THE MACK DOLLARIZATION PLAN: AN ANALYSIS

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Official dollarization is now a serious political possibility in several countries. The initial impetus came from Argentina. In January 1999, then-president Carlos Menem announced his country was considering dollarization. Argentina's status as one of the largest emerging market economies and the timing of the announcement, after 18 months of currency crises, gave the idea of dollarization far more exposure than it had ever received before. Then on January 9, 2000, Ecuador's president, Jamil Mahuad, announced his country would become officially dollarized. On January 21, Mahuad was forced out of office, but his successor, former vice-president Gustavo Noboa, has indicated support for official dollarization. As we write this in mid February, President Noboa has sent a package of laws on dollarization and other economic reforms to the Ecuadorean Congress. Dollarization is also being discussed keenly elsewhere in Latin America, particularly in El Salvador. And East Timor, which until recently was part of Indonesia and used the Indonesian rupiah, adopted the U.S. dollar as its official currency on January 24, 2000 (UNTAET 2000).

Official dollarization has appeal partly because *unofficial* dollarization is already so widespread. Unofficial dollarization occurs when people use foreign currency extensively because they prefer it to domestic currency (typically as a store of value). It is estimated that roughly two-thirds of dollar notes (paper money) are held outside the United States, almost all in unofficially dollarized countries. Use of dollars unofficially also extends to bank deposits: in Argentina, Ecuador, Peru, and a number of other countries, deposits in dollars exceed deposits in domestic currency.

A few countries have the next stage of dollarization, which might be termed semiofficial dollarization, in which they give foreign currency nearly equivalent status as legal tender with domestic currency. Montenegro is the latest to do so: on November 2, 1999, it made the German mark a parallel legal tender with the Serbian-issued Yugoslav dinar, which has experienced the

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world's worst inflation over the last decade. Montenegro plans to issue its own currency linked to the mark, through a currency board, and allow the mark to continue circulating.

Returning to President Menem, his initiative raised the question whether the United States should encourage, discourage, or be neutral toward *official* dollarization. Official dollarization occurs when a country adopts the U.S. dollar (or another foreign currency) as the predominant or exclusive legal tender. Only a number of small countries, of which Panama is the best known, are officially dollarized today. Table 1 lists where different types of dollarization exist.

Shortly after President Menem's initiative, Senator Connie Mack set out to investigate the issues involved in official dollarization. The issues were of interest to him because of his longstanding interest in price stability. Before being elected to Congress he was a banker, and he saw how the inflation of the late 1970s hurt businesses. He also saw how inflation reduced the value of the fixed incomes supporting many retired people in his native Florida. Senator Mack has proposed legislation that would make price stability the main long-term goal of the Federal Reserve System (the Economic Growth and Price Stability Act, S.1492). Dollarization was a natural fit with his interests because it is a way of spreading the relatively low inflation the United States enjoys to countries where inflation has been much higher.

Senator Mack chaired hearings exploring official dollarization on April 22 and July 15, 1999. The hearings were joint sessions of his own Subcommittee on Economic Policy and Senator Mike Enzi's Subcommittee on International Trade and Finance of the Senate Banking Committee. The hearings, meetings with foreign officials, and staff research on dollarization convinced Senator Mack that it was in the interest of the United States to make official dollarization less costly for dollarizing countries. To that end, on November 8, 1999 he introduced the International Monetary Stability Act (S.1879), which is in the appendix to this paper. Rep. Paul Ryan of Wisconsin introduced a companion bill in the House of Representatives (H.R.3493) on November 18. On February 8, 2000, the Submmittee on Economic Policy held a hearing on the International Monetary Stability Act (U.S. Senate 1999a, 1999b, 2000).

The International Monetary Stability Act proposes to share with officially dollarized countries the seigniorage (profit) the United States earns from issuing the dollar. Except for the few small countries already officially dollarized when the act was introduced, the United States will not share seigniorage from dollars already circulating abroad; the offer applies only to seigniorage arising from *increases* in dollar circulation resulting from official dollarization.

Because the Act is written in somewhat technical language, some of its features are not readily evident to the average reader. Our purpose here is to explain why the Act is designed as it is. Our analysis of the Act will for the most part proceed section by section.[2] Note that *references to the Act are to its original version; changes are likely as the Act passes through the legislative process*.

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[2]The Joint Economic Committee has issued a staff report on the Act (Stein 2000). This paper differs from the staff report in explaining the provisions of the Act itself in more detail.

Table 1. Dollarized Countries as of January 2000

Unofficially dollarized -- U.S. dollar: Most of Latin America and the Caribbean, especially Argentina, Bolivia, Mexico, Peru, and Central America; most of the former Soviet Union, especially Armenia, Azerbaijan, Georgia, Russia, and Ukraine; various other countries, including Mongolia, Mozambique, Romania, Turkey, and Vietnam.

Unofficially dollarized -- other currencies: *French franc/euro* -- some former French colonies in Africa; *German mark/euro* -- Balkans; *Hong Kong dollar* -- Macau and southern China; *Russian ruble* -- Belarus.

Semiofficially dollarized -- U.S. dollar: Bahamas, Cambodia, Haiti, Laos (also Thai baht), Liberia.

Semiofficially dollarized -- other currencies: Bhutan (Indian rupee); Bosnia (German mark, Croatian kuna, Yugoslav dinar); Brunei (Singapore dollar); Channel Islands (British pound), East Timor (Indonesian rupiah), Isle of Man (British pound); Lesotho (South African rand); Luxembourg (Belgian franc); Montenegro (German mark), Namibia (South African rand); Tajikistan (use of foreign currencies permitted -- Russian ruble widespread).

Officially dollarized -- U.S. dollar: *Independent countries* -- East Timor, Marshall Islands, Micronesia, Palau, Panama; *Non-U.S. dependencies* -- Pitcairn Island (New Zealand), Turks and Caicos Islands (U.K.), British Virgin Islands (U.K.); *U.S. territories* -- Guam, Northern Mariana Islands, Puerto Rico, American Samoa, U.S. Virgin Islands.

Officially dollarized -- other currencies: *Independent countries* -- Andorra (French franc, Spanish peseta), Northern Cyprus (Turkish lira), Kiribati (Australian dollar), Kosovo (German mark, Yugoslav dinar), Liechtenstein (Swiss franc), Monaco (French franc), Nauru (Australian dollar), San Marino (Italian lira), Tuvalu (Australian dollar), Vatican City (Italian lira); *dependencies (all non-U.S.)* -- Cocos (Keeling) Islands (Australian dollar), Cook Islands (New Zealand dollar), Greenland (Danish krone), Niue (New Zealand dollar), Norfolk Island (Australian dollar), Saint Helena (British pound), Tokelau (New Zealand dollar); *territories with special status* -- Kosovo (German mark).

