
The Revival of an Old Idea

Until the last few years, it was generally assumed that currency boards were an idea whose time had passed. They had been widely introduced into British colonies in the 19th century, but almost vanished with the end of colonialism. The largest of Britain's few remaining colonies, Hong Kong, reintroduced a currency board in 1983. In 1991 Argentina and in 1992 Estonia adopted currency board arrangements. Since then, a strain of monetary evangelicals have urged their adoption anywhere and almost everywhere—most notably in Mexico, Russia, and Ukraine. Most of the (limited) recent literature on currency boards comes from those who are fervent believers in the idea. This study aims to provide a more balanced appraisal.

The reasons for the revival of interest in the idea of currency boards are not difficult to identify. One is disillusionment with the susceptibility of many central banks to pressure from their governments to finance excessive deficits, a concern that has also spawned widespread support for central bank independence. Another is disenchantment with central banks' use of discretion, which has nurtured support for monetary rules. A currency board is at bottom an arrangement that legislates a particular monetary rule: a rule that changes in the monetary base will be equal to the country's overall balance of payments surplus or deficit (that is, the sum of the current account and the capital account). This gives a country a highly credible mechanism for defending a fixed exchange rate, but at the cost of abandoning its monetary sovereignty.

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The study starts by defining what is meant by a currency board and explaining how it differs from a central bank. This is followed by a sketch of the historical experience with currency boards, which has been primarily in colonial situations but has recently extended to several other countries. The heart of the study is the analysis of the advantages and disadvantages of currency boards (chapter 2). Advantages are the assurance of convertibility at a fixed exchange rate, the pressure to maintain macroeconomic discipline, the provision of a built-in mechanism for balance of payments adjustment, and, as a result of those three characteristics, the maintenance of confidence. Disadvantages include the loss of any ability to tailor monetary policy to a country's own situation and to use changes in the exchange rate as an instrument for adjusting the balance of payments.

As those issues go to the heart of many controversies about the best way to conduct macroeconomic policy, it is not surprising that there are sharp differences about the desirability of currency boards. Nevertheless, I go on to try and evaluate the circumstances under which currency boards are a good idea (chapter 3). The study concludes with an appraisal of their suitability in Mexico, Russia, and Ukraine. It is argued that in none of those three cases would a currency board be desirable, although they might well make sense in many smaller countries.

Definitions

A currency board has normally been used to hold a fixed exchange rate vis-à-vis some major international currency, which we will call the reserve currency. In principle, one could allow for a certain element of variability in the exchange rate, at least a preannounced decelerating crawl intended to wind down inflation gradually (as will be discussed later). Similarly, it would be possible to fix the exchange rate in terms of a basket rather than of one currency. But the general practice of currency boards has been to hold a rigidly fixed exchange rate in terms of a single reserve currency, and most advocates of currency boards take it for granted that that is the right policy. Hence the main analysis assumes a fixed exchange rate in terms of the reserve currency.

A currency board is defined as a monetary institution that issues base money solely in exchange for foreign assets, specifically the reserve currency. Base money consists of notes and coin ("cash," for convenience), and *may* also include the other reserves, or some of the other reserves, held by commercial banks. Under a currency board system, however, unlike the practice when a country has a central bank, the commercial banks may be allowed, or even required, to hold much or all of their reserves (other than vault cash) in the form of the reserve currency.

Figure 1

A Currency Board	
Assets	Liabilities
Liquid reserve-currency assets	Cash (Deposits of commercial banks) Net worth

A Central Bank	
Assets	Liabilities
Liquid reserve-currency assets Domestic assets (government debt)	Cash Deposits of commercial banks Net worth

The key differences between a currency board and a central bank are most clearly seen by examining the stylized T-accounts of both institutions (figure 1). In the simplest version, a currency board issues cash (notes and coin) solely in return for the chosen reserve currency, so that its balance sheet consists principally of its holdings of the reserve currency on the asset side and a nearly equal value of cash in the hands of the public and the banks on the liability side. Currency boards normally aim to hold a somewhat larger value of assets than the value of their liabilities in order to guard against the risk that the market value of their assets will diminish—for example, due to a rise in interest rates in the reserve-currency country. However, since the assets they hold are highly liquid, this excess—which corresponds to the net worth of the currency board—does not need to be large. When net worth rises beyond 5 or 10 percent, as a result of the profits that it makes by holding interest-yielding assets and issuing non-interest-bearing liabilities, a currency board typically transfers the excess to the government.

