous “pesification”, the dollarized income per capita has not reached the level before the devaluation in Argentina, even with relatively high economic growth in this period. The pesification also created an unjust massive wealth transfer and an imbalance between assets and liabilities, in both pesos and dollars.

IV. Benefits and Costs to Whom?

True sovereignty, including monetary sovereignty, should reside in the citizens and not in the politicians or the economists. The case of monetary policy is one of the best examples. Politicians continuously talk about the importance of monetary sovereignty so they can control the currency and manage the economy. So one has to ask: what currency?, what economy? The answer is clear: the currency and the economy of the politicians themselves, who live off printing money and using it for their own purposes. That is why politicians prefer having currencies with patriotic names and symbols, so they can fool the people through demagoguery and populism. However, if you ask the citizens directly, they prefer a strong currency like the US dollar and not a weak one like many Latin American pesos or other local currencies.

Some economists also deserve much of the blame for the deterioration of monetary policy, since they have created the terms of the debate used by the general public. When it comes to sugar, iron or shoes, economists have mainly focused on the benefits for consumers. The economists have researched what the consumers want and how the market system can achieve the best and largest offer. The preference of the economists for free trade and competition is due to the emphasis on the well being of the consumer. Free trade and competition enable consumers to find the best possible products; and thus consumers can be relieved of inferior goods and services.

In monetary policy, however, the majority of economists have focused on the well being of the supplier: the government. Instead of asking what consumers want, many economists have focused on what the government wants. They have treated the economy, through monetary policy, as something that should benefit the government (the producer of the money) and not the citizens (consumers of the money). Many economists have promoted (or at least accepted as legitimate) the monetary monopoly and restrictions, exchange controls, legal requirements for the local currency and other privileges of the central bank systems. The results of these erroneous monetary policies have varied from fairly harmful to almost fatal, as in the case of various hyperinflations. Even a renown economist like Frankel (1999) seems to be "confused" about the concept of monetary sovereignty when he writes that "providing the public is willing to give up monetary sovereignty, even full dollarization maybe attractive for some countries". Precisely, monetary sovereignty should be whatever the public decides in a free society.

The disconcerting contradiction between monetary policy and the free market is a terrible inconsistency in the world of economics. One way to manage such a contradiction is to deny that it exists, claiming that the government reflects the wishes of the citizens, or at least those of the majority of the population. However, even in the most democratic countries, this vision of government is naive. Interest groups always try to influence public policy to achieve privileges that benefit a minority at the expense of the majority. In fact, politicians are the first to benefit as producers of money, in addition to being the only group that decides its own salary and later produces the money to cover their expenses at the expense of everyone else.

Money is simply a commodity for trading other goods and services, with its own producers and consumers. A better way to solve the above dilemma is changing the terms of the debate, emphasizing the benefits for consumers instead of those of the producers of monetary policy. Monetary policy, as any public policy in general, should have as its goal to benefit consumers, who obviously are the majority. A consumer of monetary policy is anyone that uses money: Practically the whole population. What do consumers want from monetary policy? The best way to find that out is to let citizens use the currency they prefer under a free market and competition of currencies. However, even under current conditions in Latin America (far from free markets and currency competition), we all know very well what currency people prefer. Consumers want little inflation and low interest rates. They also want a currency that can be used internationally without any fear of regulations or controls.

In Latin America, there is already a currency that offers consumers what they are looking for. That currency is the US dollar. The appeal of the US dollar can be seen both by its extensive use within all the Latin American economies (from street vendors to the big traders and even the guerrilla and drug traffickers) and its importance as the main currency for international trade. The US dollar is not perfect, but it has the best historic record of any currency on the American continent. If the citizens were able to freely choose what money they wanted to use, the majority of Latin Americans would probably adopt the US dollar. That way people (consumers) could protect themselves from the recurring monetary errors of their governments (the producers of the money).

The conventional thinking about monetary policy has to change in order to promote economic development with monetary stability. The key is the well being of the consumer and not of the producer of money. Monetary sovereignty should come from the citizens and not from the politicians. No country benefits from high inflation, high interest rates and exchange rate instability. The Latin American experience shows that those who suffer the most are ordinary citizens, who are the consumers of the money produced by irresponsible governments.

