

REVIEW OF CURRENCY BOARDS AND EXCHANGE RATE MANAGEMENT

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INTRODUCTION:

This paper examines the currency board system of exchange rate management. Starting with Argentina, several countries have used the idea of Currency Board to stabilize the exchange rate system from vigorous changes and to manipulate expectations of traders. The credibility hypothesis has some relevance here as policy makers who have erred before are seen with some suspect and doubts. The paper is organized as follows: In the first section, topical literature is examined and relevant arguments and related experiences are reviewed. In the second section, a brief statistical analysis contrasting the experiences of several currency boards with those of several non-currency boards is presented in order to show the stability achieved by the former group using this method of exchange rate management. A brief conclusion reviews the findings of this paper. The data tables are presented at the end of the paper.

Section 1: Literature Review

According to Husted and Melvin (2005), currency boards serve to restrict “the discretionary policy-making ability of the authorities with control over monetary and exchange rate policies.” Because governments that behave irresponsibly in these policy areas lose the confidence of financial markets, currency boards serve to bolster this confidence, and help provide exchange rate stability, when the specific government has proven unable or unwilling to do so. Husted-Melvin formally define a currency board as a “government institution that exchanges domestic currency for foreign currency at a fixed rate of exchange.” In this way, a currency board can help insulate an economy from external shocks and internal mismanagement. They also note that currency boards may be especially suited to “developing countries with a long history of unstable exchange rates.” Such a country may turn to a currency board regime at such time when “the central bank runs out of foreign currency to exchange for domestic currency and ends up devaluing the domestic currency” as a result. Devaluation of the domestic currency of course can lead to domestic price shocks.¹

Currency boards sometimes fail to achieve the stability as Husted-Melvin point to the case of Argentina, where fiscal deficits combined with peso devaluation to create an economic crisis. “The fixed exchange rate of the currency board was no longer consistent with the economic realities created by the expansionary fiscal policy,” and the situation triggered a host of problems for the country, including “rioting in the streets, the resignations of two presidents in quick succession, a freeze on bank deposit withdrawals, and a break with the fixed exchange rate.” This example demonstrates that “if

government policy is inconsistent with the fixed exchange rate” set by the currency board, this regime cannot ameliorate deteriorating conditions.²

Deane and Pringle point out that currency boards originally came into being as mechanisms for the colonial powers of Europe to administer the financial systems of their colonial holdings. As they note, “the essential feature of currency boards was that they kept control of the value of local currency unit by rigidly fixing its value to the ‘mother currency,’” e.g., the British pound. “In the case of a British currency board... it issued local currency (notes and coins) only in exchange for sterling, at a rate of exchange fixed by legislation.”³ In this way, the local currency board received its marching orders directly from the government of the colonial power, orders that included keeping 100 percent reserve cover for all local currency issued. It is easy to see in this arrangement how tightly the colonial currency boards were controlled.

Currency boards had the effect of stabilizing local economies, as well as strengthening the control of the imperial power over its colonial economies. As Deane-Pringle note, domestic inflation ceased to exist because the boards were able to restrict growth in the money supply. Local lenders of last resort were unnecessary because any borrowing by the colonial government came from the banks of the central power controlling the colony. Thus, problems facing domestic banks were limited to the domestic market and ameliorated by actions from the central government. The effect of this arrangement was to relieve the domestic economy of the internal weaknesses and external pressures it would otherwise face. Despite the success of this system in providing stability to the domestic economy, political exigencies in the mid 20th century created a situation where “the first thing every colony did on achieving independence was

to abolish the currency board” that had preserved economic stability in earlier times.⁴ Following the failures of the financial systems set up by the fledgling governments of the newly independent states in Africa, Latin America, and the former Soviet Union and Warsaw Pact regions, currency boards again came into vogue, chiefly because they “are tightly restricted in the range of activities they may undertake as well as subject to binding rules restraining currency issue,”⁵ an especially important point given the tendency of the newly established central banks to get into trouble with inflation as a result of profligate deficit spending and loose control over the money supply.

