Volume Title: Developing Country Debt and Economic Performance, Volume 2: The Country Studies -- Argentina, Bolivia, Brazil, Mexico

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Volume Publisher: University of Chicago Press, 1990

Volume ISBN: 0-226-73333-5

Volume URL: http://www.nber.org/books/sach90-1

Conference Date: September 21-23, 1987

Publication Date: January 1990

Chapter Title: Notes

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Chapter URL: http://www.nber.org/chapters/c8941

Chapter pages in book: (p. 260 - 266)

Notes

Chapter 1

1. The hyperinflations in Peru (beginning in 1988) and in Argentina (1989) are the only other hyperinflations that did not occur following a war or revolution.

2. The inflation rate for the hyperinflation is measured as the twelve-month change for August 1985 over August 1984. The 1986 measure is December 1986 over December 1985.

3. See Malloy 1970 for an authoritative account of twentieth century Bolivian history before the Revolution, with an emphasis on the secular decline of the tin sector starting in the late 1920s.

4. There are several questions about the quality of the Bolivian National Accounts. Reported figures by the Central Bank of Bolivia differ, substantially in some cases, from those published by the IMF and the World Bank. Even more surprising, there are significant differences between the IMF and World Bank data. In the book, National Accounts data up to 1979 are sourced in Central Bank data because they are more complete. The discrepancies with other sources are relatively minor. We have preferred, in general, World Bank data for the period after 1980. It should be mentioned that the Central Bank substantially changed its methodology of national accounting after 1980. The new data seem to invite a thorough revision.

5. Coca production and consumption by Indian peasants in the Bolivian highlands have a secular tradition. Coca is used to fight hunger and the effects of physical stress in populations with very low standards of nutrition. Curative properties of coca leaves have also been known in the urban centers of Bolivia for centuries: brewed coca leaves are used regularly to cope with minor ailments as diverse as high-altitude sickness and toothaches. Many Bolivians, even in the cities, consider coca a miraculous plant. It must also be added that coca plants have a natural habitat in altitudes ranging between 1,000 and 2,000 meters. Bolivia has great extensions of land on those altitudes. Productivity there is very high, and little capital investment and labor are needed to grow the coca shrubs. Cropping and marketing are, however, very labor intensive, and most of the costs are incurred in those phases. High prices for the end-product coca usually mean high revenues for everybody in the chain, from middlemen to hitherto impoverished peasants. This partially explains why eradication is so unpopular, especially with poor peasants.

6. Bolivia briefly exported oil in the 1970s, but rising internal demand and falling reserves eventually led to an elimination of oil exports. Bolivia has continued to be a natural gas exporter to Argentina, but financial relations with Argentina have been unsettled since the mid-1980s, with continuing disputes between the countries over prices, volumes, and repayments schedules. In 1987 and 1988, Argentina went into arrears on payments to Bolivia, resulting in a serious loss of public sector revenues for Bolivia.

Chapter 2

1. The Bolivian Revolution is a complex event that defies easy summary. It has been the object of excellent studies both in the United States (e.g., Malloy 1970; Malloy and Borzutsky 1982) and Bolivia.

2. In addition, the key political development of universal suffrage was also established.

3. From the very beginning there was technical and managerial trouble, adding a heavy burden to the fiscal budget and penalizing the mining sector, which was obliged to sell all of its ores to ENAF, the state enterprise that controlled the tin smelters. It should be noted that the construction of the tin smelters had been envisaged for decades, but private cost-benefit analysis had suggested the unprofitability of the operation. In the long run, it is possible that improvements in technology and especially in management could lower the costs of operation sufficiently to justify the project, but this has yet to happen.

4. In 1967, guerrilla units commanded by Ernesto "Che" Guevara were defeated by the Bolivian Armed Forces, supported by U.S. intelligence and combat units. In the following years, there were several attempts, most of them by university students, to reorganize the guerrillas.

At the time of the coup d'état of August 1971, there were rumors of a strong Brazilian influence and even intervention among the military. This in itself would not be surprising in view of the place of Brazil in the geopolitics of the region. What is more important is the fact that the Brazilian model of development was regarded as the paradigm in economic matters by the new authorities.

5. Paz Estenssoro broke away from the government in 1973 because of the small (and diminishing) role given to him and his party in the bureaucracy and in policymaking. FSB was a junior party in the coalition and it was dropped noiselessly after one of its leaders tried to stage a coup d'état in the eastern city of Santa Cruz. In spite of the rupture with the MNR and the FSB, Banzer retained in his bureaucracy some of the technocrats of both parties. Many of them would later join Banzer's new party, the Acción Democratica Nacionalista (ADN).

Chapter 3

1. A good rationalization of this point can be found in the Estrategia Nacional de Desarrollo y Plan Cuatrienal (Ministry of Planning, Bolivia, 1984), 45–52.