Notes: The list of unofficially dollarized economies is not exhaustive because the extent of unofficial dollarization is hard to measure. An IMF survey based on data of foreign-currency deposits alone classifies 18 countries as "highly dollarized" as of 1995, meaning that foreign-currency deposits exceeded 30 percent of a broad measure of the money supply. The countries are Argentina, Azerbaijan, Belarus, Bolivia, Cambodia, Costa Rica, Croatia, Georgia, Guinea-Bissau, Laos, Latvia, Mozambique, Nicaragua, Peru, São Tomé and Principe, Tajikistan, Turkey, and Uruguay. The survey classifies as "moderately dollarized" another 34 countries, where foreign-currency deposits averaged 16.4 percent of a broad measure of the money supply. Those countries are Albania, Armenia, Bulgaria, Czech Republic, Dominica, Ecuador, Egypt, El Salvador, Estonia, Guinea, Honduras, Hungary, Jamaica, Jordan, Lithuania, Macedonia, Malawi, Mexico, Moldova, Mongolia, Pakistan, Philippines, Poland, Romania, Russia, Sierra Leone, Slovak Republic, Trinidad and Tobago, Uganda, Ukraine, Uzbekistan, Vietnam, Yemen, and Zambia (Baliño and others 1999, pp. 2-3).

Semiofficially dollarized countries are those that the IMF (1998) identifies as having foreign currency as "other legal tender," meaning that foreign currency circulates widely but plays a secondary legal role to the domestic currency. A few other countries, notably Argentina and Bolivia, allow foreign currency a legal role but apparently not so extensive as in semiofficially dollarized countries, so the list omits them.

General considerations about the Act

At least two reasons justify consideration of the International Monetary Stability Act now rather than later. First, with more countries considering official dollarization it has become more important to let them know where the United States stands on the issue of sharing the profit from issuing the dollar. The costs associated with uncertainty are greater when more countries are affected. Second, the Act will encourage countries to consider official dollarization during periods of relative stability rather than during periods of economic crisis. In turn, this will make it more likely that official dollarization will be successful when implemented.

The Act establishes uniform conditions for certifying countries as officially dollarized and paying seigniorage to them. Another approach would be to pass dollarization legislation on a country-by-country basis. However, this approach suffers from several flaws. First, a dollarization bill dealing with a specific country would be a magnet for all issues related to that country. Second, one country might get a better deal than another, causing diplomatic problems. Third, if a country announced it would dollarize contingent on passage of a bill by the U.S. Congress, uncertainty about the passage of the bill could be destabilizing for the country's financial markets. And fourth, a country-by-country approach would require time in many separate bilateral negotiations, as countries bargain for advantages the United States may or may not be willing to concede.

The Act gives considerable discretion to the Secretary of the Treasury in determining how some features, particularly certification, are to be applied. The Secretary has this role because he is by tradition the chief official concerned with the international monetary policy of the United States. The Secretary rather than the Federal Reserve takes the lead on such matters; the role of the Federal Reserve in the Act is correspondingly small. Ultimately, laws must be executed by people. The Act trusts the Secretary to behave in a spirit consistent with it rather than imposing detailed procedures for aspects of the law other than the calculation of payments, where detail is most important.

Why encourage official dollarization? (section 2(a) of the Act)

Official dollarization has potential benefits both for countries that dollarize and for the United States. Currency crises in East Asia, Russia, Brazil, and elsewhere in recent years have been a wake-up call. Conventional approaches to handling monetary problems in emerging market countries have produced far too many disasters. The repercussions have been political as well as economic -- most notably in Indonesia, where a regime was toppled and the unity of the nation has come into question. The conventional approaches use a variety of exchange rate policies -- rigid pegs, crawling pegs, floating, exchange controls -- but all have in common a reliance on national central banks. Dollarization has attracted interest because it offers the prospect of avoiding the monetary problems that arise under conventional approaches.

For dollarizing countries, the benefits of official dollarization flow from the dollar's status as the most widely used and one of the most trustworthy currencies. One type of benefit is

that official dollarization eliminates transaction costs with the United States and other countries that use the dollar. Official dollarization even reduces the transaction costs with other currencies. Large transactions between, say, the Mexican peso and the Japanese yen occur in two legs -- a peso-dollar trade and a dollar-yen trade -- because those markets are so big and efficient that using them is actually less costly than making a direct peso-yen transaction. Official dollarization eliminates one leg of the trade.

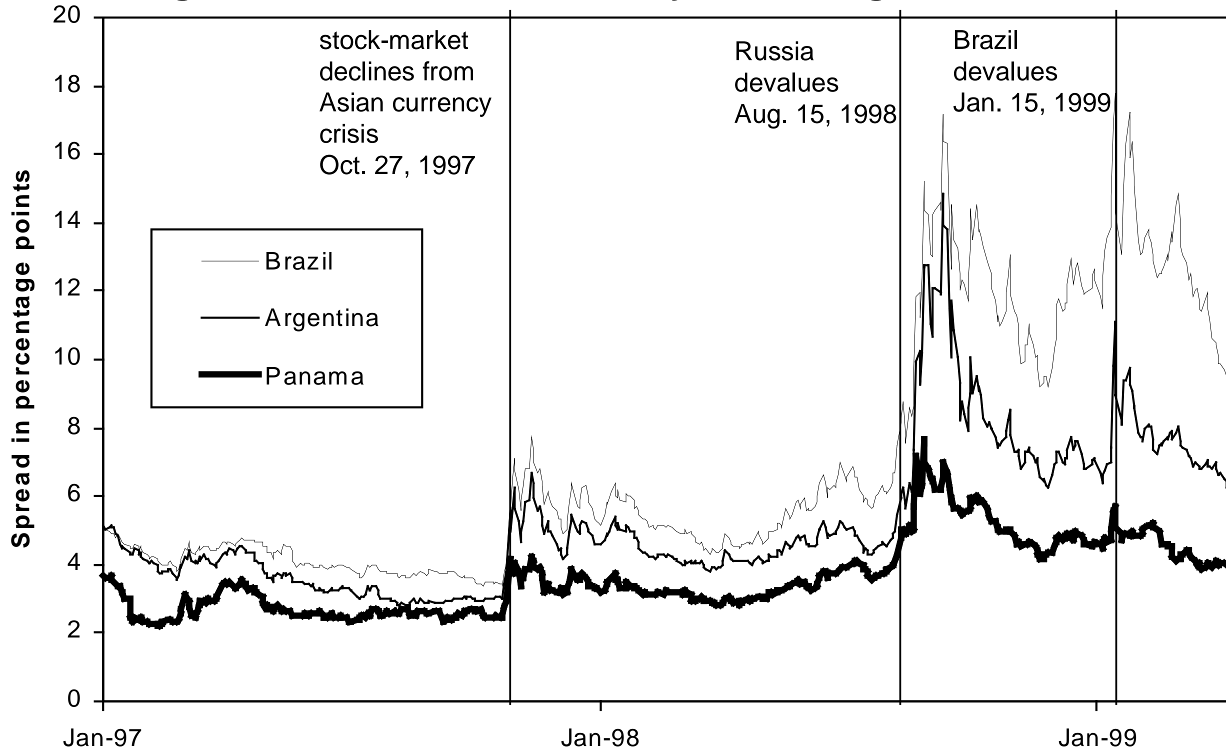
Another type of benefit is that official dollarization would reduce inflation to single digits from the double-digit levels that now exist in some countries in Latin America and elsewhere. Because confidence exists that inflation in the dollar will continue to be low, it has low and relatively steady interest rates both in nominal and real terms. This encourages domestic savings, including a deepening of the financial system, as well as domestic and foreign investment. Official dollarization even has the potential to reduce interest rates that governments pay on their dollar-denominated foreign debt. Panama pays consistently lower interest rates on its dollar bonds than Argentina and Brazil, for example (see Figure 1). Because Panama is not noticeably more politically stable, it is hard to attribute the difference to anything other than that Panama is officially dollarized, while Argentina and Brazil are not.

