

# The Bolivian Hyperinflation and Stabilization

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The inflation in Bolivia during 1984 and 1985 was the most rapid in Latin American history, and one of the highest in world history. During the twelve-month period, August 1984 to August 1985, prices rose by 20,000 percent, and during the final months of the hyperinflation, from May 1985 to August 1985, the inflation surged to an annualized rate of 60,000 percent. As in other hyperinflations, the end came abruptly. A new government came to power in early August 1985, and a comprehensive stabilization program was announced on August 29, 1985. Within ten days the inflation was halted, and prices actually began to fall. Although prices jumped again in December 1985 and January 1986, prices rose by just 9 percent between the weeks of January 20, 1986 and November 3, 1986.

The Bolivian inflation is the only case in thirty-five years of a "true" hyperinflation, applying Phillip Cagan's 1956 classic definition of price increases exceeding 50 percent per month (by this definition, the hyperinflation lasted from April 1984 to September 1985). As such, the Bolivian case provides an important opportunity for examining alternative views of hyperinflation and price stabilization. My discussion of the Bolivian experience is as follows (a more complete account can be found in my 1986 paper, from which this paper draws). Section II describes the chronology of the hyperinflation and stabilization from 1980 to 1986. Section III then examines the rapid end of the hyperinflation in view of competing theories of price stabilization.

## I. A Description of the Hyperinflation and Stabilization Periods

The Bolivian inflation may be unique in the annals of hyperinflation as the only case

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that did not arise in the aftermath of a foreign war, a civil war, or a political revolution (see Forrest Capie, 1986, for a discussion of the background to the hyperinflations of the twentieth century). Rather, the hyperinflation emerged as the result of several less-dramatic shocks hitting the country during a period of intense political instability. Bolivian regimes have been notoriously weak throughout the country's history, but the instability during 1979–85 exceeded the country's norm. A bewildering series of coups, electoral stalemates, and interim governments led to a remarkable turnover of heads of state after 1978.

The instability arose from political and economic disturbances following several years of relative stability and prosperity under the regime of General Hugo Banzer (1971–78). The prosperity of the Banzer era was based to a large extent on Bolivia's favorable terms of trade in the 1970's, heavy foreign borrowing from the international banks, and a political regime supportive of foreign direct investment in the country. When General Banzer left office in 1978, partly under U.S. pressure to restore civilian rule in the country, there ensued a bitter political competition for power, pitting the left against the right and civilian politicians against the military. A worsening international economic environment after 1980, with high interest rates, falling commodities prices, and tight credit, added to the instability.

By the end of 1980, Bolivian access to the private international capital markets had dried up. An emergency rescheduling with the commercial banks was completed in 1981, but it soon fell apart. The World Bank and the IMF also ceased lending. The economic situation deteriorated so much that the military returned to the barracks in 1982. Siles Suazo, who had received the plurality of votes in a stalemated election of 1980, was allowed to take power as head of a leftist coalition government in October 1982. This

government lasted until it was voted out of office in July 1985.

The Siles government inherited an annual inflation rate of approximately 300 percent (October 1982 over October 1981), an inability to borrow on international markets, and an economy declining sharply in real terms (real GNP fell by 6.6 percent in 1982). At the same time, the new government was called upon to satisfy pent-up social and economic demands. The demands on the government were heightened by the fact that the government represented a coalition of forces on the political left that pressed for increases in social spending, public sector employment, and public sector pay, but that lacked the political base to raise tax revenues to fund such spending. The Siles government actually proposed several stabilization programs during 1982–85, but in each case these programs were overturned by public protest, by key constituencies of the government, or by the government's political opposition in the Congress. The inflation tax, unlike other proposed spending or tax measures, did not provoke a specific and well-organized challenge to the government, though in the end the hyperinflation forced early elections, and the ouster of the Siles government.

The precise quantitative links of inflation to foreign borrowing and fiscal policy are difficult to measure because of the incompleteness of Bolivian data. Nonetheless, we may identify three fundamental aspects of the rise of hyperinflation. First, the cutoff in international lending and the increase in international interest rates in the early 1980's were the main initiating factors in the outbreak of hyperinflation, since the government met the drop in net international financing and higher debt-servicing costs through an increase in the inflation tax. World Bank data on net resource transfers to the Bolivian public sector from medium- and long-term foreign borrowing indicate a dramatic shift in international lending conditions.