2. Planning and a high degree of government intervention in the economy have a relatively long history in Bolivia. The extreme dependency on tin and the vagaries of that market in the 1930s led already in 1942 (in the so-called Bohan Plan) to a recommendation for government-induced production diversification and the opening of the eastern lowlands to modern agriculture and oil exploration. A United Nations mission in 1950 similarly recommended more planning and a more active governmental role in the economy and in the provision of social services. The MNR tried to implement this and Bohan's advice after the Revolution of 1952. When President Kennedy created the Alliance for Progress program, one of the conditions to have access to the development funds provided therein was to have a national development plan. In 1962 the Paz Estenssoro administration announced a ten-year plan of economic development. At the core of this plan, there was a set of policies to promote an orderly recovery of tin exports to their pre-1952 levels. Some lip service was also paid to import substitution. One of the most important features of the ten-year plan resides in its investment program. Investment was to be oriented to the provision of social overhead to support production. With the exception of the needed funds for COMIBOL, little else was allocated for the direct involvement of government in production. The plan was also innovative in its basic needs approach to alleviate extreme poverty. In regard to the sources of financing, the plan emphasized the need to increase domestic savings. However, no specific measures

were included. Also in the plan there is an underlying two-gap model with a clear recognition of foreign exchange bottlenecks.

3. In contrast, the 1962 ten-year plan insisted more on social overhead investments for the peasantry holding individual plots of land.

4. In some other cases, such as the one with gasoline and other fuels, the public enterprises directly provided the subsidies to the consumer public. Those subsidies were not, however, deducted from the tax liabilities to the Treasury.

5. This discussion is based on F. Machicado (1987).

6. This discussion is also based on F. Machicado (1987).

Chapter 4

1. PPX measures the real volume of imports that can be purchased using the proceeds of export sales. The index is constructed as follows:

$$\mathrm{PPX}_t = [P_{xt} * X_t/P_{mt}] \; / \; [P_x * X \; / \; P_m]0 * 100,$$

where year zero is the baseline year (1980) in table 4.1, P_x is the price of exports, P_m is the price of imports, and X is the volume of exports. Note that movements in PPX can be decomposed into movements in the terms of trade and movements in the volume of exports:

$$\mathrm{PPX}_t = [(P_x t/P_{mt})/(P_{x0}/P_{m0})] * (X_t/X_0).$$

Bolivia in fact suffered large declines in the volume of exports (which fell by 31 percent between 1980 and 1988) and in the terms of trade (which fell by 11 percent between 1980 and 1988), according to the 1988 data of ECLAC, tables 8 and 10.

2. The foreign trade policies between 1964 and 1978 are discussed in detail in Morales (1982).

3. Contraband color television sets, personal computers, stereos, and even automobiles have been sold in the open market in the most important Bolivian cities at below international prices since the mid-1970s. Allegedly, this is possible because those contraband imports serve to launder drug money (or ''coca-dollars'').

4. The system of prior import deposits consisted of a 120-day deposit in Bolivian pesos in the domestic banking system to which the private importers were liable. The deposit had to be equal to a given percentage, with a ceiling of 25 percent, of the CIF value of the imported goods. These deposits did not earn interest and were subject to a 100 percent reserve requirement.

5. The government tried, in doing so, to avoid a confrontation with the IMF, since most forms of administrative allocation of foreign exchange could have been judged a violation of Article VIII of the Articles of Agreement of the IMF. Registration of the demands for foreign exchange had a mild deterrent effect on capital flight.

6. The use of the foreign exchange system for several functions other than equilibrium in the foreign exchange market has been very clearly stated by Cooper (1971, 10–13).

7. Errors and omissions picks up capital flight that corresponds to measured exports and imports (i.e., when measured exports do not contribute to a rise in foreign exchange reserves or other measured foreign assets, the discrepancy appears in errors and omissions). However, underinvoiced exports or wholly uncounted exports (e.g., cocaine) will contribute to capital flight that is unmeasured by errors

and omissions. It is true that understatement of imports may lead to an overstatement of capital flight, but in the Bolivian context, the understatement of exports (particularly drug-related ones) is likely to exceed the understatement of imports.

8. When the UDP government took office in the fall of 1982, one of the first measures taken was to eliminate the use of dollar-denominated contracts in the financial system. All deposits and liabilities that had been dollar-denominated were obliged to be converted into peso-denominated assets at a stated exchange rate. This led to a massive disintermediation of the banking system and to a flight for safer assets, particularly foreign exchange and other foreign assets.

Chapter 5

1. In 1982, according to the *World Bank Debt Tables*, the MLT public debt constituted 87 percent of the total external debt of Bolivia. The same ratio in 1985 was 82 percent. These data suggest that the MLT public debt is by far the most important component of total external debt.

