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MACRO POLICY IN A DOLLARIZED ECONOMY: THE EXPERIENCE OF BOLIVIA

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ABSTRACT

Currency substitution, or dollarization, has become a concern of macroeconomic policy in Latin America because of its impact on exchange rates and on the money supply. This paper reviews the experience of Bolivia and concludes that efforts to limit financial liberalization and currency substitution in a country with a weak state apparatus are likely to be destabilizing. The author examines the process of dollarization in Bolivia, details the effort to dedollarize the economy in 1982, and then traces the effects of the program on the development of informal exchange markets, on the banking system, and on the foreign exchange market.

RESUMEN

La sustitución de la moneda, o dolarización, ha sido una preocupación de la política macroeconómica en Latinoamérica debido a su impacto en las tasas de cambio y en la oferta monetaria. Este ensayo reflexiona sobre la experiencia de Bolivia y concluye que el esfuerzo para limitar la liberalización financiera y la sustitución de la moneda en un país con un aparato estatal débil, es probable que sea desestabilizador. El autor analiza el proceso de dolarización en Bolivia, detalla los esfuerzos para desdolarizar la economía en 1982 y traza los efectos de este esfuerzo sobre los mercados informales de cambio, el sistema bancario y el mercado de divisas.

1. Introduction

The U.S. dollar is the legal currency of Panama, and proximity to the U.S. has long meant that the dollar had some role in the domestic economies of Mexico and Canada (Miles, 1978; Ortiz, 1983).

However, in the 1970s the combination of the decay of the Bretton Woods System, the strong tendency toward international financial liberalization, and the rapid increase in international financial activity as a result of the petro-dollar explosion resulted in the extension of currency substitution, or dollarization,[1] to many other Latin American countries.

For example one measure of dollarization, the share of dollar denominated instruments in total quasi-money, increased in Peru from 1.2 percent in January 1974 to 36.6 percent in January 1979, and then to nearly 75 percent by January 1985 (Urljevic and Jaime, 1985).

There now exists a lively literature on many aspects of the phenomenon: how to define dollarization and differentiate it from currency substitution and financial openness (Nickelsburg and McNelis, 1986) or its effect on monetary policy and on the equilibrium exchange rate (Miles, 1978; Marquez, 1984). Though many of these questions remain open, there is little doubt that dollarization resulting from financial openness makes a country's policy context much more complex, providing the government with another potential policy tool while at the same time broadening the options of economic actors to frustrate policy. And since dollar holdings can play a role in the demand for money and in the determination of the exchange rate, policy affecting dollarization can have quite broad ramifications throughout the economy.

The experience of Bolivia illustrates quite well the complexities of policy toward dollarization and the widespread effects which policy steps can have. Bolivia underwent a dollarization process during the 1970s. However, in a 1982 effort to deal with balance of payments pressures, it "dedollarized" the economy, forcing all legal dollar transactions to be intermediated by the state. The effect was dramatic and not positive, and it initiated a process of redollarization, only partly legal, which resulted finally in a return to the pre-1982 policies by a newly elected government in August 1985.

Bolivia is not alone in attempting to dedollarize the economy to allow a more coherent macro policy and to increase the potency of policy measures. Both Mexico and Peru have undertaken similar programs, in both cases with greater success than in Bolivia. This study will examine the elements of Bolivia's policy from November 1982 to August 1985, and its failure, in an effort to provide guidance for other programs which attempt to move away from financial liberalization in dollarized economies.[2] The main conclusion is that any such effort undertaken in the context of a weak state such as Bolivia's is unlikely to succeed and more probably will generate greater domestic instability.

2. Dollarization In Bolivia Before 1982

Bolivia suffered an economic crisis during the 1950s which was solved in large measure by fixing the exchange rate and then deregulating the foreign exchange market and prices of most domestic goods. These steps were taken under a government of President Siles Zuazo (1956-60) and resulted in remarkable stability in the exchange rate.