The World Bank held a conference on the viability and propriety of currency boards in 1996, and published select thoughts on the topic in a working paper titled *Currency Boards and External Shocks*. In the wake of the financial crises of the 1980s and 1990s, these economists sought to determine when and where currency boards were appropriate means to currency stability. Max Corden noted that, when currency boards are already established, there are three general tools for dealing with shocks to the economy: labor market flexibility, credibility of the currency board itself vis a vis its commitment to exchange rate stability in the face of external shocks, and “some” fiscal flexibility on the part of the government. Corden claims that even a well-run currency board may be ill equipped to deal with external shocks if these three tools are restricted. For example, the inflexibility of the Argentinean labor market played a key role in the political turmoil that gripped the country during its late 1990s financial crisis, and to a certain extent hamstrung the government when it needed maximum operational flexibility. This situation prolonged and deepened the economic crisis.

Corden also offers three criteria for when a currency board might be an appropriate tool for stabilizing the economy. First, Corden suggests that currency boards are only appropriate in countries that have actually *had* inflation problems. If no problems are present, Corden advises, “Let sleeping dogs lie.”⁶ Second, Corden asserts that “there is a serious case for small and very open economies to have a currency board system of some kind,” and mentions states in Central America and the West Indies as possible candidates.⁷ According to this criterion, Hong Kong’s adoption of a currency board regime is quite appropriate. Third, Corden states that the attitude of a country’s finance ministers towards risk should be appropriate to the risks involved in this system, chiefly the risk that a currency board might fail to manage the money supply in such a way as to make a fixed exchange rate possible. This is a matter that must be considered on a state-by-state basis, obviously.

In the same World Bank publication, John Williamson offers thoughts on the role of currency boards in the Argentinean case. Williamson notes three features of currency boards that constrain their ability to react efficiently to external shocks. First is the fixed exchange rate itself, “which... does not give any major freedom to react to external shocks.” Second, the fact that “the monetary base [must] be contracted by 100 percent of reserve outflow” impairs the ability of the government to sterilize capital flows by manipulating domestic money supply. Third, the currency board system “precludes any lender-of-last-resort facilities in the event of a bank run” as happened in Argentina in the 1990s.⁸

According to Williamson, the first two constraints are less important in a small economy than in a large one. With regards to exchange rates, Williamson notes, “the

traditional optimal currency analysis tells us that the exchange rate is a less effective instrument for facilitating balance of payments adjustment in a small economy.” Because exchange rate manipulation generally does not work well at addressing imbalances in such an economy, “adjustments... have to come by deflation, and then you may as well have the 100 percent marginal reserve requirement” because lowering the money supply artificially would not solve the problem any faster than price deflation itself; the sterilization process might even prolong the imbalance and let inflation go longer than necessary.⁹ The lack of a domestic lender-of-last resort was thought previously also to be rather irrelevant to a small country case because such economies usually have a strong presence of foreign banks to fill this role. But here Williamson notes that the foreign banks operating in Argentina, having lost faith in the value of the domestic currency, suddenly decided not to put money in to address the crisis in that country. For these reasons, Williamson asserts that “currency boards might make sense for small, highly open economies, but... they [are] a doubtful proposition for relatively large economies” such as Argentina.¹⁰

Williamson explains that while Argentina’s decision to adopt a currency board system in 1991 was a “spectacular success,” achieving as it did “four years of rapid growth... [accumulating] to a 35 percent recovery of GDP,” and the elimination of inflation, in the long run it failed to insulate the domestic economy from external shocks affecting the global economy.

It is normal for an exchange rate based stabilization to eliminate inflation only after the currency has become overvalued; and I think that happened in Argentina. By 1994, the current account deficit was 3.5 percent of GDP and increasing, and it did not look as if it was going to stop increasing as long as the boom persisted. The combination of a fixed exchange rate, a current account deficit, substantial short-term international debt, and a weak banking system made Argentina the

principal victim of the tequila effect. It experienced capital flight; the banking system looked very vulnerable; the government naturally dithered between tightening enough to restore confidence in the currency, on the one hand, and trying to give some support to the banking system by cutting reserve requirements on the other hand.¹¹

In exchange for avoiding a complete collapse in confidence in the currency, Argentina suffered through a deep recession and extremely high unemployment. From this situation, Williamson notes that economist Sebastian Edwards has identified this process as the “exit problem.” The problem essentially is thus: if a country uses a fixed exchange rate to bring down inflation, how does it then move away from its commitment to a fixed exchange rate regime “in order to restore its competitiveness and make good use of its newly found stability?” Though Williamson is skeptical that this exit problem has applicability beyond the Argentinean case, he does suggest that a country using fixed exchange rate in this way consider the examples of Singapore and Hong Kong, where the strict concept of a currency board is being expanded to allow a buildup of foreign reserves beyond legally required minimums so that the countries have a lender-of-last-resort option in a crisis.