Commercial banks hold vault cash that is issued by the currency board. Their other reserves may take the form either of liquid holdings of the reserve currency (this was the traditional practice, considered by some currency board advocates to be a key feature of a “pure” currency board) or of deposits at the currency board (shown by the parenthetical entry in the T-account).¹ In the former event, they replenish a shortage of

1. Osband and Villanueva (1992) use the term “independent currency authority” to encompass what I describe as impure, as well as pure, currency boards.

vault cash by buying additional cash from the currency board with some of their reserve-currency holdings.

Consider now the balance sheet of a typical central bank, as shown in the lower portion of figure 1. It too holds liquid reserve-currency assets so that it may peg or otherwise manage its exchange rate. And it also issues cash, which is held by both the public and the commercial banks (vault cash). In addition, the commercial banks always hold their reserves (other than vault cash) at the central bank: the sum of cash and the deposits of the commercial banks is the monetary base, M_0 . Finally, like a currency board, a central bank also has a modest net worth.

The crucial distinguishing characteristic of a central bank is that it holds not just foreign but also domestic assets, of which the most important is normally government debt. In addition, a central bank may allow the commercial banks to borrow from it, or it may buy (“discount”) assets from the commercial banks, typically paper issued in pursuit of some cause (such as exporting) that the government wishes to encourage. When a central bank buys a domestic asset, it normally pays for it by increasing the monetary base, just as happens when it buys reserves. A central bank also can buy a domestic asset to prevent the monetary base from declining as a result of a need to sell reserve assets to support the exchange rate: this process is known as “sterilization.”

A currency board has no discretion as regards its monetary policy: it increases the monetary base when the private sector wants to sell foreign currency to it at the fixed exchange rate, and it decreases the monetary base when the private sector wishes to finance a balance of payments deficit by selling cash back to it and purchasing foreign exchange. In contrast, a central bank can take the initiative in deciding to change the monetary base. If it is defending a rigidly fixed exchange rate, then it still has no discretion in changing the foreign exchange component of its balance sheet, but it does have the option of buying or selling domestic assets and in that way influencing the monetary base. In a fractional reserve banking system, that will normally have a magnified effect on other monetary aggregates (M_1 , M_2 , etc).

Monetary policy, meaning variations in the domestic component of the monetary base, can be based on several principles. The one closest to the currency board rule is to hold the domestic component of the monetary base constant, so that the monetary base varies one-for-one with the central bank’s holding of foreign reserves. This will be referred to as the *marginal currency board rule*. It is the principle that was enshrined in the 1844 Bank Act that allowed the Bank of England a fixed fiduciary issue but required that all additional issue of sterling be backed by gold.

A second rule is to keep foreign reserves a constant proportion of total assets. This means *reinforcing* the effect on the monetary base of changes in foreign exchange by changes of the same sign in domestic assets, which will make changes in the monetary base larger than changes in reserves. This rule preserves the “gold standard” feature of having an automatic stabilizing monetary response to payments imbalances, but at the cost of magnifying the impact of fluctuations in the monetary base on the money supply. This will be referred to as the *gold standard rule*.

The opposite rule seeks to insulate changes in the monetary base from changes in foreign reserves by sterilizing reserve changes. This is the rule typically espoused by Keynesians. It is a rule that presupposes at least one other instrument of economic policy to look after the balance of payments, such as an active exchange rate and/or fiscal policy. This will be referred to as the *exogenous monetary base rule*.

It is, of course, also possible to envisage rules, such as partial sterilization, that combine these basic rules. And obviously, one may also encounter less systematic policies. But these three basic rules are the ones with which currency boards need to be compared in order to assess the advantages and disadvantages of a currency board versus a central bank.

History

Currency boards were an invention of the British Empire. The first one was established in Mauritius in 1849.² Eventually there were boards covering more than 70 countries, issuing money for British colonies in Africa, Asia, the Caribbean, and the Middle East, plus a few other small countries (Walters and Hanke 1992).³ The currency board system reached its peak in the late 1940s (Crick 1965, 10).