The same fixed value for the Bolivian peso was maintained until October 1972, when the peso was devalued to 20.2 per U.S. $ in response to the general international instability in exchange rates and the search for a new international monetary system. This exchange rate was maintained until November 1979 and over the period time deposits in dollars increased significantly. As a share of time deposits they were negligible in 1974, 8 percent in 1975, and rose continually to reach 33 percent of the total by 1979 (Banco Central de Bolivia, 1984).

During this period, the interest rate on dollar deposits was 9% and on peso deposits 10.75%. The private sector was able to allocate its portfolio of money holdings between dollars and pesos, and so dollarization was a natural outgrowth of these decisions, reflecting a transaction demand for dollars as dollar market activities increased. Some indications of the factors underlying dollarization can be gotten by examining the sources and uses of dollars in this period.

During the 1970s, an important element of supply was the availability of foreign loans, based upon petrodollars, which were made lavishly available to Bolivia as well as to the other Latin American countries. Total foreign capital inflows to Bolivia rose from an annual average of $37.8 million in the 1965-69 period to $41.5 million from 1970-74, and then more than doubled to $85.5 million annually from 1975-78 (Mortimore, 1981). Transnational banks accounted for a mere .3% of new capital entering the country in 1970, though by 1978 their share had risen to 61.8%. Likewise, their share in amortization and interest payments by Bolivia rose dramatically, from 2% to 74%. Almost 70% of these funds were provided to state enterprises producing goods for export.

A second important source of dollars, whose magnitude is difficult to document, was the illicit drug activity, primarily in coca, coca paste, or cocaine. While substantial portions of these funds remained outside the country, there were, and are, influxes of dollars as a result of the operations, whose effect has been an increase in the supply of dollars. One important element to note is that these dollars began to flow through the economy in the informal sector where their formal registration would be less likely. They played a role in developing dollar transaction channels which would grow in importance during the 1980s with growth of the informal sector and which would further erode the state's ability to regulate the financial system.

Finally, Bolivia benefitted from very favorable terms of trade changes during this period. The terms of trade during the 1975-79 period rose to 120.7 by 1980 (1970=100), mainly as a result of favorable prices for petroleum and mineral exports. Exports of goods and services rose from $200 million in 1971 to $1.1 billion in 1980, and the trade surplus reached $128 million in 1980, again increasing the available supply of dollars. The effect of these favorable elements of supply could be seen in the behavior of net international reserves of the Central Bank which rose from $115 million in 1975 to $241 million by 1977, about 5 months of imports. The subsequent decline presaged the problems to come, however.

The other side of dollarization, the absorption of dollars, took place in a variety of areas. One of the most rapidly growing uses of dollars was for imports, often consumption of goods financed by dollar denominated debt intermediated by commercial banks. Although the gross reserves of commercial banks increased through 1980, their net reserves went from -$19 million in 1976 to -$109 million in 1978, largely as a result of such loans. With free convertibility, the borrower could cancel the loan by depositing pesos which the commercial bank would then use to buy dollars from the Central Bank.

The end result was a significant dollarization of the Bolivian economy during the late 1970s, as seen in the growth of dollar denominated time deposits. It was generated from both the supply and the demand sides, and was facilitated by the government's exchange rate policy which fixed the exchange rate and guaranteed access to dollars.

The devaluation of 1979 was the first overt indication that the exchange rate system was under pressure and presaged efforts to dedollarize the economy. The devaluation should have encouraged the holding of dollar deposits, dollarization, as protection against exchange risk from further expected devaluation, as a store of value and for any speculative purposes.

It was not mere coincidence that the Bolivian government was in crisis at this point. The government of President Gueiler, the final outcome of the 1978 elections, was removed in July 1980 by General Garcia Meza who had little support in the military, less in the population, and who was widely condemned internationally. There had been little consideration and legitimation of state power after the 1952 revolution. The reign of General Banzer from 1971-78 had provided a functioning government apparatus, but state power remained weak and the turmoil in this period reflected this reality.

