

Can Currency Boards Prevent Devaluations And Financial Meltdowns?

To the surprise of most, if not all, analysts and economic advisors, Mexico's December 1994 currency crisis quickly spread to other emerging economies. Investors' fears that those economies would devalue soon became evident in a swift, massive and indiscriminate outflow of capital from Latin America that observers dubbed the *tequila effect*.

As the tequila effect rippled across the continent, living standards deteriorated for millions of Mexicans and other Latin Americans. Mexico's heightened risk of debt default prompted a bailout by the International Monetary Fund and the United States.

Some observers contend that the Mexican crisis and its damaging spillover effects might have been avoided had Mexico had a currency board. Their arguments may sound convincing, but they presume that once a currency board system is in place, a country will adhere to it forever. This assumption is as unrealistic and naive as the belief that a wedding ring guarantees an everlasting marriage.

Stubborn adherence to a currency board exposes societies to severe and protracted credit crunches, as in the Great Depression. Rising unemployment and consequent

erosion of political support might tempt governments to abandon currency boards during financial stress. Then, the policies governments impose to replace currency boards may lead to the same devaluations and financial crises the boards were designed to prevent.

The recent experience of Argentina suggests that currency boards are not the panacea their advocates claim. (See the sidebar.)

A Historical Perspective

Advocates claim there have been many successful currency board experiences. For example, Hanke and Schuler (1994, 54) assert that "approximately 70 countries have had currency boards...." They fail to mention that most of those 70 countries were British colonies in Africa, Asia, the Caribbean and the Middle East.

Few currency boards have ever operated in independent countries. Those that did—North Russia, Danzig and Malaya—never lasted more than four years. No orthodox currency board operates today in any independent country. The so-called Singapore currency board is actually a department of the Monetary Authority of Singapore, which has the formal powers and responsibilities of a central bank. Argentina's current regime is perhaps the closest to an orthodox currency board that exists today.

The institutional arrangements of all the British colonies' currency

boards suggest that they may have successfully prevented devaluations solely because they were run by foreign powers. Indeed, currency matters in those colonies were the responsibility of the British Secretary of State for the Colonies, who issued currency board regulations and appointed board members.

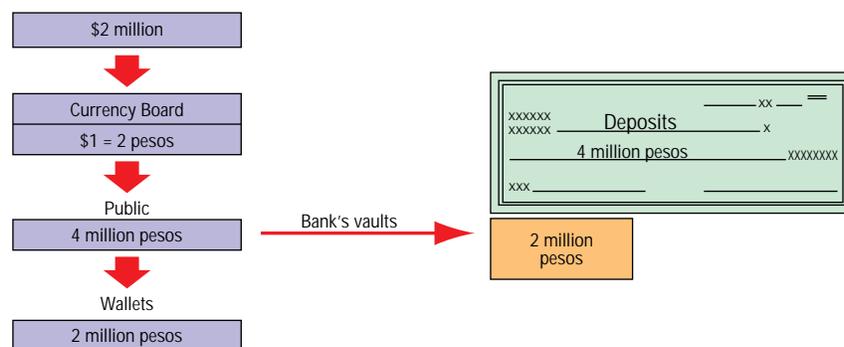
Obviously, monetary policy in Mexico would be more credible were it administered by the Bundesbank. Hanke and Schuler's proposed model for a modern currency board confirms the suspicion that currency boards succeeded not because of their structure but because foreign powers controlled them. According to Hanke and Schuler (1994, 81), currency boards should be run by "foreign directors appointed by commercial banks." It is difficult to conceive how the authority of foreign directors could be enforced against eventual popular opposition. Enforcement could require military intervention by a foreign power, something that might be unacceptable to the international community.

Currency Boards and the Money Supply

The currency board is a rule for money creation: the currency board issues money only against a designated reserve currency at a fixed exchange rate. Two common reserve currencies are the U.S. dollar and German mark.

The example in Chart 1 relies on

Chart 1
Money Creation in a Currency Board System



the U.S. dollar as the reserve currency. An investor (foreign or domestic) decides to invest \$2 million in a country with a currency board. To buy the local goods, machines and labor required for the investment, the investor needs the local currency and to that end, hands over \$2 million to that country's currency board. In exchange, the local currency board gives the investor local currency (say, pesos) at the rate established by the fixed exchange rate (say, 2 pesos per dollar). In other words, the currency board gives the investor 4 million pesos of the currency board's money in exchange for the investor's \$2 million. This currency board money is nothing but the bills and coins people carry in their wallets. These bills and coins are actually the currency board's liabilities—that is, upon demand the currency board must exchange those bills and coins for the reserve currency.

