

## Comments on “Full Dollarization: The Case of Panama” by Goldfajn and Olivares

Jeffrey Frankel, Harpel Professor, Harvard University

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Let me begin by expressing my admiration for the industriousness of Ilan Goldfajn. At LACEA he has simultaneously hosted one of the smoothest-running large meetings I have ever attended, presented two authored papers, and changed jobs, all at the same time.

From the viewpoint of the United States, or from the viewpoint of Brazil, Panama looks like a small country. But if we are to examine the historical experience with official dollarization, we must necessarily look at small countries. Indeed, as Goldfajn and Olivares (2000) point out, Panama has until now been the largest dollarized country. For this reason, the research strategy represented by this paper is exactly the right one.

First consider the question of the origins of a country’s decision to adopt the dollar as the national currency. Does it follow extraneous political currents, or the recommendations of economic theory? If the latter, which theory? Does it reflect traditional Optimum Currency Area criteria (OCA) – country characteristics such as small size, openness, dominance of internal disturbances, symmetry of shocks, and labor mobility? Or does it reflect modern criteria, many of them designed to explain Argentina’s popular adoption of the convertibility plan in 1991 despite its poor qualifications for a fixed exchange rate under the traditional OCA criteria. These modern criteria have more to do with stabilizing investor confidence than stabilizing the business cycle:

The additional criteria<sup>1</sup> are:

- a strong (even desperate) need to import monetary stability, due to either a history of hyperinflation, an absence of credible public institutions, or unusually large exposure to nervous international investors;
- a desire for further close integration with the United States (which has the added advantage of enhancing the political credibility of the commitment, if such integration is indeed politically popular);
- an economy in which the dollar is already widely used<sup>2</sup>; and

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<sup>1</sup> Williamson (1995) and Larrain and Velasco (1999) also offer similar lists.

<sup>2</sup> In a country that is already partially dollarized, devaluation is of little use. If many wages and prices are already tied to the dollar, they will simply rise by the same amount as the exchange rate. If liabilities are already denominated in dollars – and, in the case of international liabilities, foreign creditors generally insist on this -- then devaluation may bankrupt domestic borrowers. Such initial conditions are discussed as criteria for dollarization by Calvo (1999) and Hausmann, Gavin, Pages-Serra, and Stein (1999).

- access to an adequate level of reserves.

Panama adopted the dollar at independence almost 100 years ago. At first glance, the original decision to dollarize fits the traditional OCA criteria – Panama is small and trades a lot with the United States. The Central American countries overall qualify fairly well.<sup>3</sup> And it also fits a political explanation – Americans were active in encouraging the onetime province of Colombia to break away in 1904, so that they could build the Panama canal. At second glance, the modern criteria also fit. It turns out that Panama had been the victim not long before of a hyperinflation in Colombia’s currency (the “War of the 1000 Days”), so that a desire for monetary stability was a perfectly good motive for switching to the dollar.

As the table in Appendix II confirms, in every country where the dollar or some other foreign currency is the national currency, this has been the regime at least since independence.<sup>4</sup> I believe that the only major cases where a country has fully given up its currency, while remaining politically independent, are two very recent ones. First, in 1999, the euro-11 entered monetary union for reasons that do not fit the modern criteria, but rather fit traditional OCA criteria, unless one wants to explain the decision as serving purely political goals. Second, in 2000, Ecuador opted for full dollarization; this small open economy could fit the traditional OCA criteria, but it was the desperation of its economic circumstances that made dollarization seem the only choice, and this fits the modern criteria. Most relevant data for EMU and Ecuador will not be available for some time. So we must return to Panama.

The distinction between average performance in the long run and volatility in the shorter run is important. Computations suggest that, overall, Panama has attained better performance than countries with more flexible exchange rate regimes. Consider first long run average performance.

It is by now well-known that countries with less flexible exchange rate regimes tend to have lower inflation rates, not just in theory but empirically as well. This is particularly true of currency boards and, in this case, the enhanced monetary stability seems to come with average real growth rates that are higher, not lower, than other countries. Tables 1 and 3 in the paper show that Panama, the only fully dollarized economy of reasonable size, has had a substantially lower inflation rate than most other countries. Its growth rate (5.3%), while variable and lower than the worldwide average, is nevertheless similar to that of other Latin American countries.

### *Long-run real depreciation in Panama*

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<sup>3</sup> Especially in the case of El Salvador, and especially if one adds migration (and emigrants’ remittances). Stein and Talvi (1999).