3. Dollarization Discouraged

In November 1979 the peso was devalued to 24.53 pesos per U.S. $ and the Central Bank was empowered to control all foreign exchange transactions. It began to act as a clearing house for foreign exchange transactions, though there still were no controls or allocations of foreign exchange. Sales and purchases of dollars took place at essentially the same exchange rate, and purchases were not limited. In appearance the Central Bank guaranteed the availability of foreign exchange at the rate it had fixed.

However, it is clear that a major slowing in dollarization through official channels was occurring. Dollar deposits barely increased in 1980 and their share of total deposits fell to 26 percent. The spread on official interest rates was increased. Dollar deposits were paid 11 percent in 1980 (at a time when U.S. interest rates were far higher) and peso deposits 18 percent.

At the same time the availability of dollars decreased. Already by 1980 the disengagement of the transnational banks could be noted. Their share of new capital fell by 50% and their transactions resulted in a net outflow of capital. This was offset in large degree by inflows of foreign official capital in the form of project disbursements during 1979. However in 1980 this source of dollars also contracted, by almost 50%.

Net International Reserves of the Central Bank became negative in 1980 and for the whole banking system reached a low point of -$402 million in 1982.

Additional pressure on dollars came from the choice of Bolivians to hold their dollars outside of the country, to undertake capital flight; the errors and omissions entry for 1980 summed to $370 million, much of which was capital flight. In 1981 it was $196 million.[3]

In face of these pressures the Central Bank attempted to maintain the supply of dollars by undertaking major loan agreements with international agencies. Notable in this regard in 1980 were the Structural Adjustment Loan from the World Bank and a large loan from Argentina, which totaled $240 million. The effort to maintain the flow of dollars in 1981 resulted in a second balance of payments support loan from Argentina for $125 million, the rescheduling of $167 million in commercial bank debt, and a further major decline in the reserve position of the Central Bank by $159 million.

The government also attempted to encourage dollar deposits in the formal financial sector by raising their interest rate to 20 percent. There was some success for dollar deposits increased by 25 percent, though their share continued to decline to 24 percent of the total.

Policy during 1980-81 was designed to maintain free exchange and to encourage further dollarization. However capital flight indicated that the private sector doubted that the government would continue to assume exchange rate risk on dollar deposits by guaranteeing the availability of dollars. Higher interest rates on dollar deposits might have countered these perceptions, but the increasing demand for dollars as a store of value made it unlikely this step could have ultimately offset the pressures generated in the international sector without major domestic policy changes.

The government continued in an ever worsening crisis of legitimacy which made such steps even less likely to succeed.

It is clear that the process of dollarization which had made the dollar a component of money demand and in which many new finance channels had been created increased the government's difficulties in adjusting to the external pressures. Bolivia, in 1982, clearly bore out the observation of Urljevic and Jaime (1985, p. 80) that the benefits to individuals of holding dollars as well as local currency can be more than offset by the costs of the macroeconomic instability which this same facility introduces.

4. The Dedollarization Program

Real GDP fell by 6.5% in 1982, by 8.5% in 1983, by over 3.5% in 1984, and by 2.1% in 1985. Open unemployment between 1980 and 1984 more than doubled, from 105,000 to over 250,000. Real wages fell by over 30%. And inflation skyrocketed from a rate of 30% in 1980 to over 2000% in 1984 and 10000% in 1985. The exchange rate of the Bolivian peso collapsed, depreciating in the official market from $b24.5 in 1981 to $b1.75 million by August 1985. Clearly there were many factors which contributed to this turmoil, and dedollarization was only one of these. However, this section makes the case that it had a central role in compounding the crisis.