2. To some extent, the effective subsidy to debtors was paid for by an effective tax on depositors. Specifically, depositors with dollar-denominated claims on the banks had their claims converted into pesos at a disadvantageously low exchange rate. This helped the banks to absorb the costs of converting their claims on private sector debtors from dollars to pesos at the same disadvantageous exchange rate.

3. This legal argument has frequently been employed in the internal political discussions on the debt, particularly by advocates of unilateral debt suspension.

4. A complete evaluation of the National System of Projects appears in JUNAC (1985).

5. Among them was the investment banking firm of Salomon Brothers.

6. The four tranches and the terms of the refinancing were as follows:

Tranche IA: Short-term debts past due between August 1980 and April 1981. Maturity of 3½ years and a grace period of 1 year. Interest charges at LIBOR + 2 percent.

Tranche IB: Medium- and long-term debts having reached maturity between April 1980 and April 1981. Maturity of 6 years and a grace period of 2 years. Interest charges at LIBOR + 2¼ percent.

Tranche II: Medium- and long-term debts reaching maturity between April 1981 and April 1982. Maturity of 5 years and a grace period of 4 years. Interest charges at LIBOR + 2¼ percent.

Tranche III: Medium- and long-run debts reaching maturity between April 1982 and May 1983. No agreement was reached on maturity or grace period. Interest charges at LIBOR + 2¼ percent.

In addition to these terms, Bolivia was charged a myriad of fees and organization costs: a once-and-for-all flat fee of 1 percent of the rescheduled debt for the coordinator bank; an annual fee of U.S.$49,000 for the coordinator bank; a fee of 0.375 percent on tranche IA and 1.125 percent on tranches IB and II; and all organizational and legal expenses.

Chapter 6

1. If hyperinflations are ranked by their maximal inflation rates over half-year calendar intervals (January–June, July–December), the Bolivian hyperinflation ranks

seventh in the twentieth century, following: Hungary (1946:1), Greece (1944:2), Germany (1923:2), China (1949:1), the Soviet Union (1922:1), and Poland (1923:1).

2. Cagan defined the beginning of hyperinflation as the month in which inflation exceeds 50 percent, and the end of hyperinflation as the month in which inflation last exceeds 50 percent and is then followed by twelve months of less than 50 percent inflation.

3. In this case, m, e, $\tilde{e}$ are measured at the end of the month; π_t is the change in the monthly price level. Ideally, p_t should be an end-of-month price, with $\pi_t = P_t - P_{t-1}$. Since prices are available only on a monthly average basis, end-of-month prices for month $t-1$ are proxied by a geometric average of average-period t and $t-1$ prices.

Chapter 7

1. Monetary reform refers to the switch from one currency to another as part of the stabilization program. Argentina switched from the peso to the austral in June 1985 under the Austral Plan; Brazil switched from the cruzeiro to the cruzado in March 1986; and Peru adopted the inti in place of the peso in September 1985. The precise economic content of such a shift in currency depends on several factors, including: (1) whether there is a tax on old money balances as part of the conversion process, and (2) the terms under which long-term contracts in the old currency are to be settled in the new currency.

2. This paragraph, of course, describes a highly schematic view of the linkages between the budget and inflation. The point is not to be comprehensive, but to emphasize the crucial link in the Latin American context between budget deficits and the exchange rate, and between the exchange rate and the domestic price level.

3. As a formal matter, an overvalued exchange rate combined with a black-market exchange rate acts as a tariff. Marginal imports are priced according to the depreciated black market rate, while exports (to the extent that they are not smuggled) receive the lower official exchange rate. Thus, the gap between the official and the black-market rate acts as a tax on exportables by reducing their price relative to importables. As the gap widens, the resource misallocations caused by the overvaluation of the official rate eventually become so enormous as to force an official devaluation.

4. In a famous policy debacle, Chile fixed the peso-dollar exchange rate in the midst of a 35 percent annual inflation during 1979. While tradable goods prices soon stopped rising in Chile, nontradables prices continued to rise for two more years, in part because of a formal system of backward-looking wage indexation. The exchange rate fixing, combined with a huge inflow of short-term capital upon a liberalization of the financial system, led to an enormous squeeze of the tradable goods sectors in the country. Eventually the exchange rate had to be sharply devalued. The inadvisable fixing of the exchange rate is probably one factor that contributed to the severe recession in Chile in 1982 (the other factors include a reversal of the short-term capital inflow, a terms-of-trade decline, and the rise in world interest rates).