Besides having lower and steadier interest rates than many other currencies, the dollar has much deeper financial markets. For example, there are few other currencies in which private lenders offer 30-year mortgages at fixed rates of interest. Official dollarization can help individual borrowers and businesses achieve access to long-term finance at predictable rates, instead of relying on short-term finance at real rates of interest that may vary unpredictably from sharply negative to ruinously positive. Official dollarization eliminates currency mismatches for borrowers who have most of their assets in domestic currency but significant liabilities in dollars. Such currency mismatches caused waves of bankruptcies during the East Asian currency crisis as depreciations of domestic currencies against the dollar greatly increased the burden of debt in terms of domestic currency.

A final type of benefit is that official dollarization promotes greater transparency in policy making. It eliminates currency crises and the rationale for exchange controls to support the exchange rate. By eliminating the government's power to create inflation, it also fosters budgetary discipline. The government budget need not be balanced every year, but spending must be financed through the fairly transparent method of raising taxes or issuing debt rather than through the murky method of printing money.

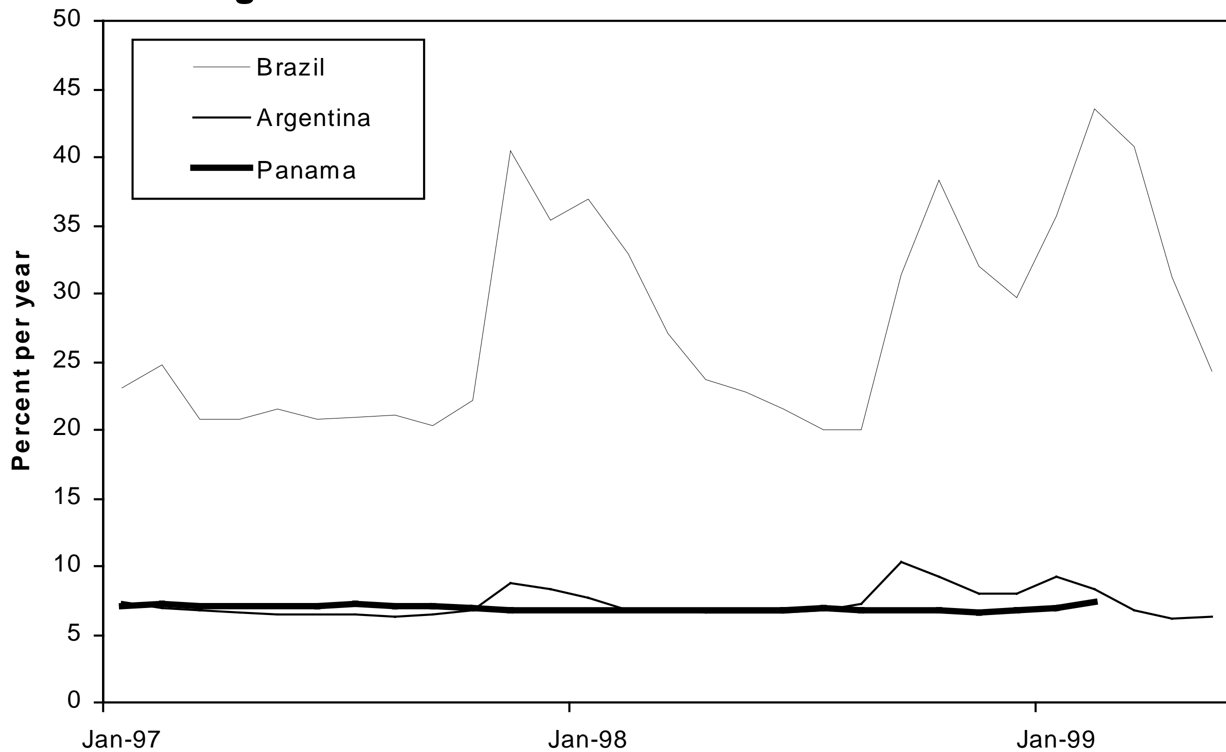
For a dollarizing country, the benefits of official dollarization are greatest if combined with financial integration -- opening the financial system to full participation by foreign institutions. Dollarization plus financial integration in effect make a country's financial system part of the huge, liquid worldwide market for lending and borrowing in dollars. That strengthens the financial system by making it less vulnerable to local shocks, such as crop failures, earthquakes, and changes of government.

Figure 1: Spread versus US Treasury securities for US dollar government bonds issued by Brazil, Argentina and Panama



Source: J.P. Morgan Emerging Markets Bond Index Plus.

Figure 2: Domestic-currency deposit interest rates in Brazil, Argentina and Panama



Source: IMF, International Financial Statistics, line 60l.

For the United States, a potential benefit from official dollarization is increased seigniorage. We will discuss this below. More economically important is the potential for dollarization to boost long-run economic growth in the United States by boosting it in dollarized countries. The United States has more trade with Canada's 31 million people than with Latin America's 500 million. Part of that results from most Canadians living closer to the U.S. border than most Latin Americans, but the high standard of living in Canada also contributes to extensive cross-border trade that benefits both countries by expanding the international division of labor. The experience of highly credible monetary reforms in countries as diverse as Argentina (1991), Bulgaria (1997), Germany (1948), and Japan (1949), indicates that they can provide a "confidence shock" that almost immediately moves economic growth to a higher level than was possible with a currency lacking credibility.