The purpose of creating a currency board was to provide a colony’s inhabitants with the benefits of a stable and convertible currency, such as the pound sterling, without the cost that would be involved if the colony used sterling coins and notes. These costs are of two kinds: the need to replace coins and notes that are destroyed or lost, and the inter-

2. Curiously, this first currency board was not really a currency board in the sense defined above, since it was permitted to hold up to 50 percent of its assets in obligations of the Mauritian government. Later currency boards, starting with the one founded in Ceylon in 1885, adhered to the principle that the currency board was prohibited from holding its own government’s obligations—although each was permitted to hold obligations issued by *other* British colonies (Schwartz 1993; Shannon 1951).

3. For a full list of past currency boards, see appendix C in Hanke, Jonung, and Schuler (1993).

est forgone because the colony holds non-interest-bearing assets to provide for its monetary needs. A currency board reaped profits, and therefore saved the colony money, from both sources. If a coin or note was lost or destroyed, the external assets of the colony, which consisted of the sterling assets that the currency board held in London, were unaffected: the result was an internal redistribution rather than a collective loss. And the currency board earned interest on the securities that it held in London. As compared with a situation in which the colony was required to use the money of the metropolitan power, there is no question but that the currency board solution was a better deal for the colonial subjects.⁴

There were also several currency boards in independent countries, such as Argentina from 1902–14 and 1927–29, Iraq from 1931–49, Ireland in the interwar years, Danzig in 1922–23, Panama from 1904–31,⁵ and North Yemen from 1964–71 (Hanke, Jonung, and Schuler 1993). One of the most interesting was that created by the British Treasury, at the instigation of Keynes, to provide for the monetary needs of an area of North Russia where allied forces were operating during the civil war that followed the Bolshevik Revolution (Hanke and Schuler 1991). Actually, this was not a pure currency board, because a quarter of its assets consisted of bonds issued by the North Russian government; rather, it followed the procedure that was above called the marginal currency board rule. When the North Russian government defaulted on its bonds, the British Treasury made up the loss. Thus the currency board was able to continue to honor its liabilities in the midst of war and even after the defeat of North Russia, though one cannot help reflecting that any central bank that got similar foreign underwriting would be a pretty reliable debtor as well!

My own initiation into the economics of currency boards was in the early 1960s, when conventional wisdom held that they were a vestige of colonialism that needed to be swept away in order to give newly liberated peoples the benefits of being able to control their own monetary destinies and to allow some of the credit corresponding to their own money demand to be directed to domestic borrowers. Soon after independence, most countries replaced their currency boards by central banks.

As pointed out already, a central bank does indeed bestow the opportunity of pursuing a monetary policy, rather than being forced to

4. At least some other colonial powers seem to have provided money for their colonies through institutions much more similar to central banks. For example, French colonies were endowed with *Instituts d'Emission*, which maintained a fixed exchange rate with the French franc but could hold domestic as well as French assets in their portfolios (Schwartz 1993, 167).

5. This is regarded as a dubious case by Anna Schwartz (1993, 166).

Table 1 Extant currency boards^a

Country/territory	Date of establishment	Population (July 1994)	Currency peg
Argentina	1991	33,912,994	US dollar
Bermuda	1915	61,158	US dollar
Brunei	1967	284,653	Singapore dollar
Cayman Islands	1972	31,790	US dollar
Estonia	1992	1,616,882	Deutsche mark
Falkland Islands	1899	2,261	Pound sterling
Faroe Islands	1940	48,427	Danish krone
Gibraltar	1927	31,684	Pound sterling
Hong Kong	1983	5,548,754	US dollar
Lithuania	1994	3,848,389	US dollar

a. As of July 1995.

Sources: Hanke, Jonung, and Schuler (1993, appendix C); *CIA World Factbook*, 1994–95; IMF.

follow a mechanistic rule. Whether that is a good thing is discussed below, but in the intellectual environment of the early 1960s it was taken for granted that more opportunities for governments were better than fewer, since governments could be relied on to act in the best interests of their citizens. The Keynesian orthodoxy assumed in particular that the possibility of pursuing a contracyclical monetary policy would be advantageous. Similarly, it is indeed true that a central bank allows part of the credit that is the counterpart to the monetary base to be directed to the domestic economy rather than to the reserve-currency country—that it can collect more of the seigniorage, in the jargon—which is in itself a potential benefit. But there are, of course, costs that need to be weighed against those potential benefits, as will be discussed subsequently.