<sup>4</sup> Independent countries using the dollar include the Marshall Islands, Micronesia, Palau, and Panama, aside from a number of U.S. and U.K. territories. Independent countries using non-dollar foreign currencies of neighbors are Andorra, Bhutan, Kiribati, Liechtenstein, Monaco, Nauru, San Marino, Tuvalu, and the Vatican.

That the long-run average inflation rate in Panama is, not only lower than in other developing countries, but lower than in the U.S. as well is a bit of a puzzle. Given the common currency, one might expect the inflation rates to be equal; instead Panama has instead experienced a real depreciation. The authors conclude that this is some sort of reverse Balassa-Samuelson effect. The usual B-S effect says, of course, that countries with rapid productivity growth experience rapid increases in the relative price of nontraded goods and therefore real appreciation. But the authors should be careful not to attribute this reverse Balassa-Samuelson effect to a high share of nontraded goods and services in the Panamanian economy (reported at 78%, versus 10 % in manufacturing and 4 % in construction.<sup>5</sup>) The effect of this should be to amplify the Balassa Samuelson effect, not reverse it.

The real exchange rate, using CPI baskets, is given by

$$\begin{aligned}
 Q &\equiv \frac{E(CPI^*)}{(CPI)} \\
 &\equiv \frac{E(P_{TG}^{*1-\alpha} P_{NTG}^{*\alpha})}{(P_{TG}^{1-\alpha} P_{NTG}^{\alpha})} \\
 &= \frac{(EP_{TG}^*)P_{TG}^{*-\alpha} P_{NTG}^{*\alpha}}{(P_{TG})P_{TG}^{-\alpha} P_{NTG}^{\alpha}} \\
 &= \frac{(P_{NTG}^*/P_{TG}^*)^{\alpha}}{(P_{NTG}/P_{TG})^{\alpha}}
 \end{aligned}$$

where  $\alpha$  is the share of NonTraded Goods and services in the economy. So the real exchange rate varies with each country's relative price of NTGs. The presumption is that positive productivity growth (or it could be a Baumol effect) gradually raises the relative price of NTGs in every country. In the equation, a rate of increase of relative NTG prices that is higher at home than abroad leads to a real appreciation, the same effect as a high share of NTGs,  $\alpha$ . But what then is the explanation for the observed real depreciation? I don't know. Perhaps Panama has a lower rate of productivity growth than the United States? Or perhaps the nature of its services has led to rapid productivity growth in this sector in particular.<sup>6</sup> The paper asserts a long-run downward trend in the relative price

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<sup>5</sup> By the way, what happened to the agricultural sector? I would have expected it to be substantial.

<sup>6</sup> Services are a very diverse category. There is no iron law that says that the prices of all services must increase relative to the prices of all goods. Nor are all services less susceptible to international trade than all goods. Perhaps one could tell a story about falling costs for the inputs into Panama's sort of nontraded goods and services. (The innovation of containerized cargo, for example, sharply reduced the costs of ocean shipping in the post war period, but I am unsure whether that should raise or lower the price of

of services (p. 14 and the Conclusion section); but I haven't seen any direct evidence on such prices, just the statistics on real depreciation.

### *Sensitivity to external shocks*

The challenge, of course, is distinguishing to what extent the exchange rate regime is responsible for the differences between Panama and other countries. This means thinking about other distinctive aspects of the Panamanian economy, and as well trying to sort out what sort of shocks occurred during the time period, and how well the different exchange rate regimes cope with the different sorts of shocks.

Adverse external shocks hit Panama in 1982-83 and 1997-98 in the form of international debt crises. But the 1987 disruption associated with an arrest warrant for Manuel Noriega delivered by US troops (a shock that was in a sense external) was the sharpest negative shock that Panama has experienced. The authors suggest that dollarization made it worse. This is certainly the way it sounded at the time: "US cuts Panama off from dollars." I understand what happened to be as follows. It is true that the United States cut off the supply of new paper currency, and froze Panamanian bank accounts in New York. The first action had little real adverse economic impact, while the efficacy second derived not from dollarization per se as from the large role of New York banks in the economy.<sup>7</sup> But the latter was in part the consequence of the former.

At first the 1997 East Asia crisis had only a moderate financial impact on Panama, but when the crisis spread to Russia and Brazil in 1998, the impact was much sharper. But the impact was sharper still in other parts of Latin America. Despite its tie to the dollar, Panama's growth rate in 1997-98 was no worse than that of other countries in Latin America, and better than the Caribbean (Table 9).