By increasing the number of countries that use the dollar, official dollarization would help the dollar remain the premier international currency, a status that the euro is now challenging. Dollarization by one or more large Latin American countries would significantly expand the number of people officially using the dollar, moving the population of the dollar zone ahead of the population of the euro zone for the time being.

Finally, by eliminating currency crises in dollarized countries, official dollarization would reduce a source of instability that has at times roiled U.S. financial markets and disturbed patterns of trade. For example, complaints by American producers about foreign dumping of goods often arise because large unexpected devaluations temporarily make foreign goods much cheaper than they were before and correspondingly depress American exports. Official dollarization would eliminate these disruptions among countries that use the dollar.

Protecting against potential disadvantages of official dollarization (section 2(b))

Whether a country should become officially dollarized is a decision for it alone. The International Monetary Stability Act does not reduce any country's sovereignty, because it does not restrict the ability to dollarize or de-dollarize. Any country can dollarize unilaterally, without the permission of the United States, although that may reduce the chance that the United States will share seigniorage with it. Similarly, any country can de-dollarize unilaterally, although if the United States had been sharing seigniorage with it, the payments would cease.

Even strong supporters of dollarization do not wish the United States to pressure any country to dollarize. We have outlined some advantages of dollarization; it is for each country to decide whether particular disadvantages exist that outweigh the advantages. The International Monetary Stability Act greatly reduces one of the disadvantages by sharing seigniorage with officially dollarized countries that meet certain qualifications. However, it does not take a position on whether any country should dollarize.

Just as the Act does not reduce the national sovereignty of any country considering dollarization, it does not reduce the national sovereignty of the United States. The Act does not

establish a supranational central bank like the European Central Bank, nor does it give dollarized countries seats on the Board of Governors of the Federal Reserve System.

Nonetheless, a potential disadvantage of dollarization for the United States is that dollarized countries exert pressure on the Federal Reserve System to be a lender of last resort to them. The International Monetary Stability Act contains safeguards to prevent that. Section 2 of the Act states that the Federal Reserve is not obligated to serve as a lender of last resort to officially dollarized countries. Section 3 requires the Secretary of the Treasury to consider whether a country has opened its banking system to foreign competition or met international banking standards before deciding to grant certification. Either step would greatly diminish the risk of a bank crisis. The presence of international banks has made Panama's banking system very stable. If the U.S. government is concerned about the stability of banks in a country considering official dollarization, the Secretary of the Treasury can refuse to certify the country as eligible for a rebate of seigniorage from the dollar.

Dollarization need not change the goals of U.S. monetary policy. The Act clearly states that the Federal Reserve is not obligated to consider their economic or financial conditions in setting monetary policy. This condition is not as harsh as it first seems. The Federal Reserve is already following something close to an internationally oriented monetary policy rather than a narrowly nationally oriented monetary policy. Just as the European Central Bank does not fine-tune monetary policy to help particular member countries, the Federal Reserve does not fine-tune to help particular states, some of which have larger economies than most independent countries. Rather, the Federal Reserve aims for low inflation to enable the economy of the United States as a whole to perform efficiently. Low inflation would also promote efficient performance in economies of officially dollarized countries. At a hearing on dollarization on April 22, 1999, Chairman Alan Greenspan remarked that even when monetary policy in the United States is at its tightest, interest rates are lower than the rates prevailing in many other countries when their monetary policy is at its loosest. Greenspan has also said that the Federal Reserve already receives pressure from foreign countries that are not dollarized, but the pressure does not influence it to take action that might be detrimental to the United States.

The Act also states that under dollarization, responsibility for supervising banks remains with dollarized countries. It would be impractical for U.S. regulators to supervise banks in other countries. Banking supervision has an element of politics: its effectiveness depends on the ability of the monetary authority, the executive branch, and the courts to enforce compliance. U.S. regulators have a political base at home that they would lack abroad -- indeed, they might be considered interlopers who had no business meddling with local banks. Enforcing compliance could be very hard. It is more practical for each country to remain responsible for supervising its own banks.

Another potential disadvantage of dollarization for the United States is that sharing seigniorage with officially dollarized countries may seem to cost revenue. However, the International Monetary Stability Act does not rebate seigniorage for dollars already circulating abroad as part of unofficial dollarization. It only rebates seigniorage for increases in circulation of dollars that occur as a result of official dollarization. Until quite recently, no independent

country that already has its own currency had even considered dollarization. Panama had no domestic currency when it dollarized in 1904, because it had only become independent of Colombia the year before. The other officially dollarized countries that are independent -- the Marshall Islands, Micronesia, and Palau -- were previously U.S. trust territories and were already using the dollar. East Timor, which became officially dollarized on January 24, 2000, is a newly independent country with no national currency; its government envisions establishing a national currency and de-dollarizing in a few years. In Ecuador, government officials have indicated that the prospect of a rebate of seigniorage under the International Monetary Stability Act favorably influenced their view of official dollarization.

Certification and decertification (sections 3 and 6)

To qualify for a rebate of seigniorage, a country must be certified as officially dollarized by the Secretary of the Treasury. Section 3 of the International Monetary Stability Act enumerates considerations that should apply in determining whether a country qualifies for certification. These considerations can be summarized as saying that the dollar has substantially or totally replaced local currency; the banking system is open to foreign competition or meets international standards of solvency; and the country has engaged in consultations with the United States.

The Act does not require the United States to give a rebate of seigniorage to any country. The Secretary of the Treasury has complete discretion whether to grant a rebate. A country need not fulfill all of the considerations listed in the Act for the Secretary to grant it a rebate of seigniorage. On the other hand, even if a country does fulfill all of the considerations, the Secretary can still deny it a rebate. The latitude that the Secretary has is one factor that should induce countries interested in official dollarization to cooperate fully with the United States.

Certification is not an endorsement by the United States of the policies of a dollarized country. The Act does not intend to make the Treasury into a mini-IMF that imposes elaborate lists of alleged preconditions necessary for dollarization. Certification simply represents a judgment by the Secretary of the Treasury that sharing seigniorage with a country is in the interest of the United States.

The Act implicitly allows for the dollarizing to continue issuing coins, as Panama does. That is why the first in the list of considerations, whether a country has ceased issuing a local paper currency, does not mention ceasing to issue coins. The Act also does not require a country to make the dollar the exclusive legal tender. Other foreign currencies can be granted status as legal tender also, leaving the residents of a dollarized country to decide which currency best suits them.