Central banks replaced most currency boards by the early 1970s, with Hong Kong floating its exchange rate and abandoning its currency board in 1974. For a time, currency boards survived only in very small territories: Bermuda,⁶ Brunei, the Cayman Islands, the Falkland Islands, the Faroe Islands, and Gibraltar. Some details of these currency boards, as well as of the others that have been introduced since, are shown in table 1.

6. Bermuda is a bit of an oddity in that it imposes exchange controls (see Hanke, Jonung, and Schuler 1993, 184, note 35). The only other currency board that seems to have had any form of exchange control is Estonia, which had capital controls for its first 18 months.

In addition, Singapore had a Board of Commissioners of Currency, which issued (and still issues) Singapore's currency and maintained (and maintains) 100 percent reserve cover, and this started out life as a currency board. But Singapore also had a Monetary Authority, which performed all the functions of a central bank other than the issue of currency, including open-market operations (Osband and Villanueva 1992). Singapore does not maintain a fixed exchange rate, and it does not automatically increase the monetary base in response to a reserve inflow, so it hardly seems legitimate to characterize its monetary system as being based on a currency board. In fact, Singapore's monetary system is a highly managed one. Just because it is well managed and holds 100 percent cover against the issue of currency does not entitle currency board advocates to cite it on their side.

In contrast, Hong Kong reestablished a real (though slightly modified) currency board when it revived a link between its currency, the Hong Kong dollar, and the US dollar in October 1983. This followed a currency crisis in which fear of Beijing's intentions had pushed the floating Hong Kong dollar to a much undervalued level. Bank notes are issued in Hong Kong by three private banks, up to the value of the US dollars they have submitted to the Exchange Fund (the currency board) in return for non-interest-bearing certificates. All other foreign exchange transactions are undertaken at market-determined exchange rates, but of course the deviations of these rates from the parity are limited to the cost of arbitraging bank notes. In 1988 the Exchange Fund was given the right to conduct open-market operations, which it has used to limit the need to arbitrage bank notes. In 1990 it acquired the right to issue 3-month Treasury bills, and in 1993 it opened a discount window so it could provide liquidity to banks. Anna Schwartz describes these moves as marking "the progressive dilution of precommitment" (Schwartz 1993, 184). It seems that the Hong Kong Exchange Fund is following the precedent set in Singapore, where the form of a currency board was maintained but the substance of a central bank was gradually added as credibility solidified and the need to defend the exchange rate no longer precluded defense of the banking system.

The revived currency board has generally been rated a success: certainly Hong Kong has since suffered no crises comparable to that of 1983 (although the local banks did find themselves in some difficulty in 1985, and the Hong Kong dollar came under severe pressure for two days during the Mexican panic of early 1995). Inflation has been lower since reestablishment of the currency board than it was during the years when the Hong Kong dollar floated. But, contrary to claims made by proponents of the system at the time of its introduction, it has not held Hong Kong inflation down to the level in the United

States.⁷ This is not surprising: even if arbitrage held the prices of traded goods in line as closely as the international monetarist theories of Robert Mundell used to assume, there are three reasons one should have expected inflation in Hong Kong to be higher. The first is that the Hong Kong dollar was initially undervalued, so arbitrage tended to pull prices up. The second is that productivity in Hong Kong has been increasing much more rapidly than in the United States, so that one should expect strong “productivity bias” in a price index that includes non-traded goods (Balassa 1964). And the third is that the US dollar has depreciated in both nominal and real terms against most of the other East Asian countries that are important trading partners of Hong Kong, meaning that a constant rate against the US dollar led to depreciation of the effective exchange rate, which is the rate that determines arbitrage pressures. A constant real effective exchange rate thus required inflation in Hong Kong.

In April 1991 Argentina adopted a Convertibility Plan, which involved tying the central bank down so that it acted almost like a currency board. This followed a severe bout of hyperinflation in 1989–90, an experience that seems to have induced a general willingness to accept whatever arrangements might be necessary to prevent a recurrence of chronic inflation. The law stipulated a one-for-one parity between the Argentine peso and the US dollar and guaranteed the right to convert Argentine pesos at that rate, meaning that devaluation would require a new act to be passed by the Congress. It also provided that the monetary base could be expanded only on the basis of a purchase of dollars, although a loophole was left in the form of permission to hold as much as one-third of the central bank’s assets in the form of dollar-denominated government debt. While the central bank had full cover in terms of gross external reserves from the outset, it did not have full cover in terms of net external reserves until 1992. Unlike a pure currency board, commercial banks continued to be required to hold their reserves at the central bank, and the central bank remained responsible for bank supervision and for the health of the banking system.