Stanley Fischer concludes the World Bank paper with an article reviewing general lessons learned about currency boards and how they actually function. In general, Fischer believes that “the growing emphasis on the key role of the banking system”- as evidenced by its impact on the Argentinean debacle, for example- “moves the argument against currency boards.” Likewise, “other considerations move the argument more in favor of the use of an irrevocably fixed exchange rate, and thus towards the currency board.” Despite the empirical evidence supporting the adoption of currency boards, Fischer concludes that “the list of countries for which a currency board, rather than a

fixed exchange rate system, would be recommended, remains very short, and most of the relative countries would be very small.”¹²

Stephen Hanke examines the performance of currency boards in a variety of small countries and concludes that this regime type can stabilize an economy in a small country with a high degree of success. Looking at ninety-eight countries over a forty-three year period, those countries with a currency board regime rather than a central bank system experienced greater GDP growth (2.6% vs. 1.7%), lower annual inflation (7% vs. 33.8%), and lower fiscal deficits (2.2% vs. 3.7%). These findings were confirmed by a comparison of the experiences of IMF member states during the period 1970-1996; the numbers for currency board states are better than those for the central bank states. This theory is further confirmed by data from thirteen specific countries collected during the early 1990s. For the smaller states, currency board regimes provided more currency stability and greater economic growth.¹³

Hanke discusses the Hong Kong case in more detail in order to bolster his claims. After the government decided to allow the Hong Kong dollar to float in the early 1970s, it became extremely volatile and began a steady decline against the US dollar. By 1983 the Hong Kong dollar had lost nearly 1000% value against the US dollar. “Hong Kong was in a panic, with people hoarding toilet paper, rice, and cooking oil.” In October 1983, Hong Kong brought back its old currency board, a step that succeeded in slowing and eventually reversing the crisis. GDP growth has been “positive and strong” nearly every year since 1983, annual inflation has declined six percent versus its levels during the floating period, and Hong Kong has enjoyed budget surpluses in fourteen of seventeen subsequent years. In sum, Hanke reaches the same conclusion as most other

economists cited here, that currency boards might be a good move for small and open economies.¹⁴

Conversely, Marcella Mulino claims that persistent unemployment can render a currency board regime vulnerable to a currency crisis. Mulino notes that Argentina's currency board regime made addressing the rising inflation and unemployment during the mid-1990s Latin American crisis more difficult because it precluded the authorities from using monetary policy instruments. "Owing to the lack of policy instruments to support the economy, the rise in unemployment persisted over time."¹⁵ This unemployment persistence will affect the economy for some time, "so that the economy moves- after the first period shock- from full credibility equilibrium to a partial one." Thus, any economic recovery is stunted by the lack of flexibility attendant to the currency board regime. Subsequently, "unrealized devaluation expectations influence unemployment and feed back expectations, further lowering the threshold value for the shock," in effect, making it hurt more than it otherwise would, were the government free to manipulate the money supply. "Thus, the realization of a positive shock moves the economy from a situation of full credibility to one of partial credibility, in which expectations may trigger a speculative attack and eventually induce a self-fulfilling currency crisis."¹⁶

To increase the confusion, Spiegel and Valderrama compare currency boards with "fully-discretionary" monetary regimes, concluding that, while neither system generally is superior to the other, the discretionary regime is able to "smooth the first-period consumption effects of the dollar appreciation by letting the value of the domestic currency depreciate," an option off limits, of course, in the currency board system. Because a discretionary regime can consider "the impact of exchange rate devaluations

on balance sheet positions when making its policy decisions,” it can choose to allow less depreciation of the domestic currency than a currency board, which must ride out the decline until the value of the currency reaches the fixed exchange rate or the acceptable range to it.¹⁷ Essentially, this scenario implies that while a currency board is ostensibly designed to increase confidence in a particular currency, it can actually exacerbate a crisis of confidence in that currency by constraining policy makers from using monetary tools to stabilize the currency *and* the domestic economy itself.