The first step in dedollarizing the economy was in July 1981, when the Central Bank "closed the dollar window," beginning to allocate its dollar holdings and no longer guaranteeing to satisfy the demand for dollars. As a result banks refused peso repayment for dollar loans, since their access to dollars was no longer guaranteed. The longer run effect was to create a parallel or grey market in dollars. Initially individuals with dollar loans outstanding provided the demand for the grey market dollars to repay their debts. In addition, dollars could still be used as a store of value, a protection against devaluation and domestic inflation, since dollar deposits could still be made in the domestic banking system. Uncertainty caused their share of time deposits to fall from 35% in July 1981 to 26% in January 1982. The extent of dollar denominated transactions had been limited by closing the dollar window, but purchasing dollars on the parallel market and depositing them at the dollar interest rate still allowed protection from exchange rate changes. This fact generated an increase in the share of dollar deposits to 53% in October 1982. Dedollarization was only partial and had the effect of creating the parallel market in dollars.

The next step was taken in November 1982 when the new government of Hernan Siles Zuazo officially "dedollarized" the economy by converting dollar obligations into pesos.

Siles came to power when the thoroughly discredited military governments were forced out and the Congress ratified the electoral decision of 1980 in which Siles' coalition won a small plurality. As he took power with a fragile coalition government the state was clearly in crisis though the government apparatus was functioning. Dedollarization led to a continuing conflict with elements of the private sector, especially the banks, and it directly affected a broad spectrum of individuals who had used dollar deposits as a store of value. In addition, the inability of the government to bring about an effective dedollarization or even to ensure that the government apparatus would carry out the stipulations of the decision was a contributing factor to a marked deterioration in the mere functioning of the governmental apparatus. By supreme decree the government dedollarized the economy. It converted at $b 145 per $ U.S. all fixed term dollar obligations or all peso obligations with a dollar clause between Bolivians or persons living in Bolivia. Dollar deposits' share fell to 47% in November 1982.

The dollar obligations of the banking system with external creditors were to be maintained and honored. Foreign exchange was to be provided to satisfy these obligations, and if it were not made available, the banks could pass the obligations to the Central Bank by depositing equivalent amounts of pesos. However the executive was unable to force the union of the Central Bank to accept these deposits, with the result that the government refused to assume the private dollar debt. Combined with the devaluation to $b 196 per dollar two days after the dedollarization steps, this policy caused a collapse in confidence in the government as the guarantor of an orderly monetary system which could provide mechanisms to ensure stability.

In its conception, there were four goals of the dedollarization program (Morales, 1985):

1. To reduce the demand for dollars, giving the government more control over the money supply and concentrating dollar resources on debt repayment;

2. To restore the exchange rate as a policy instrument and to restore the ability of the government to capture resources through inflation;

3. To stimulate sectors which had been strangled by their dollar debt;

4. To lower investment costs to the productive sector whose now peso-denominated loans would depreciate with inflation.

This list makes clear that a functioning government was assumed, as well as one with popular support of its efforts to increase control over resources and to enforce its economic policies. Since this was patently not the case with Siles' government, the dedollarization program became an important contributor to what Aranibar calls the "destructuring" of the Bolivian political economy (Aranibar, 1985, p. 72).

Siles had undertaken a number of steps to stabilize the domestic economy and the initial response was quite favorable. Until mid-1983, the inflation rate slowed from 41% to 13% per month. Limits on imports and control of foreign exchange, combined with debt rescheduling, restored net international reserves to $110 million by 1983. It was important at that point to convince Bolivians of the credibility of the stabilization policies. Dedollarization gave exactly the opposite message. Since all foreign exchange transactions had to take place through the government, and since all other dollar transactions were prohibited, only the government had the ability to protect itself from a cycle of inflation-devaluation-inflation.

Had the government gone in the opposite direction, allowing dollar accounts with guaranteed access to dollars, its programs might have been more successful.[4] This would have committed the government to absorb the exchange rate risk on such deposits and would have put pressures on the government to maintain domestic price stability.[5] It might have been more successful in broadening the base of support of the government and in maintaining a functioning state apparatus.