Part of the fiduciary money issued by the currency board will remain in the public's wallets, but the rest will be deposited in commercial banks. Those bills and coins (that is, the currency board's liabilities in the form of money) in the banks become the commercial banks' cash reserves, which they use to make loans and create deposits through the standard money multiplier.

Chart 1 depicts a hypothetical economy in which half the money created by the currency board stays in the public's wallets and the rest is deposited in commercial banks. Typically, the public withdraws only a fraction of the banks' cash reserves on any given day. In this example, banks must satisfy, on average, daily cash withdrawals of only half their cash reserves, or 1 million pesos. One million pesos, then, would be left idling in the banks' vaults. Of course, profit-driven bankers will lend that money by opening accounts against which borrowers can issue checks for up to 2 million pesos.

In this example, total deposits in the banking system after the loans

Argentina's Currency Board During a Financial Crisis

Argentina's recent experience demonstrates what can happen with a currency board during a financial crisis. Argentina's monetary policy has operated very much as a currency board would have since April 1, 1991, when the country's congress approved a convertibility law.

The law obligated the central bank to issue domestic currency (the peso) only against the dollar value of foreign reserves. The law also fixed the exchange rate at 1:1, or \$1 per peso. This standard is the basic rule for money creation under a currency board arrangement.

Under the convertibility law, Argentina's base money and foreign reserves should move very much in tandem, as they do in Chart A. This pattern is typical of currency board regimes, under which base money increases as foreign reserves rise and decreases as foreign reserves fall.

As the chart shows, foreign reserves started to fall in Argentina in January 1995, when the tequila effect spread and investors withdrew capital from the country in fear of a devaluation. The chart makes apparent that currency boards are not seen as everlasting protection against devaluation. The reason is because the same currency board features that prevent devaluations can exacerbate fears that the currency board will be abandoned. Under a currency board, a relatively minor Orange County-like liquidity crisis can become a full-blown financial panic almost overnight. This is what happened in Argentina. In such circumstances, governments come under rising pressure to restore the lender of last resort function that is part of monetary policy under a central bank but is incompatible with a currency board regime.

Argentina's problem started with a liquidity squeeze in Bank Extrader, a small bank that held barely 0.2 percent of all the deposits in Argentina's financial system. Extrader was heavily exposed in Mexican bonds and securities. When the value of those assets fell dramatically in the aftermath of Mexico's December 20, 1994, peso devaluation, the bank could no longer cover its short-term liabilities, particularly time deposits. This shortage triggered a bank run, making matters even worse. On January 18 the central bank was forced to liquidate Extrader. Suddenly, the effect seen elsewhere in Latin America spilled into Argentina's domestic financial markets. Fear that other banks were also heavily exposed to the collapsing Latin American capital markets led depositors to withdraw their money from the banks for the security of their mattresses or accounts abroad.

By April 30, the financial system had lost 18 percent of the deposits it had before the Mexican peso devaluation. To cover the withdrawals, the banks were forced to liquidate assets. One liquidation method was not to renew lines of credit to consumers and businesses. Many businesses and consumers could not pay off the loans on such short notice. When they did, it was by not paying other obligations. In turn, the beneficiaries of those debts could not meet their obligations, and so on.

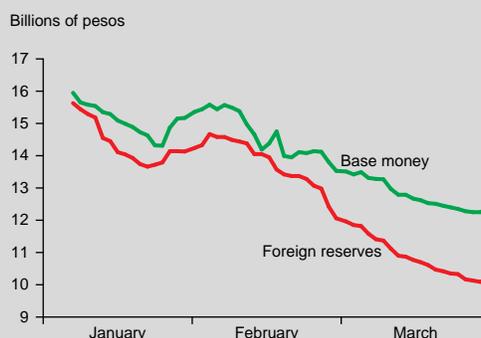
In the wake of this panic, many banks had to suspend the payment of deposits. Some investors—foreign and domestic alike—have not yet been able to recover their savings. Real economic activity in Argentina has followed the decline of financial indicators. Sales of cars, apparel and consumer electronics had fallen 20 to 40 percent by the end of April. Although currency boards are supposed to prevent the kind of financial meltdown Mexico experienced, Argentina found itself in a crisis despite its monetary policy.

Given the magnitude of Argentina's credit crunch, one wonders why Argentina has not followed Great Britain's example and suspended its currency board arrangement until the financial crisis is resolved. The answer, as a great deal of economic research suggests, lies in the monetary authority's credibility.