Gurtner examines the currency board experiences of Argentina and Estonia to determine to what degree this regime has helped or hurt the ability of these economies to ward off the effects of external shocks. Gurtner claims that because “in today’s world... deflation rather than inflation is the most prominent danger,” Argentina would have been better able to weather its crisis had it possessed more monetary flexibility than the currency board regime allows. But while Argentina’s problems now are “essentially fiscal,” Estonia has shown the discipline necessary to follow the currency board regime successfully: it “does not have a highly regulated labor market and is not in danger of defaulting on its debt,” as is the case with Argentina. “The very small size of the domestic economy, its wide openness, and the flexibility on the labor market make Estonia a ‘natural’ candidate” for a currency board regime, which it has in fact had since the early 1990s.¹⁸

Data Analysis

The literature surveyed in the above section indicates several criteria that make a country a good candidate for a currency board regime. Small and extremely open economies that have experienced inflation problems and/or currency instability are good

candidates for currency board systems to govern monetary policy. As seen in the literature, larger economies such as Argentina ran into serious difficulties exacerbated by their use of a currency board system, where smaller economies like Hong Kong and Estonia were able to benefit from this system. In the data section of this paper, the experiences of five countries fitting the above criteria and using currency board systems- Hong Kong, Bermuda, Bulgaria, Djibouti, and Lithuania- are compared with five countries of similar size and openness that do not use the currency board system, Malaysia, Costa Rica, Panama, the Dominican Republic, and Ireland. The two groups are compared on the basis of real GDP growth rate, domestic price inflation rate, and exchange rate against the US dollar over a three-year period from 1999 to 2001. This comparison is made in order to investigate whether the former countries benefited from using this system as opposed to a central bank-discretionary currency regime. The latter group is used as a baseline comparison of countries similarly situated in terms of size and openness in order to show a somewhat typical statistical example of the performance of a central bank-discretionary regime.¹⁹ (Tabled representations of this section follow the endnotes section)

Hong Kong

During the period in question, Hong Kong experienced a political transition, as it was absorbed into the People's Republic of China. In the year before the turnover, GDP growth leapt to 10 percent, probably due to fears that market access would be restricted. Regardless, GDP growth was positive in 1999 and 2000 but dropped to zero percent in 2001, the first year of rule by the PRC. Inflation was minimal or negative for all three

years surveyed. The exchange rate against the dollar stayed steady in the \$7.77-7.79 range.

Bermuda

GDP growth in Bermuda stayed positive through the three-year period, and relatively stable in the 1.5 to 3 percent range. Inflation rate data is incomplete- 1999 and 2001 are missing- but the data for 2000 shows low inflation of 2.7 percent. Bermuda's exchange rate is pegged at one Bermudian dollar to one US dollar.

Bulgaria

GDP growth in Bulgaria, a country still negotiating the transition from a centrally planned to a market economy, was healthy during the period in question, ranging from 2.5 to 5 percent. Inflation was a bit high, peaking in 2001 at 10.4 percent, but this is possibly a wrinkle caused by the instability inherent to the economic transition mentioned previously. Bulgaria's exchange rate was stable for a country undergoing such thorough transformation, ranging from 1.95 *lev* to 2.18 *lev* per US dollar over the three-year period.

Djibouti

Djibouti's currency board regime seems to have worked well during the period in question, as GDP growth was stable and inflation nearly non-existent. Djiboutian francs stayed steady at 177.72 per US dollar.

Lithuania

GDP growth was negative in 1999, but rebounded the next two years to reach 6.7 percent in 2001. Inflation was very low, under one percent two of the three years surveyed. Lithuania's *litas* are pegged at 4 *litas* per US dollar.

Malaysia

Malaysia is the first of five countries examined that does not peg their exchange rate using a currency board. Malaysia instead uses a “managed floating approach” which seeks to “fix” the exchange rate but retains discretionary authority for the central bank. Malaysia’s GDP growth was rather uneven during this period, seesawing from 5 to 8.6 to 0.3 percent by 2001. This instability may be associated with the recovery from the East Asian currency meltdown of the late 1990s. Inflation was low, between 1 and 3 percent over the three-year period. The Malaysian *ringgit* was steady in value, at 3.8 per US dollar.

Costa Rica

Costa Rica uses a “crawling peg” system to set exchange rates. Costa Rica’s GDP growth declined during this period, from 7 to 3 to 0.3 percent over three years. Inflation was rather high, ranging between 10 and 12 percent. Costa Rica’s *colon* fluctuated a bit, falling from 285.68 per US dollar in 1999 to 328.87 per US dollar in 2001.

Panama

Panama’s GDP growth declined during this period, from 4.4 to 2.5 to 1.4 percent over three years. Inflation was low, however, hovering between 1 and 2 percent. Panama’s *balboa* is pegged at the value of the US dollar.