5. At the time of the stabilization program, official bread prices were set at a tiny fraction of world market prices. There was, however, very little bread available at the ridiculously low official prices. Rather, flour and bread were smuggled to Peru, effectively setting the *internal* bread price in Bolivia at the level of the border price, net of the costs of transport and smuggling. Most bread available on the streets of La

Paz was sold at many times the official price. The middlemen, rather than the consumers of bread, were apparently the largest beneficiary of the subsidized grain prices.

Chapter 8

1. No bank will lend to the Argentine government, for example, even for a highly profitable public investment, for fear that the loan will simply become part of Argentina's overall bad debt. It is dangerous to lend even if the individual project has a good return.

2. Negotiations may break down repeatedly, at high cost (e.g., with disruptions of normal trade financing), because the various parties have a continuing incentive to posture, to act tough, etc. For theoretical analyses, see Fernandez and Kaaret (1988) and Rotemberg (1988).

3. Even if the banks *know* that the debt cannot be paid, they may still impose sanctions for nonpayment, in order to impress other debtors with whom they are negotiating.

4. Consider a case in which a wonderful economic reform is identified, which would cost $100 million of current consumption in order to raise the debtor's future income and its debt-servicing capacity by $200 million in present value. Suppose also that all of this incremental debt-servicing capacity would be squeezed out of the country by the foreign creditors in the course of future negotiations. The debtor has no incentive to undertake the reform, even though it has a very high return, because the benefits accrue to the foreign creditors. However, if the country first entered into a buyback in which it paid $60 million for the $1 billion in debt, *thereby cancelling the debt overhang*, the debtor would then be free to undertake the investment and to reap the large returns.

Note that this incentive effect could work by incentives on a given government (by leading the government officials to a rejection of specific public investments or public sector reforms) or through the electoral process (by contributing to the election of governments that oppose the reform efforts).

5. As an example, the country could negotiate with creditors to use the receipts of future export earnings as collateral for future debt-service payments, in cases where it would be administratively possible to arrange for future export earnings to accumulate in an escrow account out of reach of the country.

6. There are probably only four or five such banks in the United States. They are, however, among the biggest banks. Examples include Citicorp, Bank of America, Chemical Bank, Chase Manhattan, and Manufacturers Hanover.

7. I have been closely involved in the Bolivian debt negotiations as the government's main outside economic advisor.

8. There were no working meetings with the banks during this crucial period, as it was the official negotiations with the IMF and discussions with the U.S. government that were of most importance.

9. There are several complex reasons for this change of position. Most important was the ferocity of the crisis in Bolivia (with real per capita GNP having declined by almost 30 percent, with the terms of trade having collapsed, and with a virulent hyperinflation during 1984–85), combined with the strength of Bolivia's adjustment program (which eliminated tens of thousands of jobs in state enterprises and closed the budget deficit by more than 10 percent of GNP almost overnight). Also, the

United States had important foreign policy interests in stabilizing democracy in the country, since Bolivia borders most of the large countries of South America and has often been feared as a focal point of unrest (Che Guevara died in the Bolivian jungles in 1967). Moreover, the United States was interested in pursuing an anti-cocaine policy in the region, which could only be accomplished with a friendly, stable government.

10. In 1988, Bolivia signed a three-year Enhanced Structural Adjustment Facility with the IMF, based on a program of balance of payments that presumes that Bolivia's remaining debt will be settled on terms similar to the buyback.

11. The financial "costs" to Bolivia of the debt strategy have been minimal. If we judge the net cash costs of the buyback to Bolivia at $20 million, the country has paid in total over three years less than 1 percent of one year's GNP ($20 million/ $3 billion) to its commercial bank creditors. At the same time, Bolivia has received large net resource inflows from the official creditor community. Thus, in contrast to Bolivia's net resource inflow, all of the other countries in the region have been making large net resource transfers to the foreign creditors (as Bolivia did during 1982–84).

Chapter 9

1. Bolivia has already experienced the disaster of governance in conjunction with the coca mafia under the dictatorship of General Luís García Meza. García Meza's brutal role led to the worldwide diplomatic isolation of Bolivia, which in turn contributed importantly to Bolivia's financial rupture with the rest of the world.

2. In other words, the export of coca paste has caused a secular appreciation of the Bolivian real exchange rate, thereby squeezing the profitability of legal export sectors.

3. Taxation of coca production and exports is virtually impossible from an administrative point of view and is strenuously opposed by the international community. It is judged that normal taxation of the sector would effectively lead to its legalization.

4. In 1986, for example, the Bolivian government undertook joint military operations with the U.S. government to interdict coca paste exports and to drive down the internal price of coca leaf. The President faced impeachment proceedings for his actions at the hands of nationalist elements in the Bolivian Congress. The action provoked a run on the peso and a nationwide banking crisis, as individuals sought to remove local deposits in anticipation of a currency devaluation. In the end, the peso was successfully defended.

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