With Bolivian GNP approximately equal to \$3.6 billion, the shift from net resource transfers *towards* Bolivia of \$178 million in 1980 to net transfers *away* of \$190.0 million

in 1983 signifies a shift of approximately 10 percent of GNP. In the first half of 1985, the Siles Administration ceased virtually all debt service payments to the private creditors, and the Paz government continued that moratorium on debt servicing.

The second important characteristic of the inflation dynamics is that the recourse to seignorage (i.e., the inflation tax) jumped as the net international resource transfer turned negative, with seignorage fluctuating around a new high plateau during the period of the Siles government.

The takeoff in inflation after 1981 followed closely upon the jump in seignorage, as should be expected from almost any monetary theory of hyperinflation. However, during 1982–85 the inflation rate continued to accelerate even though seignorage collection did not rise steadily after its one-time jump. This pattern is familiar from Cagan's original model of hyperinflation. Assuming that expectations of inflation adjust slowly to actual inflation, and that the demand for real money balances is a function of expected inflation, a permanent increase in the seignorage needs of the government (as occurred after 1981) will produce an inflation rate that rises over time while the stock of real money balances declines. If the new seignorage level is sufficiently high, then inflation will rise without bound in the Cagan model.

The third important aspect of the inflation dynamics was that the increasing inflation caused the tax system to collapse, with total central government revenues falling from around 9 percent of GNP in 1981 to about 1.3 percent of GNP in the first half of 1985. Therefore, the constancy of the seignorage tax did not reflect a constant underlying path of real revenues and real expenditures, but rather a path of falling real tax collections matched with a lag by a steady drop in real spending. As described in my 1986 paper, the most important cuts in spending were made in public investment and then in international debt-servicing (as the country went into virtually complete default to private creditors by the end of 1984). Ironically, by the peak of the hyperinflation in

mid-1985, debt-servicing payments were almost completely eliminated. The original factor that had started the hyperinflation was gone, but by now the tax system was in a shambles.

The successful stabilization program was carried out by the newly elected center-right government of President Victor Paz Estensoro in August 1985. The so-called New Economic Policy of the Paz government, unveiled on August 29, 1985, contained an enormously ambitious agenda, that went beyond macroeconomic stabilization to include fiscal reform, trade liberalization, internal price decontrol, and the decentralization or privatization of public enterprises. On the macroeconomic side, the program contained four explicit elements, and an implicit fifth element. The four explicit elements were: 1) a devaluation and subsequent managed float of the exchange rate, and a commitment to full currency convertibility on the current and capital accounts; 2) an immediate reduction in the fiscal deficit through a sharp increase in public sector prices (especially the price of domestic oil), combined with a public sector wage freeze; 3) a tax overhaul proposal (enacted by the Congress eight months later) to broaden the tax base and raise tax revenues; and 4) the signing of an IMF standby arrangement (accomplished in June 1986), to be followed by a Paris Club rescheduling of government debt owed to foreign official creditors. Of these steps, the one with the most important short-run effect was the rise in public sector prices, which raised government revenues immediately by several percent of GNP. The implicit fifth element was the continued complete moratorium on repayments of principal and interest to the commercial bank creditors, despite the strong urgings of the IMF to resume debt servicing.

The policy package had the desired effect of closing the flow budget deficit of the central government. With the combination of higher public sector prices, the virtual halt to all public investment, a tight freeze on public sector wages at very depressed levels, and a moratorium on foreign debt servicing, government revenues jumped above expendi-

tures after the start of the program. The central government did not rely at all on fiscal credit from the central bank during the final months of 1985 or during the year 1986.