V. From Free Floating to Free Banking

Today, the idea of government monopoly is dead or dying except in money. According to Schuler (2000b), this idea should be extended to money competition with no interference from the State. The governments should not have the power to force people to use a particular currency or to restrict the use of other currencies. Banks should be free to issue different notes just as they issue different credit cards. A monetary standard should be kept, but the governments should not issue the money itself. Free banking could be an excellent way to move the debate from the producers to the consumers of money.

In a way, dollarization means the "privatization" of money. But the most efficient system of private money comes from free banking, in which the seigniorage goes through free competition back to the people: the real owners of money, as it should be. This would also eliminate the *critique* against dollarization of losing the seigniorage. Through free banking the seigniorage would not only be kept in the country, but it would also be redistributed among the people through bank competition and better services (see table 9 from Schuler et al., forthcoming).

Table 9: From dollarization to free banking

	Dollarization	**Currency board***	**Multinational central bank**	**Free banking**
Examples	Ecuador, Panama	Cayman Islands, Bermuda	European Central Bank	No current examples
Who issues notes and sets monetary policy	Foreign issuer(s) (no domestic policy)	Currency board (rule-bound policy)	Central bank (discretionary policy)	Banks (competitive outcome)
Exchange rate with outside	Fixed	Fixed	Pegged or floating	Typically fixed
Exchange controls	Typically no	Typically no	In some cases	No

Who earns seigniorage	Foreign issuer(s) (may be rebated)	Currency board (passed along to government)	Central bank (distributed to members)	Banks (ultimately, consumers)
Reserves	Variable dollar reserves dispersed among banks	100 percent foreign reserves centralized in currency board	Variable foreign reserves centralized in central bank	Variable foreign reserves dispersed among banks

Note: *Currency board-like systems (like Argentina until 2002, Hong Kong to some extent now, and other currency boards) have somewhat different characteristics.
Source: Based on Schuler et al. (forthcoming)

Nationalization of currency is largely taken for granted today, but it shouldn't be. Adam Smith praised private currency for the benefits it had brought to his native Scotland, where it still works nicely, as well as in Ireland and Hong Kong. Most economists would agree that a legally enforced government monopoly is generally an inefficient way to produce private goods and services. The post office is a prime example; other examples range from state-owned plantations to national railroads. Currency is no exception to the rule. As with other nationalized products, quality is lower than it would be under private competition. The inefficiencies associated with government monopoly in currency are especially large in developing countries, where the reliability of the exchange rate (an important aspect of currency quality) is often quite low, according to Lawrence White and George Selgin (1999):

> *Today's central bank currency monopolies have grown not from attempts to rectify market failures but from government's appetite for revenue. Just as it is efficient to leave the provision of checking accounts to competing private banks, rather than have a single government monopoly provider of checkable bank liabilities, it would be efficient to (re-)privatize the issue of circulating currency. By comparison to public monopoly, privatization raises the quality of currency.*

Allowing banks to issue their own notes might seem far-fetched or at least novel, but it is neither. Many financial firms already issue paper travelers checks, which resemble currency although they cannot pass from hand to hand without having to be endorsed. Before the 20th century, commercial banks issued their own notes in most financially advanced countries of the time. Multiple brands of notes did not confuse people any more than multiple brands of traveler's checks, credit cards, or bank deposits now do. Governments took over note issuance from commercial banks not because the private sector was doing a bad job, but because governments wanted the profits for themselves. The record of private issuance of notes was generally good. In some countries bank failures caused losses to note holders, but those losses were small compared to the losses inflicted by the central banks that later took over note issuance.

Dollar-denominated notes issued by banks could offer three features that could make them more attractive for the public than Federal Reserve notes. One is a higher-quality supply. Federal Reserve notes in circulation outside the USA are often more worn than usual, and small denominations are scarce. The second feature bank-issued notes could offer is design characteristics, such as local language words and symbols that would appeal to local citizens more readily than the design features of Federal Reserve notes. The third feature bank-issued notes could offer is a rebate or lottery payment feature. Banks could offer cash back to merchants who agree to accept and pay out their notes, much as credit card companies offer inducements for merchants to accept their credit cards. Competition tends to pass along the rebates from merchants to customers in the form of lower prices.