The Argentine peso came under pressure in November 1992. On that occasion the currency board rules were allowed to function unimpeded, and the crisis passed rapidly. During the 1995 Mexican panic, there was another run on the Argentine peso, which, exploiting the loophole noted above, was partially sterilized by central bank purchases of dollar-denominated government debt. In addition, the central bank initially sought to limit the credit crunch provoked by the flight from the peso by reducing (in fact halving) bank reserve requirements. This crisis was

7. The Hong Kong consumer price index rose by a cumulative 126 percent from 1983–94, as against 49 percent in the United States.

Table 2 Baltic countries: economic indicators, 1992-94 (percent)

Country	Real GDP growth	Consumer prices	
		Average	End period
Estonia			
1992	-21.6	1,069	942
1993	-6.6	89	36
1994	6.0	48	42
Latvia			
1992	-35.0	951	958
1993	-15.0	109	35
1994	2.0	36	26
Lithuania			
1992	-38.0	1,020	1,163
1993	-16.0	410	189
1994	1.5	72	45

Source: IMF

ended only after the assembly of a large international support package and an associated tightening of fiscal policy. Perhaps it would have ended sooner if the rules of the currency board system had not been bent, but—as will be discussed—the cost might have been a more severe crisis of the domestic financial system.

When Argentina adopted the Convertibility Plan, its monetary aggregates had been severely eroded in real (and dollar) terms. This is normal during the sort of hyperinflation that Argentina had experienced previously: people react to the rapid loss of purchasing power by reducing the real-money balances they hold—that is, the price level and exchange rate go up by more than the nominal money supply. As a result, Argentina's external reserves not only were larger than the monetary base, but also exceeded M1 (currency plus demand deposits) and amounted to two-thirds of the wider aggregate M2 (which adds savings and time deposits; see Republica Argentina, *Economic Report*, third quarter 1994, tables A.8.2, A.8.3, A.8.5.).

The next country to adopt a currency board was Estonia, which was the most aggressive of the former Soviet republics in seeking to make a quick transition to a market economy. In June 1992 it replaced the ruble with its own currency, the kroon, under a currency board arrangement with a peg to the deutsche mark. The Bank of Estonia is for accounting purposes divided into two departments: an Issue Department that acts as a currency board and a Banking Department that can bail out troubled financial institutions, but only to the extent that it holds foreign ex-

Table 3 Baltic countries: monthly inflation

	Estonia	Latvia	Lithuania
December 94	1.4	2.4	3.8
January 95	3.5	3.5	5.7
February 95	2.9	3.2	3.9

Source: IMF

change, which it can lend (and which the Issue Department will then convert into kroons).

Since Estonia established the currency board, the kroon has become a hard currency that has attracted capital inflows that have expanded the money supply, reduced interest rates, and stimulated a revival of the real economy. Estonia has had the best performance among the three Baltic states, which have in turn by far the best record among the republics of the former Soviet Union.

The performance of the three Baltic states is compared in tables 2 and 3, which show not only that Estonia's cumulative output decline was substantially smaller than that of either Latvia or Lithuania, but also that its positive growth in 1994 was three times as big as in the next best case, Latvia. This was not achieved at the cost of significantly more inflation. Of course, one cannot be sure that this difference is attributable to their differing macroeconomic policies,⁸ but theory suggests that Estonia's peg should have led to a quicker output revival than Latvia's float, given that both countries experienced large capital inflows. Latvia's float meant that its incipient capital inflows resulted in a strong appreciation of its currency, the *lat*, and in continued high real interest rates and thus deflationary pressure until Latvia informally pegged the *lat* to the SDR in early 1994 (*IMF Survey*, 12 December 1994, 389).

Lithuania initially had less disciplined policies than either Estonia or Latvia and employed an orthodox central bank and managed float after it replaced the ruble with its currency, the *lit*, in June 1993. In April 1994 it tied the *lit* to the US dollar and replaced its central bank with a currency board.

Currency boards are reportedly under consideration at the moment in several other places as well, including Namibia (with a link to the South African rand), the Kyrgyz Republic, and Palestine.

8. Nor can one be sure that the difference is an economic reality rather than a statistical artifact, as Estonia attempts to include an estimate of the output of the informal economy in GDP whereas Latvia does not.