One of the considerations in the list is that a country should have opened its banking system to foreign competition or meet international banking standards, such as the Basle principles issued by the Bank for International Settlements. A sound banking system is important because a dollarized system has no central bank to print money to rescue commercial banks. The

United States does not want to be blamed for the collapse of rotten banks in a dollarized system. In our view, opening the banking system to foreign participation is the most effective way to produce a sound system in the long run. For countries that do not wish to open their banking systems, though, an alternative is to strengthen them from within by promoting adherence to international standards. The Act does not require a country to open its banking system as a condition for certification, and the Secretary of the Treasury has the discretion to certify even a country with a closed banking system that does not meet international standards.

To provide accountability for the Secretary, however, the Act requires him to issue a written statement explaining why he is certifying a country as dollarized. This is intended to make him explain his actions in cases where others might consider a country to be a questionable candidate for certification.

U.S. territories such as Guam are not eligible for rebates of seigniorage because they already benefit indirectly from the seigniorage generated from the dollar. Territories are already part of the Federal system of spending and, to a lesser extent, taxation, so through Federal spending they already get back seigniorage their citizens generate.

Section 6 of the Act describes the conditions under which a country can be decertified. War against the United States automatically causes decertification. There is no reason for the United States to pay an enemy. A country can also be decertified if the Secretary of the Treasury determines that it is no longer dollarized in accordance with the Act. The main reason this would happen is that another currency displaces the dollar as the predominant paper money. A country might decide to issue a national currency again, or its residents might prefer to use the euro or another currency rather than the dollar. One can imagine Ukraine, for instance, becoming officially dollarized and then moving into the orbit of the euro as it becomes more closely integrated with Western Europe. If the dollar loses its predominance as the paper money of a country, the country is no longer generating the level of seigniorage presumed by certification, so it loses its right to a rebate of seigniorage. As with certification, the Act requires the Secretary of the Treasury to issue a written statement explaining the reasons for decertification so as to provide accountability.

Possibilities for sharing seigniorage

In the abstract, several ways of determining and rebating seigniorage are possible. In practice, considerations of budgetary accounting and simplicity limit the options.

Robert Barro (1999) has proposed the administratively simplest way of determining and rebating seigniorage: a one-time payment of dollars. In Barro's example, if Argentina had $16 billion of pesos in circulation, it would give them to the United States and receive in return $16 billion of greenbacks. The United States would make no further exchanges of dollars for pesos. Barro's reasoning is that if the $16 billion of greenbacks stay in circulation in Argentina, as they should, all it has cost the United States to put them into circulation is the expense of paper and ink; the United States has sacrificed no real resources. At an appropriate rate of discount, the

present value of the seigniorage that Argentina would lose from dollarization is $16 billion, so the one-time payment would compensate Argentina fully.[3] (To earn a profit on the transaction, the United States could give Argentina less than $16 billion, but the important feature of the proposal -- the one-time payment -- would be the same.)

Barro's idea is unfortunately not as simple politically and budgetarily as it is administratively. It provides no real safeguard against the possibility that a dollarizing country will quickly reintroduce a national currency and try to pocket the dollars it has received from the United States. (This is difficult but not impossible to accomplish if the dollars have been dispersed to the public.) The United States will have a stack of pesos that it could spend, but a dishonest country could demonetize the pesos and use only pesos of a new design. In terms of Federal budgetary accounting, Barro's proposal might be designated as paying seigniorage before it accrues, creating an accounting loss even though no real economic loss occurs.

Other ways of rebating seigniorage all rely on periodic payments rather than a one-time payment. A way of determining seigniorage under periodic payments is to issue notes of different design for each officially dollarized country. The Bureau of Engraving and Printing would print special designs for Panama, Ecuador, and other countries distinct from each other and from U.S. designs, though all would circulate at the same value. The United States would pay seigniorage proportional to the amount of each design of note in circulation. The design feature could be as minor as the different letter code printed for each Federal Reserve district on the now-disappearing old-style U.S. currency notes. However, the smaller the differences in design, the more dollars are likely to circulate across national boundaries, as dollar bills circulate across Federal Reserve districts, and the less accurate the determination of seigniorage would be.

The European Central Bank pays seigniorage in proportion to the share of each member country in the capital of the bank, but with dollarization there is no thought of making dollarized countries shareholders in the Fed.

Still another way of determining seigniorage is to establish a formula that takes into account factors that seem relevant to the use of currency, such as GDP per person and population. Namibia and Lesotho both formerly used the South African rand exclusively, and now allow it to circulate in parallel to their own currencies, which are pegged to the rand at 1-to-1. South Africa pays them seigniorage based on a formula recognizing that since they are less developed, demand for currency is probably increasing faster than it is in South Africa and the share of seigniorage they generate is increasing (South Africa 1974, 1993). The disadvantage of applying such formulas to the dollar is that countries potentially interested in dollarizing vary so much in their level of economic development that the specific formula that South Africa uses would probably be inapplicable. Moreover, GDP, population, and other such statistics are often difficult to verify and so can be subject to manipulation. The International Monetary Stability Act bases rebates on U.S. Treasury securities given to the Federal Reserve as a counterpart for national currency retired from circulation; these are readily verifiable quantities.

[3] Schmitt-Grohé and Uribé (1999) discuss measuring the present value of seigniorage. The International Monetary Stability Act takes account of effects they discuss.

The Act's approach to sharing seigniorage (sections 4, 6, and 7)

The International Monetary Stability Act uses consols as the means for making rebates of seigniorage. A consol is a perpetual debt security on which the issuer pays interest but is never obliged to redeem the principal. The U.S. government has never issued consols, but the British government still has consols outstanding that were issued in the 1800s. (The prices and implicit yields of British consols are published in the *Financial Times.*) If rebating seigniorage were an annual item in the Federal budget, there is a possibility, however remote, that Congress might try to divert the funds for rebates into domestic spending, creating ill-will among dollarized countries. Making the rebate payable through U.S. Treasury consols removes that possibility.

Under section 6 of the Act, holders of dollarization consols have the same rights and obligations as holders of other Treasury securities, with the exception that payments on the consols cease if the United States declares war on a country or the Secretary of the Treasury issues a finding that the country is no longer officially dollarized. Holders of consols can pledge them as collateral or sell them, just as they can with other Treasury securities. Note, however, that consols will not be interchangeable as other Treasury securities are. My 30-year Treasury bond for $10,000 and your 30-year Treasury bond for $10,000 are worth the same, because they have the same principal and schedule of interest payments. The Act implicitly envisions one consol being issued per dollarized country, but would be possible for consols to be issued in round amounts, say $10,000 in face value, to make them more attractive for trading in the secondary market. However, a dollarization consol of $10,000 face value issued to, say, Argentina and a dollarization consol of $10,000 issued to, say, Ecuador are not interchangeable unless both countries are expected to remain dollarized equally long. If Ecuador is expected to be decertified soon and Argentina is expected to remain dollarized forever, the Ecuador consol will be worth less than the Argentina consol.