Section 4 of the paper presents the econometrics. The Latin EMBI is used as an indicator of international confidence; its declines in 1995 and 1997-98 capture the bouts of contagion. The results show that declines in the EMBI over the period 1994-99 have negative effects on Panama, as measured by real depreciation (i.e., deflation) and a decline in real economic activity. However the adverse effects in Costa Rica and Argentina are worse. These two countries are chosen as comparisons because the former is a fairly similar country, but with a more flexible regime, while the latter is a very different country with a currency board. This finding is consistent with the hypothesis that a country that goes all the way to the dollarization corner, thereby eliminating the residual fears of devaluation that linger even in Argentina, buys itself a degree of international confidence that insulates it from the vagaries of contagion.

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Panama canal services. As the Canal was US-owned during this period, perhaps what matters is any trend in the real value of royalties paid to Panama.)

<sup>7</sup> Moreno-Villalaz (1999) argues that Panama's regime has served well to give the economy stability even through such political disruptions.

Appendix I tests the effect of an increase in the US fed funds rate, in place of the EMBI index.<sup>8</sup> It finds an adverse effect on Panama, as reflected in either the real exchange rate or the level of activity. This is to be expected. Indeed, the major critique of dollarization is that the country's monetary policy becomes tightly linked to US monetary policy, even though that may not be suited to its cyclical conditions. But isn't the interesting question, in light of new hypotheses about the dollarization corner and confidence effects, how Panama's sensitivity compares to that of other developing countries. (The paper does not seem to report a comparison of this test for Argentina and Costa Rica.)

Next Goldfajn and Olivares look at a foreign real shock, a decline in monthly production among industrialized countries (Section 4.2). Again there is an adverse effect on Panama, but in this case it is not noticeably milder than the effect on Argentina.

Their conclusion is that external shocks explain a much smaller proportion of the overall variance in economic activity in Panama, despite the openness of the economy, compared to the two comparison cases. The finding that domestic shocks seem more important than external shocks makes Panama a good candidate for monetary union under the traditional textbook criterion. (That foreign shocks dominate for Costa Rica is all the more striking in that its flexible exchange rate should in theory help insulate it against them.)

The central finding is perhaps Panama's relatively greater stability with respect to the EMBI. The authors are hesitant to conclude that this is evidence of a positive confidence effect from dollarization. Their reasoning is that such an effect should show up in Panama's interest rate behavior (p.36). I am not sure that it doesn't. After all, interest rates are lower in Panama than in other Latin American countries. The next question is: What about their sensitivity, as compared to other emerging markets?

### *Does dollarization stabilize interest rates?*

Whether interest rates in a dollarized country are lower and more stable under dollarization than under a flexible exchange rate, or even than under a currency board, is a key question. I am familiar with attempts to answer this question using data on interest rates. Hausmann et al (1999) found that currency board countries had lower interest rates on average than flexible rate countries. In Table 1 of Frankel (1999), I found that currency board countries (Argentina and Hong Kong) also had interest rates that, while tightly linked to the US fed funds rate, did not on average rise as much in response to an increase in the US fed funds rate as did interest rates in countries with more flexible rates (Brazil and Mexico). The pattern was even clearer in Panama's interest rates: a regression against the fed funds rate showed a higher R<sup>2</sup> but a lower coefficient than for

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<sup>8</sup> In Frankel and Roubini (2000), Table 3, we find that an increase in the real US fed funds rate of 1 per cent has been associated with a reduction in the EMBI of an estimated 23 % and in the IFC equity index for Latin America by an estimated 29%. (The effect on Latin American securities prices is stronger than the effect on US securities prices.) But the EMBI can capture other global effects besides US interest rates, such as the 1998 contagion.

other countries. Subsequent investigation suggests that this finding does not generalize to wider samples of fixed vs. floating rate countries.<sup>9</sup>

Interest rates incorporate both a currency premium and a country premium. Dollarization by definition eliminates the currency premium that flexible-rate countries have to pay on their local-currency borrowings, and the currency premium is a major component of the interest differential for many countries. But that premium is already rather low by the time one gets to a currency board. The open question is whether dollarization also reduces the country premium as well.

The authors list theoretical arguments on both sides – reasons why default premiums should be positively correlated with currency premiums, across different exchange rate regimes, and reasons why they should be negatively correlated. If the first set of factors dominate, then dollarization necessarily reduces interest rates; if the second set then it does not necessarily. The main argument for a positive correlation between currency premiums and default premiums is the “balance sheet effect” that was so evident in the 1997-98 East Asian crises, as well as in the 1995 Mexican peso crisis: banks and firms that borrow from abroad in dollars will in the aftermath of a devaluation have difficulty meeting their debt-service obligations, and may default. Under a flexible-rate regime, even when investors seek to protect themselves against currency risk, it shows up anyway in the form of default risk. The main argument for a negative correlation between the default premium and country premium is the capacity for countries that borrow in their own currencies to inflate away the debt consequences of an adverse shock; thus fundamental risk shows up as either currency risk under a flexible regime or as default risk under dollarization.