Dominican Republic

GDP growth was strong in 1999 and 2000 but declined from 8 to 1.5 percent in 2000-2001. Inflation was somewhat high but stable also, ranging from 5 to 8 percent. The Dominican *peso* was stable during this period, falling slightly from 16.03 to 16.95

per US dollar during the three-year period. The Dominican Republic uses a “managed floating” approach to exchange rate valuation.

Ireland

Ireland’s GDP growth was positive all three years. It dipped to 5.2 percent in 2001 from the previous year’s high of 9.9 percent. Inflation ranged from 2.2 to 4.6 percent over this period. Ireland is a member of the EU and uses the *euro* as its national currency. Thus its currency is stabilized relative to the dollar and other major currencies.

SUMMARY AND CONCLUSIONS

Judging by the literature surveyed on the topic of currency board regimes for setting exchange rates, there is a good case to be made for a very specific type of country to adopt this system. The countries examined above that use currency boards- Hong Kong, Bermuda, Bulgaria, Djibouti, and Lithuania- all seem to benefit from the financial and economic stability provided by this arrangement, notwithstanding other factors that may influence instability in some of them. All of these countries have experienced problems with inflation due to exchange rate fluctuations in the past; all of these countries are small economies and they are all, to varying degrees, more open than closed economies. As noted in the sections on Bulgaria and Lithuania, integration into the free market may hamper the ability of the currency board regime to provide stability but there is reason to believe this may a short-term state of affairs; certainly countries like Bermuda and Hong Kong, which have been integrated into the global economy for much

longer than the two former eastern bloc states, benefit significantly from the currency stability provided by their adoption of this type of exchange rate management.

Currency boards do have several drawbacks and are not suitable for any country with an inflation problem. As the Argentinean case demonstrates, the currency board arrangement is not an elixir for financial trouble. Because the Argentinean government exercised poor management of the late 1990s currency crisis and was to some degree hamstrung by the restrictions placed on monetary authorities by the currency board arrangement, it was unable (or unwilling) to take the steps necessary to save the country from double-digit inflation and massive and sudden unemployment. The size of the Argentinean economy required greater policy making flexibility for the government in order to address the crisis. This was, of course, impossible under the currency board arrangement. Adding the inflexibility of the labor market made Argentina a victim of the strictures a currency board regime is designed to provide.

Nonetheless, the currency board system of exchange rate management is obviously a workable solution to the problem of exchange rate volatility and inflationary pressure for a select and specific group of countries.

BIBLIOGRAPHY AND REFERENCES

¹ Husted, Steven, and Michael Melvin. *International Economics, Sixth Ed.* Boston: Pearson Addison-Wesley, 2004. 487-8.

² *Ibid.* 489

³ Deane, Marjorie, and Robert Pringle. *The Central Banks.* New York: Viking, 1994. 86

⁴ *Ibid.* 87

⁵ *Ibid.* 94

⁶ Corden, W. Max. "The Dilemmas Of Currency Boards." *Currency Boards And External Shocks.* Washington, DC: The World Bank, 1997. 4

⁷ *Ibid.*

⁸ Williamson, John. "Features And Implications Of Currency Boards: Thoughts About The Argentine Situation." *Currency Boards And External Shocks.* Washington, DC: The World Bank, 1997. 7

⁹ *Ibid.*

¹⁰ *Ibid.* 8

¹¹ *Ibid.*

¹² Fischer, Stanley. "Closing Remarks: What Have We Learned?" *Currency Boards and External Shocks.* Washington, DC: The World Bank, 1997. 22

¹³ Hanke, Steve H. "Currency Boards." *The Annals Of the American Academy Of Political And Social Science.* January 2002

¹⁴ *Ibid.*

¹⁵ Mulino, Marcella. "Currency Boards, Credibility, And Crises." *Economic Systems.* V26 i4. December 2002

¹⁶ *Ibid.*

¹⁷ Spiegel, Mark M., and Diego Valderrama. "Currency Boards, Dollarized Liabilities, And Monetary Policy Credibility." *Journal Of International Money And Finance*. V22. 2003. 1065-1087

¹⁸ Gurtner, Francois J. "Currency Boards And Debt Traps: Evidence From Argentina And Relevance For Estonia." *The World Economy*. V26 i2. 2003. 209-228.

¹⁹ Information for the statistical analysis section of this paper is from indexmundi.com, which sources its info to the CIA World Factbook. Further information is found in Husted and Melvin 2004, pp. 476-7