One way to think about why it is appropriate for the United States to issue dollarization consols is to imagine what a country might do if it were not officially dollarized. It might establish a currency board to maintain an absolutely fixed exchange rate with the U.S. dollar. The currency board would hold $1 in U.S. Treasury securities or other foreign reserves for the equivalent of every $1 in local currency in circulation. The interest the currency board would earn from its holdings of Treasury securities would be its gross seigniorage. What was left after covering its expenses would be its net seigniorage. By dollarizing, a country gives up the opportunity to earn the interest it would receive under a currency board.[4] The Act rebates most of that.

[4]The International Monetary Stability Act does not try to compensate countries for the high level of seigniorage they could generate by having their central banks create high inflation. The Act presumes that countries interested in dollarization do not object to a level of seigniorage below the maximum possible because they understand the wider economic benefits of low inflation.

To obtain a consol, a dollarizing country must give U.S. Treasury securities to the Federal Reserve System. In exchange for the interest-bearing securities, the dollarizing country will receive dollar notes (which pay no interest) and a consol (which pays interest). The transaction is a type of swap that divides Treasury securities into principal plus interest.

The face value of the consol is the base for calculating rebates of seigniorage. The Act limits the *maximum* face value to dollar equivalent of local currency (notes and coins) in circulation before certification. The Act links the maximum face value to currency in circulation rather than the monetary base, which is a broader measure comprising currency in circulation plus bank reserves. The reason is that demand for currency in circulation is largely market-determined, whereas demand for bank reserves can be driven mainly by required reserves that constitute a kind of tax on banks. In some countries that have high reserve requirements, the monetary base considerably exceeds currency in circulation. Rebating seigniorage on the monetary base rather than just on currency in circulation would in effect reward countries for imposing high reserve requirements. If a country tries to artificially increase currency in circulation just before certification so as to increase the value of its consol, the Secretary of the Treasury can issue a consol for less than the final amount of currency in circulation or even refuse certification.

Here is an example of how the face value of a consol would be determined. If a country has 100 billion peso notes and coins in circulation, and the exchange rate is 10 pesos per dollar, the maximum possible face value of its consol will be $10 billion. The actual face value of the consol is determined by the amount of U.S. Treasury securities that the dollarizing country exchanges for dollar notes plus the consol. For example, if the country decides to keep issuing coins and has the equivalent of $1 billion of coins in circulation, it will only exchange $9 billion of Treasury securities and the face value of its consol will only be $9 billion. And if the country only has $6 billion in Treasury securities, the face value of the consol will be only $6 billion.

Four months after becoming certified, a country starts receiving rebates, which are paid every three months. Payments are made according to a somewhat complicated-looking formula.[5] The initial payment will be 85 percent times one-fourth (since this is a quarterly payment) of the average annualized yield to maturity on 90-day Treasury bills in the most recent three full months

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[5]Quarterly payment = $(FV_0)(i)(.25)[(C_2-FV_2)/(C_1-FV_1)](85\%)$, where

FV_0 = face value of the consol issued to the country receiving the payment,

FV_1 = face value of all dollarization consols issued by the end of the most recent full calendar year prior to the date of certification of the country receiving the payment,

FV_2 = face value of all dollarization consols issued by the end of the most recent full calendar year prior to the payment,

i = average yield to maturity on 90-day Treasury bills in the most recent full three-month calendar period prior to the date of payment (using the average of monthly interest rates, as calculated by the Federal Reserve System),

C_2 = total global dollar currency in circulation at the end of the most recent full calendar year prior to the payment (as provided by the Federal Reserve), and

C_1 = total global dollar currency in circulation at the end of the most recent full calendar year prior to the date of certification of the country receiving the payment (as provided by the Federal Reserve).

before payment.[6] So, if the face value of the consol is $10 billion and the average yield to maturity of 90-day Treasury bills is 6 percent, the seigniorage is $600 million a year or $150 million a quarter. Of this amount, the dollarizing country receives 85 percent ($510 million a year) and the United States keeps 15 percent ($90 million a year).

In later payments, rebates vary according to changes in interest rates and changes in dollar currency in circulation worldwide. If currency in circulation remains unchanged and the average interest rate falls by one-third, from 6 percent to 4 percent, the rebate also falls by one-third. If dollar currency in circulation (excluding the amount resulting from newly issued consols) increases by 10 percent and interest rates remain unchanged, the rebate increases 10 percent. Because it is difficult to trace dollars in circulation, it is impossible to determine precisely how many dollars are in circulation in each country. The Act therefore assumes that the circulation rises or falls together in all dollarized countries: if dollars in circulation increase 10 percent and interest rates are unchanged, every country's rebate increases 10 percent. This is a rough and ready approach, but it is uniform and appeals to considerations of fairness. Stating the formula in the Act rather than leaving it to the discretion of the Secretary of the Treasury makes clear to countries interested in dollarization what the basis of payments will be if they receive certification. Countries that think the formula would be highly disadvantageous for them are free to refrain from dollarizing.

To prevent double-counting, changes in dollars in circulation are adjusted for increases resulting from subsequent countries becoming certified as officially dollarized. Whereas adjustments to rebates resulting from changes in interest rates occur quarterly, adjustments resulting from changes in dollars in circulation occur annually.

Under the International Monetary Stability Act, the rebates of seigniorage dollarized countries receive will fluctuate along with the seigniorage the United States receives. The United States keeps 15 percent to pay the costs of operating the Federal Reserve System, offer rebates to previously dollarized countries, and leave a profit for itself. The main sources of revenue for the Federal Reserve System are seigniorage and fees that it charges banks. The fees it charges banks are for activities that in other countries are often handled by the private sector, such as processing checks. Only the remainder of the expenses of the Federal Reserve are true expenses of monetary policy. They typically amount to somewhat less than 5 percent of seigniorage revenue. So, ignoring the small cost of rebating seigniorage to previously dollarized countries, the Act leaves the United States with a pure profit of about 10 percent of the seigniorage generated.