There were three areas in which the detrimental effects of dedollarization were most clearly evidenced during the Siles administration: redollarization, disruption of the banking system, and disruption of the foreign exchange market.

a. Redollarization: given the weakness of the government, dollarization continued and perhaps increased but operated through informal or illegal channels. As inflation increased, the dollar even took on a new role, as a medium of exchange in domestic transactions. Some geographic areas of the country, most notably Santa Cruz, became two currency economies, and all large transactions were dollar denominated (and continue to be so). The government itself realized this when it required, in 1983, that airline tickets be purchased in dollars and when it allowed imports to be paid for by one's "own dollars," i.e. dollars that were acquired through private channels and which did not go through the government.

Even within the government sector there were dollar transactions which violated dedollarization. For example, ENAF (Empresa Nacional de Fundicion), which refines a portion of the tin production, maintained a substantial dollar account outside of the country, and it was only under extreme pressure that it paid a portion of its dollar debt to COMIBOL (Campania Minera Boliviana), the state mineral production company. By the end of the Siles administration it was estimated that the state enterprises had over $40 million in overseas dollar accounts. In the face of exchange rate instability and domestic inflation the demand for dollars as a store of value increased, and pesos were demanded only for short run transactions. For example by the end of 1984 real peso deposits in the banking system were less than 25% of their value in November 1982. Although there are no estimates of the size of the dollar transactions in the country, it is clear that the government's control over the pool of dollars had decreased significantly, as had its control over the money supply in the economy.

There are a number of indicators of the growth of the informal dollar market. For example, exports of non-traditional goods fell dramatically from $150 million in 1980 to $41 million in 1984, a much greater decline than GDP. Exchange rate problems may account for part of this, but much of the decline certainly resulted from the sale of these goods through informal channels. A similar indicator is the decline in registered imports of consumer goods from $268 million in 1981 to $53 million in 1983, though the actual decline appeared to be far less. Contraband trade flourished, there was widespread robbery of production from state enterprises, which then entered the informal sector, and the parallel currency market dominated foreign exchange transactions. All segments of society had access to dollar markets, either the extensive curb markets or the informal markets of the drug or contraband trade.

The government admitted the redollarization when it proposed the establishment of new forms of savings instruments in August 1984. One was a Dollar Bond with interest paid in dollars and valued at the parallel exchange rate. The other was the Gold Bond, a four year bond denominated in dollars with incentives given for gold production to provide the foreign exchange to redeem the bond. There was no market for these instruments, simply because the government had no credibility as guarantor of the assets of the private sector.

b. Disruption of the Banking System: the effects of dedollarization were exacerbated by the government's unwillingness to protect the banks from exchange rate loss on their dollar obligations. The case could be made that there was no such governmental obligation; nonetheless, when the economy was dedollarized, the government had agreed to regularize these debts.

The dollar obligations of the banking system to external creditors were to be maintained and honored. Foreign exchange was to be provided to satisfy these obligations and, if it were not made available, the banks could transfer the obligations to the Central Bank by depositing pesos. When such deposits were rejected by the Central Bank union who saw them as a bail-out of the banks the negative effect on the banks was significant. For the banks had been forced, in 1982, to accept repayment of their dollar loans at $b 145, while they had to pay their own obligations at $b 196. Legal opinions in 1984 finally forced the government to accept the banks' original deposits as discharging the debt. However, subsequent policies continued the conflict of banks and government. The banks were required to recapitalize because they had placed a much higher proportion of their capital in physical goods than was stipulated in the banking laws. Foreign banks were to recapitalize in dollars, to be converted at an official exchange rate which would immediately lower their capital position. By mid-1985 all the U.S. banks had closed their doors except for a minimal presence of Citibank. In addition, the main monetary policy tool was the required reserve ratio which was raised progressively. For example, peso checking accounts carried a 40% reserve ratio at the end of 1982 which was increased to 60% by the third quarter of 1983 and subsequently to 100% by law, though this was not enforced. All foreign currency deposits had 100% reserve requirements. The goal of all of these policies was, again, to restrict severely the private sector in its activities and to provide additional areas of control to the government. As a result the real liabilities of the banking system fell 67.7 percent between 1982 and mid-1984.