A possible criticism of allowing competition in the use and issue of currency is that it may reduce the benefits ("network externalities") that arise when everyone in a country uses the same currency. One response is that people can use different currencies denominated in a common unit of account. A deposit at the Chase Manhattan Bank and a deposit at Citibank in US dollars are different "currencies" that use a common unit of account, though we rarely think of them as such. People do not claim that every country should have only one bank that accepts deposits; why should every country have only one issuer of notes and coins? Another response is that if the benefits of using a currency increase as the number of users increases, the national currency should then be able to sustain its dominance without legal restrictions on the use of other currencies. There is no way other than competition to determine the costs and benefits from using one currency as opposed to another. The US dollar, for example, offers users access to a larger and potentially more important network of users than the national currency of most countries.

Free banking may be the perfect way to returning monetary sovereignty to the people. Even though free banking was forgotten for many decades, the arrival and spread of electronic money has updated its relevance and importance. The US dollar could thus become a truly international unit of account, issued by different banks around the world, just like credit cards and checks. With free banking, central banks might not even be needed anymore in the future, as Kevin Dowd (2001) has suggested. In the specific case of Argentina, the problem was never the dollar but the central bank, as Selgin (2001) reported:

> *Should Argentina's authorities doubt this, they could allow their central bank to issue its own dollar-denominated notes while depriving those notes of any legal-tender status, so that the public can't be forced to accept them and banks cannot use them as reserves. The public could then decide for itself whether it trusts government-issued paper more than that of Citibank, Deutsche Bank, or HSBC.*

Friedrich Hayek (1978) in his famous book called the *Denationalisation of Money*, written after receiving his Nobel Prize in 1974, argued for the abolition of the government monopoly of money. According to him, central banks have been a disturbing source of inflation, instability, undisciplined fiscal expenditure and harmful economic nationalism. One could argue that central banks represent communism in monetary affairs: State control, government monopoly and central planning of money. Only free competition in money, supplied by private issuers who want business and public confidence, will limit the quantity of paper issue and thus maintain its value. Hayek finished his landmark book arguing for the creation of "denationalized" free money:

> *What we now need is a Free Money Movement comparable to the Free Trade Movement of the 19th century… There is thus an immense educational task ahead before we can hope to free ourselves from the gravest threat to social peace and continued prosperity inherent in existing monetary institutions… What is now urgently required is not the construction of a new system but the prompt removal of all the legal obstacles which have for two thousand years blocked the way for an evolution which is bound to throw up beneficial results which we cannot now foresee.*

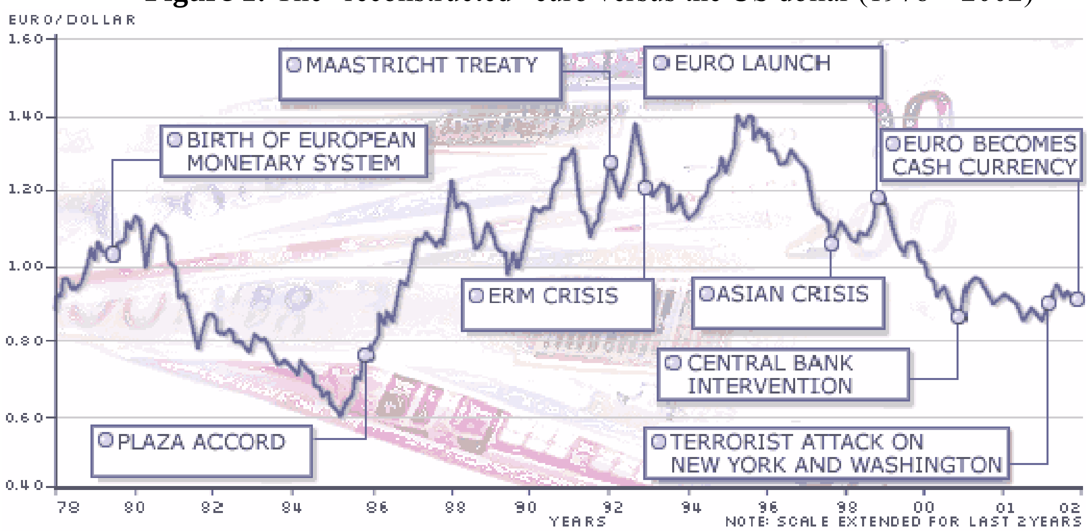
VI. Towards the Future

The instability of the world monetary system has been detrimental to a greater and better world economic integration. Robert Mundell (2000b) argued that there are large exchange rate volatilities among nations with internal monetary stability:

> *The dollar, euro and yen areas make up nearly 60% of the world economy. Because there is a high degree of price stability in each area they can be seen as three islands of stability. Despite the stability, however, exchange rates are very volatile. The dollar-yen rate has in the past been very unstable. The dollar-euro rate may be in the future equally unstable…*
>
> *If there is stability within each of the dollar, euro and yen areas, why should there be exchange rate fluctuations between them? Volatility of the exchange rate aggravates instability of the financial markets, disrupts trade and the efficiency of capital flows. Exchange rate uncertainty is an immediate cause of gross, excessive volatility in financial markets and the massive shifts in cross-border funds today. Capital market transactions in foreign exchange currently amount to something like two trillion dollars a day!*

Indeed, the yen has fluctuated since 360 yens per dollar in 1971 to less than 80 yen per dollar in 1995, back to around 130 in 2002 and less than 100 in early 2008. The euro, in a "reconstructed" basis, has been above 1.10 dollars in 1980, below 0.60 in 1985, over 1.40 in 1996 and close to 0.83 in 2001 (see figure 1). In 2008, the euro has gone back to 0.63 per dollar, very close to its historical record in 1985, when the Plaza Accord was reached. If the volatility among these three "islands of stability" is so large, what can be expected from the exchange rate behavior in developing nations? The result has been a complete disaster for many poorer nations. In fact, the exchange rate fluctuations between some neighboring Latin American countries (like Argentina and Brazil, Ecuador and Peru or Colombia and Venezuela) have in general been dismal since the collapse of the Bretton Woods system. Such large fluctuations have had terrible consequences not just for the internal stability of the countries but also for the external stability and all cross-border trade and investment.

Figure 1: The "reconstructed" euro versus the US dollar (1978 – 2002)



Many experts have insisted about a more stable world with very few currencies. Mundell has been very clear about going forward with fewer but stronger regional currencies, and eventually maybe just a single world currency. Rudi Dornbusch (2001) also talked about "fewer monies, better monies". Herbert Grubel (1999) has proposed creating the "amero" as a currency for North America, somewhat similar to the euro for Europe. Vicente Fox, former president of Mexico, discussed with the US president and Canadian prime minister about an eventual monetary union in North America. Thomas Courchene and Richard Harris (1999) have studied the full range of possibilities for monetary arrangements between Canada and the USA. In Central America many people talk about a Central American peso (based on the US dollar), and the same in the Caribbean with a Caribbean dollar for all the islands (including Cuba, where the US dollar was also legalized as tender currency in 1994). The same has been discussed in South America, where the presidents of the Andean region pledged in 2000 to advance towards a common currency, as well as in MERCOSUR. Barry Eichengreen (1998), among many others, has studied the concept of monetary union for MERCOSUR. An eventual Free Trade Area of the Americas (FTAA) will definitely facilitate many of these processes.

Outside the Americas, monetary unions have been discussed in many parts of the world. In the coming years, there will probably be referenda for the adoption of the euro in the three European Union (EU) countries still not using it: Denmark, Sweden and the United Kingdom. Norway and Iceland also seem to be warming to the idea, although they are still not members of the EU. Additionally, most of the Eastern European countries are already toying with the idea of eventually using the euro, even before joining the EU. In the Arab world, the Gulf Cooperation Council (GCC) announced in 2001 that it was going to create a common currency by 2010: the "Khaleeji". In Africa, the new African Union (AU), that replaced the old Organization of African Unity (OAU), declared in 2001 that there should be an African common currency by 2021: the "Afro". In the meantime, the Economic Community of West African States (ECOWAS) is also set to introduce a common currency which would converge with the CFA (Communauté Financière Africaine now, Colonies Françaises Africaines before) franc of some former French colonies by 2009: the "Eco". Even in Asia, where there is such a large disparity of countries, some people have talked about East Asia monetary integration (Sato 2007) and eventual monetary union.

Some time will still pass by, but the road seems clearer today after John Maynard Keynes proposed the "bancor" in 1944 during the Bretton Woods meetings. Maybe indeed the world is moving, after the euro, towards a "worldo" or "mondo" currency. As Irving Fisher said almost a century ago:

> *We have standardized every other unit in commerce except the most important and universal unit of all, the unit of purchasing power. What business man would consent for a moment to make a contract in terms of yards of cloth or tons of coal, and leave the size of the yard or the ton to chance?*

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