Section 7 of the Act provides that the Secretary of the Treasury may repurchase a dollarization consol at market value, upon agreement with the owner of the consol. This provision offers some flexibility in dealing with countries where another currency is gradually replacing the dollar as the main currency in circulation. The Secretary of the Treasury can offer a price for the consol reflecting the diminishing seigniorage being generated by use of the dollar in the country to which it was issued. The country may decide that selling the consol is better than

[6] If the U.S. government retires all its debt in 10 to 15 years, as some projections foresee, the calculation will have to use some other rate of interest, such as the average Federal funds rate.

being decertified in another year or two and receiving no further rebates. Another situation in which the Secretary may wish to repurchase a consol is to offer financial assistance to a dollarized country. The repurchase would be a sort of substitute for other methods of support, notably foreign aid or a loan from the Exchange Stabilization Fund.

Consols may not be repurchased sooner than 10 years after their date of issue. The purpose of this provision is to provide stability for officially dollarized countries by assuring that the consol will remain outstanding for a fairly long minimum period despite changes in Secretaries of the Treasury. In effect, the provision assures dollarized countries that the rules will not change for at least 10 years if they adhere to the conditions that originally gained them certification. After a consol has been repurchased the United States ceases to rebate seigniorage to the country to which the consol was issued, even if the country remains officially dollarized.

Previously dollarized countries (section 5)

Seven countries were already dollarized, in the narrow sense of using the *U.S.* dollar, before the International Monetary Stability Act was introduced: Panama; three former U.S. trust territories that are now independent (the Marshall Islands, Micronesia, and Palau); and two British colonies (the Turks and Caicos Islands and the British Virgin Islands). Pitcairn Island was also previously dollarized, but because of its extremely small population (about 40 people) the Act omits it.

All the previously dollarized countries listed in section 5 have been dollarized for a generation or more. They have no separate national currency in circulation to form the basis for a calculation of seigniorage such as can be made for the great majority of countries. Estimates of the amount of dollars in circulation there are more or less guesses. The International Monetary Stability Act provides a solution by allowing them to receive consols with a face value equal to 4 percent of their nominal gross domestic product as of 1997. (When the Act was introduced, 1997 was the latest year for which internationally accepted statistics for GDP existed.) The figure of 4 percent corresponds to international averages of circulation as a percentage of GDP. More complicated formulas would have been possible, but in every formula there is some element of arbitrariness, so a simple and uniform formula seems least open to dispute.

Previously dollarized countries are not eligible to be certified or to receive consols until the face value of the consols that would be issued to them is less than 10 percent of the face value of consols issued to other dollarized countries. This clause exists to ensure that the profit from other dollarized countries is sufficient to pay for rebates of seigniorage to previously dollarized countries, so that the whole operation is self-financing and does not impose a loss on the U.S. government. The figure of 10 percent is roughly the net seigniorage (pure profit) the United States gains from seigniorage, since the expenses of the Federal Reserve are expected to be roughly 5 percent of the gross seigniorage. After previously dollarized countries receive the consols, their payments will change from year to year just as payments to other dollarized countries do.

The Act could have simply omitted paying seigniorage to already dollarized countries. However, they could then become certified by introducing a temporary national currency expressly for the purpose of circumventing the Act and gaining certification. Paying seigniorage to already dollarized countries avoids such shenanigans and recognizes that it is fair to put already dollarized countries on a similar basis to countries that dollarize after the Act was introduced.

The Act contains no special provision to cover countries that were not dollarized when the Act was introduced but become dollarized before it becomes law. By implication, the procedures that apply to them are those that apply to countries other than those listed in section 5. If they follow the procedures specified in the Act, they are eligible to become certified as early as the day the Act becomes law. More generally, a country that becomes officially dollarized before being certified by the Secretary of the Treasury receives no payments covering the interim. (East Timor, which just became officially dollarized, is an unusual case because it had no domestically issued currency. East Timor may not be covered at all by the Act as it now stands.)

Other provisions (sections 8 and 9)

The U.S. Treasury sometimes uses its Exchange Stabilization Fund to lend money to other countries. Section 8 of the Act provides that the United States shall withhold payments on seigniorage consols to countries that are in default or arrears on loans from the fund. The rationale of the provision is that the Treasury should not pay a country out of one pocket when that country is behind in repaying another pocket of the Treasury.

Section 9 is a blanket provision providing that the Secretary of the Treasury and the Board of Governors of the Federal Reserve System may issue appropriate regulations to carry out the Act. For example, the Treasury Department may develop more detailed procedures for certification than are mentioned in the Act, so as to make the steps involved in gaining certification quite transparent.

Conclusion

To our knowledge, the International Monetary Stability Act is unique, in that it is the first legislation anywhere that creates a standing offer potentially open to all countries interested in joining a common currency zone. Membership in other currency zones has been heavily determined by historical factors (such as a history as a British colony, for membership in the now-defunct "sterling area") or subject to lengthy multilateral negotiations (as for the countries that belong or aspire to belong to the European Central Bank). The vision of the International Monetary Stability Act is to promote a highly inclusive group rather than an exclusive club of member countries. Under the Act, countries will be free to join the group or to leave it as they see fit; the United States will not exert pressure on them in either direction.

Most discussion of the “international financial architecture” has ignored dollarization as a possibility for making the architecture more solid. It now seems that dollarization will have an important role in the coming years. The International Monetary Stability Act has already had some role in encouraging dollarization, and will have much more if it becomes law.

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APPENDIX: THE INTERNATIONAL MONETARY STABILITY ACT

[This is the original version of the Act; changes are likely as it passes through the legislative process.]

S 1879 IS

106th CONGRESS
1st Session

S. 1879

To promote international monetary stability and to share seigniorage with officially dollarized countries.

IN THE SENATE OF THE UNITED STATES
November 8, 1999

Mr. MACK introduced the following bill; which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

A BILL

To promote international monetary stability and to share seigniorage with officially dollarized countries.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `International Monetary Stability Act of 1999'.

SEC. 2. FINDINGS; STATEMENT OF POLICY.