Argentina lacks the distinguished track record that the Bank of England had when it suspended the gold standard. In fact, Argentina has made into the *Guinness Book of World Records* for its historically high inflation rates and, in particular, its hyperinflations of 1989–90, when inflation rates reached 200 percent per month. Therefore, it's likely that investors would perceive a temporary suspension of the currency board announced by the monetary authority as permanent. Such a perception would weaken investor confidence and make the reconstruction of the financial sector more difficult and protracted, which, in turn, would validate the perception that the suspension was not temporary but permanent.

Argentina's bad credit history is what motivated policymakers there not to follow the British example but to stand by the currency board, even at the risk of defeat in the recent presidential election. The hope is that investors will recognize that a country willing to endure a severe recession and soaring unemployment rates to preserve its commitment to avoid inflation has set aside policies of the past and achieved reform.

Chart A
Argentina: Base Money and Foreign Reserves, 1995



are 4 million pesos: (1) 2 million pesos of the original deposit plus (2) the 2 million pesos of the accounts opened to borrowers. The cash reserves are 2 million pesos, exactly enough to cover presumed cash withdrawals for 50 percent of the deposits. In other words, the 2 million pesos of cash reserves support twice as much in deposits. If, however, all depositors simultaneously decided to cash in their checking account balances, the financial system would not be able to satisfy the demand for 4 million pesos in cash.

The difference between the money created by the currency board (actual bills and coins) and the money created by the commercial banks is important: the currency board's money is fully backed by foreign reserves. In other words, the currency board is able to buy back all of its liabilities (bills and coins) in exchange for foreign currency at the established fixed exchange rate.

In contrast, deposits in the private financial system are not backed by the currency board's foreign reserves. The currency board is not responsible for these deposits because they are *private money*, money created by private financial institutions and, therefore, the private banks' liabilities. In particular, this means that the currency board does not exchange checks for reserve currency. Anyone who wants to carry out such a transaction will first have to go to the bank, exchange the private money (check) for the currency board money (bills and coins) and then go to the currency board window to exchange the cash for the reserve currency at the fixed exchange rate.

In sum, the currency board's money is the *base money*, or in less technical terms, the bills and coins in the public's pockets. Under a currency board, the base money is fully backed by foreign reserves because the currency board prints money only against the reserve currency at a fixed exchange rate.

Moreover, the bills and coins issued by the currency board are fully convertible on demand at the fixed exchange rate into the reserve currency, and vice versa.

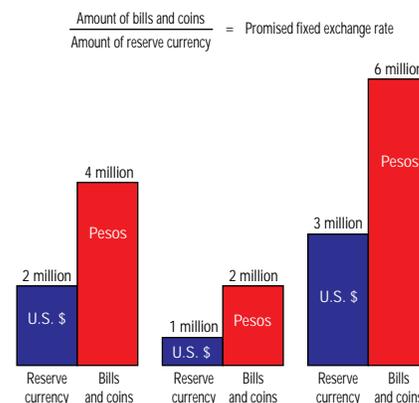
Because a currency board views the money issued by banks (deposits) as the banks' private business, currency boards do not regulate, supervise or provide any lines of credit to financial institutions. Financial institutions make their own credit policies and their own decisions about how much to maintain in cash reserves. Under a currency board, financial institutions are on their own. There is no discount window they can go to if they have a sudden and severe liquidity problem. This is why countries with currency boards are more prone to bank runs and financial panics than countries with full-fledged central banks.

Armor Against Devaluation

Why, then, are currency boards seen as protection against devaluation? The reason is because the base money is fully backed by foreign reserves. If reserves shrink by \$1 million, the money base has to shrink by that amount times the exchange rate. In the example shown in Chart 2, this loss of reserves means the currency board reduces bills and coins in circulation by 2 million pesos (\$1 million times 2 pesos per \$1). If foreign reserves increase instead by \$1 million (from \$2 million to \$3 million), the base money increases by 2 million pesos.

In other words, under a currency board, the mechanism for expanding and contracting the money supply ensures that the proportion of base money to reserves stays constant at the fixed exchange rate. As Chart 2 shows, a currency board keeps the base money (bills and coins) and the reserve currency proportionate, the proportion implicit in the fixed exchange rate. For example, the ratio of the base money to foreign reserves is always 2:1, which means that the currency

Chart 2
The Currency Board Rule



board can always buy back the base money at the fixed exchange rate of 2 pesos per dollar. There will never be devaluations.

Central Banks and Devaluation

If a monetary authority does not follow the strict rule of printing money only against foreign reserves, it is no longer a currency board. It's a central bank. When the monetary authority prints money that is not backed by reserves, the country risks devaluation.