Thus the process of restricting and reversing financial liberalization resulted in continued conflict and disruption of the banking system, which again contributed to the general breakdown of the economy.

c. Exchange Market Disruption: from the time of the creation of the parallel foreign exchange market, exchange rate policy in Bolivia lacked coherence. There was some initial success with exchange controls which required delivery of export proceeds and their allocation according to a set of priorities. As the parallel market began to operate, the formal controls were evaded by both public and private entities. By September 1983, imports paid for by one's "own foreign exchange" were permitted; later, exporters were allowed free disposition of a certain percent of their proceeds. The last effort was in August of 1984 when a three tiered exchange rate was proposed, though never implemented. During the whole period, requests for foreign exchange at the official rate far exceeded the amount available. Nonetheless transactions at the official rate decreased substantially from $1.3 billion in 1980 to $469 million in 1982. They then rose to $799 million in 1983, the last year for which data are available (Banco Central de Bolivia). And the gap between the official and parallel rate increased continually after 1982 when the peso was devalued to approximately the parallel rate in an effort to remove this wedge.

Despite frequent and massive devaluations, the official rate only once reached 50% of the parallel rate after 1982 (See Table 1). This disparity can be taken as an indicator of the informal dollarization of the economy. The official rate was set at levels which the government hoped would encourage dollar transactions to flow through official channels, while the parallel rate represented the rate at which informal transactions actually took place. This deviation shows clearly the

TABLE 1

Pattern Of Exchange Rates ($b/$U.S.)

	Official	Parallel	Parity
December 1982	197.9	280	220
September 1983	197.9	840	523
December 1983	505	1300	907
March 1984	505	3200	1466
June 1984	2000	3300	3620
September 1984	2-5000	15000	5950
October 1984	2-5000	15000	9437
November 1984	9000	18000	12374
December 1984	9000	20000	18500
January 1985	9000	65641	31160
February 1985	50000	124167	87898
March 1985	50000	120780	109368
April 1985	50000	159816	121756
May 1985	75000	300000	164751
June 1985	75000	448540	293437
July 1985	75000	801290	487075
August 1985	75000	1093871	790503
September 1985	1082000	1080000	1244956

Source: IMF, Central Bank of Bolivia, various other sources.

inability of the government to "dedollarize" the economy in the sense of maintaining a monopoly on dollar transactions. A second important pattern in the table is the deviation of the parallel market rate from the parity rate, which would be expected from the relative inflation rates of the U.S. and Bolivia. Only in June 1984 was the parity rate higher than the parallel rate. In all other cases the parallel rate was higher, in September 1984 2 1/2 times the parity rate. This discrepancy is most easily understandable as a result of expectations about exchange risk and exchange rate changes. One factor which would have caused an overestimation of the exchange risk was the dedollarization program of the government. The effects of the 1982 effort continued and were remembered, and as a result generated fears that the government would adopt new policies which might restrict access to the informal dollar market. This generated a premium on dollars in the parallel market.

Over the course of this process there grew what might be called a set of "irrational expectations" as well. The official exchange rate over time became relevant for a diminishing portion of foreign exchange transactions. It was most important for its influence on the fiscal deficit, for devaluations increased government net income through their effect on the export proceeds of the state enterprises. The relevant price for most transactions involving foreign exchange was the parallel rate. However, the value of the official exchange rate became tremendously significant for the domestic economy. A devaluation provided an immediate impulse toward higher prices for all goods, and it generated labor unrest as the COB (Bolivian Workers' Central) interpreted the devaluation as a wage cut and generally threatened strikes for wage increases, which were usually granted.