I must admit that I don’t fully understand all the other arguments offered here, if they are meant to be distinct from these two.

Such tests are more illuminating wherever one can use forward rates (or locally-issued dollar rates, or spreads in the euromarket) that allow us to observe the extent to which foreign investors are willing to settle for lower interest rates when the element of exchange risk is removed. Such studies show that country premiums remain large, even in countries that have used firm exchange rate commitments to lower their currency premiums substantially. They are also sensitive to US interest rates. But we do not yet have a definitive answer regarding the correlation between currency premiums and country premiums, e.g., when changes come in response to foreign disturbances.

Table 4 of the Goldfajn-Olivares paper offers an interesting bit of additional evidence that might shed a different spotlight on this patch of ground. It shows debt ratings for six countries, by currency of denomination. Assume some firms borrow predominantly in dollars and others in local currency. Under the balance-sheet hypothesis, one would expect lower ratings (higher default risk) on the firms that borrow in dollars. The same is true under the inflate-away-the-local-debt hypothesis. Under either hypothesis, even if a country may have to pay very high interest rates local currency debt to compensate for currency risk, the default risk should be higher on dollar debt. (This is very much a *ceteris paribus* proposition, but the fact that these comparisons are taking place within each country should help.) Table 4 shows that ratings by Standard and Poor’s for five Latin American countries are lower on dollar-denominated

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<sup>9</sup> Frankel, Schmukler and Serven (2000).

bonds than on local-currency bonds (Argentina, Brazil, Chile, Costa Rica and Peru). In other words, the prediction of both theories is borne out.

This doesn't help much, since both theories have the same prediction. But a glimmer of a way to answer the question is visible. Can one could obtain the same data by firm, i.e., for those firms that issue debt both in local currency and in dollars? If the dollar-denominated debt continues to show lower ratings (higher default risk), it would support the inflate-away theory. The alternative balance-sheet theory would predict that a country with substantial dollar debt is in danger of going bankrupt and defaulting on all its debt, whether in local or foreign currency, in the event of a devaluation; thus the difference in ratings would arguably disappear at the firm level. Another possibility for future research.

Even if one reads the historical record as evidence that Panama has achieved better economic performance, one must ask whether dollarization has been the key to this success, or whether other attributes are more important. On the "plus" side are at least three factors: services, an open banking system, and unusually high exposure to international trade. Dependence on the United States could also be viewed as a negative factor, as in the 1987-88 invasion.

The authors suggest that the large services sector may be behind Panamanian stability, since services are generally known to be more stable than goods. But, again, I want to know more about those extra Panamanian services – financial services, entrepot services, the Canal itself. Do we actually know that they are more stable than the rest of the economy? I could imagine the East Asia crisis, for example, hitting those services hard. Another factor is the international integration of banking system, particularly the heavy participation of foreign banks, which has been identified by some as more important than dollarization.<sup>10</sup> But I suspect that the former is to a large extent the consequence of the latter, and that countries considering dollarization realize and accept that this choice would go along with increased participation by foreign banks. It is often remarked that when a country gives up the ability to print its own currency, it no longer has a lender of last resort in the most ultimate sense, a problem for which an increased role for foreign banks is the best solution.

The high degree of international integration with respect to trade, especially with the United States, is another factor that is usually taken as a parameter, but that I consider partially endogenous with respect to the dollarization decision. Look at the effects of monetary unions on trade and growth. Statistical analysis suggests that dollarization triples trade with the United States and other dollar countries, even holding constant for geographic proximity, free trade areas, linguistic links, historical links, and a host of other factors.<sup>11</sup> For a country like Panama or Ecuador, which are already natural trading partners of the United States, this represents roughly a doubling of overall trade as a share of GDP. (Tests suggest no tendency for a currency union to divert trade away from non-members.) When we combine these findings with estimates of the boost that openness

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<sup>10</sup> Morena-Villalaz (1999).

<sup>11</sup> Frankel and Rose (2000). An important caveat is that, since this result comes from a pure cross-section study, there is no way of saying how many decades must pass to realize this full effect on trade.

gives to real growth over the subsequent 20 years, we estimate that dollarization can eventually boost real per capita income in Panama (retrospectively) or Ecuador (prospectively) by around 20 percent. But we would also argue that this increase in trade with the United States leads to an increase in the cyclical correlation of the two countries, and thus ex post makes Panama a better-yet candidate for dollarization under the traditional OCA criterion.

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