Central banks can issue money through the discount window to provide funds to financial institutions with short-term liquidity problems. In effect, this action adds to the base money (*Chart 3*) without adding foreign reserves and breaks the delicate balance between them. This imbalance introduces the possibility that the central bank will be forced to devalue the currency. If the public decides to exchange all the base money in circulation for foreign currency, the central bank will not be able to defend the current exchange rate.

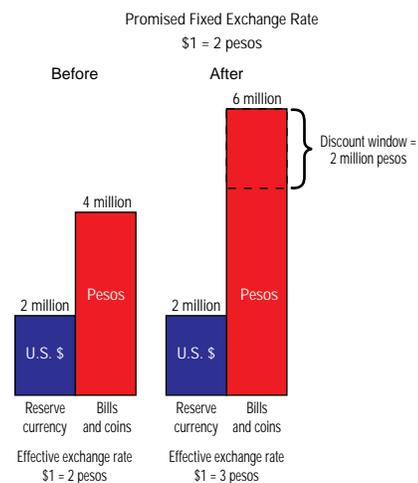
In the case of Chart 3, the central bank would need \$3 million to buy back the base money of 6 million pesos at the exchange rate of 2:1. The central bank, however, has only \$2 million of foreign reserves, so it must exchange at the rate of 3 pesos per \$1. Thus, the local currency has devalued 50 percent.

Armor or Straitjacket?

The armor against devaluation provided by a currency board can become a straitjacket in times of financial panic. As explained earlier, private banks typically keep only a fraction of their deposits in cash. With a currency board, banks do not have the safety net of a discount window when they need to borrow short-term funds to face transitory liquidity problems. Under a currency board regime, the deposits and the banking system are literally running on the confidence of depositors. When that confidence is broken, a bank panic can ensue quickly. The mere suspicion that a bank is insolvent can cause depositors to fear for their savings because a bank typically does not have enough cash to cover all outstanding deposits (See Chart 1). This fear will trigger a run against the bank, whose failure will create fears of other bank failures, in a chain reaction that can end up in a full-blown financial panic.

Bank runs are less frequent and severe with a central bank system. With a central bank, an essentially solvent bank with short-term liquidity problems will not automatically go under as it would in a currency board system because it can appeal to the discount window to cover the temporary cash shortage.

Chart 3
Devaluation: Central Bank Lends to Banks



Given the serious recessions that usually follow the credit crunches associated with bank panics, it is easy to understand why countries will be tempted to abandon currency boards and similar systems during financial panics. In fact, that is precisely what Great Britain did on three occasions with its gold standard, which works much like a currency board, but with gold playing the role foreign reserves play under a currency board system. In 1847, 1857 and 1866, Great Britain suspended the gold standard to abort incipient financial panics.

Scholarly research has shown that, in Great Britain's case, investors expected convertibility to resume eventually (Bordo and Kydland 1995). Argentina's current financial crisis raises the question of whether Argentina could do as England did and temporarily suspend its currency board without hurting its credibility. The answer is probably not, because Argentina's monetary policy track record is not what Great Britain's was at the time the gold standard was suspended.

Conclusions

A currency board does not magically restore the credibility of a country's economic policies, as some advocates claim. The reason is because currency boards can be abandoned. When investors fear a government is about to abandon its currency board, they take their capital out of the country, and financial panic typically ensues, as it recently did in Argentina. In such circumstances, the armor against devaluations that a currency board supposedly provides becomes a suffocating straitjacket societies and their governments will be tempted to cast off.

Behind these issues is a deeper one. Are there political and economic institutions that can guarantee governments will never break their promises? Economists and social scientists are still trying to answer

this question. In the meantime, two facts are evident.

First, if there are such institutions, the currency board is not one of them. Currency boards can be abandoned, and the fallacy behind their alleged effectiveness is the assumption they will never be.

Second, the track record of a country seems far more important for policy credibility than the particular label (central bank or currency board) of the institutions that conduct policy. The monetary policy of a central bank in a country that has always shown fiscal and monetary discipline and never defaulted on its debts will be far more credible than the monetary policy of a currency board in a country that has a history of letting inflation run unleashed, confiscating deposits and defaulting on its debt.

A currency board might help an inflation-addicted country avoid a devaluation, but only if the country maintains the currency board at all costs. Countries adopting currency boards must be ready to endure the severe financial crisis and high unemployment that come with the credit crunch that is sure to follow a financial panic. Such panics are likely because a currency board is not a magic pill that restores credibility instantly and painlessly. When recommending currency boards, their advocates should warn policymakers that currency boards will not spare them the time and economic hardships necessary to restore the credibility lost at the hands of bad policies of the past.

—Carlos E. Zarazaga

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