So the deviation of the official and parallel rates, which could be traced directly to the dedollarization effort, had significant effects on subsequent events in the Bolivian economy.

5. Lessons

It is clear that macro policy in a dollarized economy is much more complex than in an economy without such currency substitution possibilities. Yet it is a reality which must be faced by many Latin American governments. There were conscious efforts to deal with dollarization in Bolivia, and for the most part they were unsuccessful. There were three main reasons.

The state in Bolivia, and even more so the government of Siles, was extremely weak and had a narrow base of support. The dedollarization policy attempted to reverse a long standing process of dollarization, in which broad sectors of the population had participated. As a result the policies were ignored or evaded oftentimes by elements of the same government, and this clearly contributed to a further weakening of the Bolivian government. Indeed one of the ironies of Bolivia is that the extensive efforts under Siles Zuazo to expand state control resulted in ever larger portions of economic activity moving to the free market or informal sectors.[6]

Policy toward substitute currencies has a very significant effect on expectations. In the case of Bolivia, the dedollarization effort clearly sent the wrong signals and caused doubt about the credibility of the government stabilization program at a crucial time.

Finally, attempts to control such a currency market are quite complex and require a coherent policy framework which can take into account its many ramifications. In Bolivia this was not forthcoming and policy incoherence was soon mirrored by problematic performance.

When the Siles government was replaced by Victor Paz Estenssoro in August 1985, dollar accounts were again permitted, dollarization was legitimized. It remains to be seen whether the overall program will be successful, though dollar accounts as a share of time deposit had risen to 40 percent by February 1986. Of course the real test will come if and when the government has difficulty in providing dollars to satisfy these obligations.

The Siles experience indicates that in Bolivia, at any rate, permitting dollar accounts may make a virtue out of necessity and so may build support for the government and safeguard it from a position in which its policies are simply unenforceable. However it is likely that any set of policies, though successful in the short run, will depend for their long run viability on the maintenance of a functioning government apparatus and the consolidation of the state. Whether the compact between the MNR of Victor Paz Estenssoro and the ADN of General Hugo Benger will solve this is the fundamental problem of Bolivia.

Other governments may wish to limit financial liberalization and to restrict currency substitution in their economies to facilitate economic policy. The experience of Bolivia should warn them of the pitfalls which await such efforts and of the demands this makes on the government and the state.

NOTES

[1]Dollarization in this paper will refer to government policy on the legality of time deposits denominated in dollars. The term can be used much more broadly to include the use of dollars as a direct substitute for coins and currencies of a country, but our use is much narrower. Dollarization is treated as a result of financial liberalization and as a particular example of currency substitution.

[2]Much of the information in the text is based upon unpublished studies of elements of the problem made available by Bolivian government and international sources. Most of the statistical information is from published series of the Bolivian government as noted in the references.

[3]One study by Beatriz Penaranda (1985) estimated that there was $1.2 billion in capital flight from Bolivia between 1975 and 1983. Morgan Guaranty Trust (1986) estimated the 1976-82 outflow at $1 billion.

[4]Nicklesburg (1985) found that such a policy of guaranteeing dollar deposits was highly successful in the stabilization efforts in Ecuador because it convinced the public that the government would not inflate the economy. This suggests that a program such as Siles' own 1956 program might have ultimately been more successful, though it too would have had its costs.

[5]Of course the case could be made that such a policy would simply have allowed capital flight and thus would have been unsuccessful. However, the incentive to capital flight from dedollarization was certainly greater.

[6]One study estimated that 60% of economic activity in 1984 was in the informal sector (UDAPE). This public-private paradox mirrors Chile's experiences in creating a social market economy, one of whose results was an effectively nationalized banking sector.

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