(a) FINDINGS- Congress finds that--

(1) monetary stability is a prerequisite for strong long-term economic growth and increasing standards of living;

(2) many emerging market countries lack monetary stability and have therefore suffered economic and financial problems that suppress economic growth and living standards, including financial fragility, inflation expectations that are built into labor markets, and high and volatile inflation rates and interest rates;

(3) many emerging market countries have used pegged exchange rate systems to try to foster monetary stability and have experienced temporary periods of higher economic growth and lower inflation followed by drastic balance of payments problems, steep devaluations, and major losses in international reserves;

(4) emerging market countries that have adopted currency board systems have enjoyed higher rates of economic growth and lower interest rates, although interest rates have remained higher for loans denominated in the local currency than in the anchor currency;

(5) since the financial and economic crisis that struck Asia in 1997, there has been growing international interest in official dollarization, whereby a country would substantially or totally eliminate its domestic currency and adopt the United States dollar as legal tender;

(6) official dollarization would let a country import monetary stability, thereby bringing inflation and interest rates down toward the levels of the United States;

(7) official dollarization would make it impossible for governments to print domestic currency to pay for government programs, thereby promoting fiscal discipline;

(8) official dollarization would make it easier for people to conduct financial transactions in the currency they use for daily commerce, thereby promoting deeper financial markets;

(9) lower inflation, interest rates, and inflation and interest-rate volatility, greater fiscal discipline, and deeper financial markets would increase long-term economic growth and raise living standards in emerging market countries;

(10) by increasing trade and investment flows and decreasing the need for foreign assistance, greater economic growth and higher living standards abroad would serve the interests of the United States;

(11) countries that become officially dollarized would lose seigniorage (the profit from issuing a currency) and this is a significant barrier to official dollarization;

(12) official dollarization would increase the seigniorage earnings of the United States;

(13) it would be mutually beneficial for the United States to encourage official dollarization by offering to share with countries that become officially dollarized a portion of the extra seigniorage earnings that the United States would earn; and

(14) encouraging official dollarization complements ongoing efforts by the United States to strengthen the international financial architecture.

(b) STATEMENT OF POLICY- It is the policy of the United States that--

(1) the Federal Reserve System has no obligation to act as a lender of last resort to the financial systems of dollarized countries;

(2) the Federal Reserve System has no obligation to consider the economic conditions of dollarized countries when formulating or implementing monetary policy; and

(3) the supervision of financial institutions in dollarized countries remains the responsibility of those countries.

SEC. 3. CERTIFICATION.

(a) IN GENERAL- The Secretary of the Treasury (in this Act referred to as the 'Secretary') may certify a country as officially dollarized, after consideration of whether the country has--

(1) ceased issuing a local paper currency;

(2) destroyed the materials (such as plates and dies) used to produce such currency;

(3) extinguished a substantial portion of the local currency in circulation, with plans to extinguish as much of it as feasible;

(4) ended the legal tender status of the local currency;

(5) granted legal tender status to the United States dollar;

(6) ceased accepting local currency, except in exchange for dollars;

(7) ceased making government payments in the local currency;

(8) substantially redenominated its prices, assets, and liabilities in dollars;

(9) either opened its banking system to foreign competition or met international banking standards (such as those described in the Core Principles for Effective Banking Supervision issued by the Basle Committee on Banking Supervision of the Bank for International Settlements); and

(10) engaged in advance consultations with the Secretary to determine whether the country is a good candidate for official dollarization.

(b) STATEMENT BY SECRETARY- The Secretary shall issue a written statement upon certification of a country under this section that explains why that country has been certified. The Secretary may not certify United States territories or commonwealths as officially dollarized.

SEC. 4. CONSOL.

(a) ISSUANCE-

(1) FACE VALUE- Upon certification of a country under section 3, the Secretary shall issue to the dollarized country a consol. Except as provided in section 5, the face value of the consol shall be equal to the amount of dollars exchanged for United States Treasury securities by the Federal Reserve System with the dollarized country for purposes of official dollarization under this Act.

(2) LIMITATION- Face value may not exceed the dollar value of the local currency in circulation in the dollarizing country prior to the certification of that country as officially dollarized under section 3.

(b) INTEREST PAYMENTS-

(1) IN GENERAL- Starting with the first business day of the fourth full calendar month following the date of certification of a country under section 3, the owner of the consol will

receive interest payments every 3 calendar months equal to
$(FV0)(i)(.25)[(C2-FV2)/(C1-FV1)](85\%)$.

(2) DEFINITIONS- In this Act--

(A) FV0 = face value of the consol issued under this Act to the country receiving the payment;

(B) FV1 = face value of all consols issued under this Act by the end of the most recent full calendar year prior to the date of certification under section 3 of the country receiving the payment;

(C) FV2 = face value of all consols issued under this Act by the end of the most recent full calendar year prior to the payment;

(D) i = average yield to maturity on 90-day Treasury bills in the most recent full 3-month calendar period prior to the date of payment (using the average of monthly interest rates, as calculated by the Board of Governors of the Federal Reserve System);

(E) C2 = total global dollar currency in circulation at the end of the most recent full calendar year prior to the payment (as provided by the Board of Governors of the Federal Reserve System); and

(F) C1 = total global dollar currency in circulation at the end of the most recent full calendar year prior to the date of certification of the country receiving the payment (as provided by the Board of Governors of the Federal Reserve System).

SEC. 5. PREVIOUSLY DOLLARIZED COUNTRIES.

(a) IN GENERAL-

(1) LIMITATION- The Republic of the Marshall Islands, the Federated States of Micronesia, the Republic of Palau, Panama, the Turks and Caicos Islands and the British Virgin Islands may not be certified as officially dollarized or issued consols until 10 percent of the face value of consols issued to countries other than those listed in this paragraph equals or exceeds the total combined face value of consols that would be issued to the countries listed in this paragraph upon their being certified.

(2) CONSOL CALCULATION-

(A) IN GENERAL- Upon certification under section 3, each of the countries listed in paragraph (1) shall receive a consol with a face value equal to (4%)(Y).

(B) DEFINITION- For purpose of subparagraph (A), Y = nominal dollar gross domestic product, as calculated by the World Bank (or other recognized statistical authority), as of September 30, 1999, for calendar year 1997.

(3) PAYMENTS- Interest payments on consols to countries listed in paragraph (1) shall be made in accordance with section 4.

SEC. 6. RIGHTS AND OBLIGATIONS.

Owners of consols issued under this Act shall have the same rights and obligations as other owners of privately held obligations of the United States Treasury, except that a consol originally issued to a country is rendered null and void upon a United States declaration of war

on the country or a publicly issued statement by the Secretary that the country is no longer officially dollarized in accordance with this Act, but only if such written statement lists the reasons for such a finding. In making a determination under this section, the Secretary shall consider those factors listed in section 3(a).

SEC. 7. REPURCHASE.

The Secretary may repurchase a consol issued under this Act at market value, but not sooner than 10 years after the date of issuance. Purchases may only be made upon the joint agreement of the Secretary and the owner of a consol. Consols issued under this Act are not callable.

SEC. 8. EXCHANGE STABILIZATION FUND.

Payments on consols issued under this Act to countries that are in default or arrears on loans from the Exchange Stabilization Fund shall be used to cover such debts.

SEC. 9. REGULATIONS.

The Secretary and the Board of Governors of the Federal Reserve System may issue regulations appropriate to carry out this Act.

[END]