## II. Interpreting the Sudden End of the Hyperinflation

Despite an enormous devaluation at the beginning of the program, and increases in other key prices, the overall price level stabilized almost immediately. The sudden end of a 60,000 percent inflation seems almost miraculous, except for the fact that virtually every hyperinflation has stopped in that manner. In a justly renowned study, Thomas Sargent (1986) argued that such a dramatic change in price inflation results from a sudden and drastic change in the public's expectations of future government policies, and therefore argued that a convincing "regime change" is the necessary and sufficient condition for rapid disinflation. I suggest, in distinction to Sargent, that the Bolivian experience highlights a different and far simpler explanation of the very rapid end of hyperinflations. By August 1985, the U.S. dollar and not the Bolivian peso was satisfying two of the three classic roles of money: the unit of account and the store of value (though it was not the medium of exchange for most transactions). Prices were set either explicitly or implicitly in dollars, with transactions continuing to take place in peso notes, at prices determined by the dollar prices converted at the *spot* exchange rate. Therefore, by stabilizing the exchange rate, domestic inflation could be made to revert immediately to the U.S. dollar inflation rate!

In my earlier paper, I showed econometrically that the key therefore to ending the price inflation was to halt the depreciation of the black market exchange rate (which became the same as the official rate once rates were unified through an open auction system). Fortunately, pegging or stabilizing an exchange rate in the short term is far simpler than convincing the public that a true and fundamental "regime change" has occurred. An exchange rate can be temporarily pegged,

for example, even if the public knows *certainly* that the peg will break down in the near future, as shown in the literature on rational speculative attacks against currency pegs. In the Bolivian case, the government was able, at least temporarily, to stabilize the exchange rate because it had at least temporarily eliminated its flow budget deficit. The public, however, remained deeply skeptical that the government would be able to maintain the budget austerity beyond a short period (especially in view of the fact that several previous stabilization attempts had failed).

There are two major pieces of evidence in support of the proposition that price stabilization preceded the credibility of the program by several months. First, interest rates on peso-denominated loans remained very high in the months after the stabilization, much higher than comparable dollar-denominated loan rates. This suggests that even though price stabilization proceeded rapidly, and the peso exchange rate stabilized vis-à-vis the dollar, during late 1985 and throughout 1986, the public continued to expect a significant rate of peso depreciation. Indeed, monthly peso interest rates did not fall below 5 percent per month until October 1986, after 8 months of virtual exchange rate and price stability.

The second piece of evidence on the slow return of confidence in the success of the stabilization program comes from the behavior of real money balances. In 1983, real money balances stood at 10.3 billion 1980 pesos. On the eve of stabilization, real balances fell to 3.0 billion 1980 pesos. After price stability was restored in Bolivia, real money balances increased only very gradually in response. As late as June 1986, real money balances still stood at 3.6 billion 1980 pesos, far below the 1983 levels.

The Bolivian authorities were able to maintain the stable exchange rate over the longer run because of the shift from fiscal deficit to fiscal balance, so that for the longer term, Sargent is correct to stress the need for a fundamental change in fiscal policy in order to sustain price stability. In this regard, the Bolivian government instituted a major tax

reform in May 1986 that will greatly broaden the revenue base, and it also instituted a very austere budget for 1986. Moreover, it has maintained the principle of no debt-service payments to the commercial banks until it can conclude a fundamental settlement of the debt problem involving some form of debt forgiveness.

The conclusion, then, is that exchange rate stabilization played the preeminent role in the immediate disinflation, while fundamental fiscal policy changes were necessary to maintain the stable exchange rate over time. In other countries, however, such as Chile during 1979-81, the exchange rate has been stabilized but *without* an immediate disinflation. The difference between Bolivia and these other cases seems to lie in nature of hyperinflation. With prices rising at over 50,000 percent per year, all vestiges of long-term pricing in the domestic currency disappear, so that fixing the nominal exchange rate becomes sufficient for price stabilization. For less rapid inflations, staggered price contracts denominated in the domestic currency or backward-looking indexation to the domestic CPI can break the tight link between inflation and the exchange rate. Thus, countries with high inflations but not hyperinflations might be wise to combine exchange rate stabilization with other measures (for example, incomes policies) in order to achieve an immediate return to price stability. Such "heterodox" strategies have recently been employed in Argentina, Brazil, and Israel, in contrast to the "orthodox approach" of the Bolivian authorities. In all cases, however, longer-term stabilization will almost surely require a rectification of more fundamental fiscal imbalances.

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