Instituto de Investigaciones Socio Económicas

Documento de Trabajo No. 03/88
Agosto 1988

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I. Introduction

Bolivia experienced between April 1984 and August 1985 the rather uncommon disgrace of hyperinflation.[1] In those seventeen months, prices increased by a factor of 625. According to Sachs (1986), the Bolivian hyperinflation can be ranked as the seventh highest inflation in the world in this century and the only one not following a world war or a civil war. Bolivia exhibits the doubtful record of having had the only case of true hyperinflation in Latin American history. The hyperinflation was abruptly stopped in late August 1985, with a shock orthodox program, supported by tight monetary and fiscal policies. The success at stabilization can be gauged with the 10.6 percent inflation rate for 1987 (December to December). The results for the first semester of 1988 are less brilliant; nonetheless, inflation seems to be firmly under control.

This papers attempts to answer the following questions: why did hyperinflation appear? was Bolivia more prone to suffer high inflation, after external shocks, than other countries in Latin America, because of its low level of economic development? We should not forget that Bolivia is the second poorest country in Latin America, with a per capita income slightly over U$ 600. Why the Bolivian government allowed inflation to last for such a relatively long period? which features difference the Bolivian stabilization program from the heterodox stabilization plans in contiguous Argentina and Brazil, that were attempted almost at the same time? what were the costs of stabilization in terms of output and employment, and income distribution? what explains the success of the Bolivian stabilization program?

The paper is organized as follows. In Chapter II a quick overview of the most salient

[1] The Bolivian hyperinflation and stabilization have received significant attention in academic as well as in policy-making circles. (See, for instance, Sachs (1986), Sachs (1987b), Pinto and Kharas (1986), Kiguel and Liviatan (1987), Bernholz (1987), Morales (1987a), Morales (1987b), and Morales and Sachs (1988)).

economic developments, that prepared the ground for the crisis, and an account of the hyperinflation period are given. Chapter III provides the main elements of the stabilization program of August 1985 and the results to date. In Chapter IV, the outstanding problems of economic recovery after the inflation stabilization are provided. The almost there years that have elapsed since the stabilization program was announced provide a good perspective on its achievements as well as on its shortcomings. Some considerations on the prospects of the economic reconstruction are also included there. Chapter V gives the main conclusions.

II. The Hyperinflation

a. Background

In spite of the generally good performance of the Bolivian economy over the long-period 1962-1978, warning signals of the impending crisis surfaced already in 1978-1979. In 1979, GDP growth rates started a steady decline to the point of becoming negative in 1982. The negative GDP rates-of-growth prevailed until 1987. The steady fall in output revealed the lack of adaptability of the economy to external shocks, either financial of commercial, and the extreme vulnerability of the export sector. Furthermore, to compound the problems of the international relations of Bolivia, an illegal economy, based on the production in cocaine and other derivatives of coca leaves, strongly surged in the mid-1970s.

Table 1

Trends of Key Foreign Sector Prices
(Annual Rate of Change, Percentages)

	Average 1981-85	1986[p]	1987[p]
Foreign Trade			
Unit Export Prices	-0.2	-22.8	3.9
Tin Prices	-7.2	-43.8	7.5
Natural Gas	9.0	-26.5	-24.3
Unit Import Prices	-1.3	-4.9	3.5
Trade-of-Trade	1.1	-18.8	0.5
Exchange Rates			
Official	613.1	323.9	7.5
Parallel Market	682.4	173.4	5.9
Interest Rate on Foreign Debt (% per annum)	5.5	2.6	2.4

Source: Derived from basic data for exchange rates of UDAPE (1987), and Afcha and Huarachi (1987). Data for foreign trade prices comes from CEPAL, Balance Preliminar de la Economía Latinoamericana, 1987, and World Bank,Commodity and Price Trends, 1986 Edition. Interest rates are obtained as a ratio of actual interest payments to mid-year (average of two year-end values) external debt.

Note: [p] Preliminary

Table 1 provides the relevant figures on the evolution of key external prices. It can be seen there that Bolivia did not suffer a terms-of-trade loss in the 1980s until late, in the third quarter of 1985. On the contrary, there was even a slight improvement in those years. Indeed the reduction in export prices over 1981-1985 was more than compensated by a stronger fall in import prices. The big decrease in terms-of-trade would come after the current stabilization program had been initiated in August 1985. Notice that many of the Latin American countries suffered from the deteriorating evolution of world prices, well before Bolivia did.

The external shock came in 1982, on the financial side, with the world debt crisis. In the 1970s, Bolivia had substantially increased her foreign debt, due to the accumulation of fiscal deficits since the mid-1970s and the need to finance investments in the public enterprises. Bolivia had faced debt repayment difficulties already in 1980, but the severity of the 1982 debt situation came as a shock.[2] Starting in 1982, the debt service, not compensated with new loan disbursements, produced very large income transfers abroad to which I refer below. When the crisis erupted,the Bolivian economic structure was too heavily tilted towards the production of non-tradeables and, furthermore, was plagued with mismanagement problems, to be able to adjust itself, in an orderly fashion, to the changing international environment.

In this context of declining economic activity (and political uncertainty) high inflation made a very strong appearance in 1982. The magnitude of the foreign debt and its domestic misuses were the ultimate cause of the eclosion of the hyperinflation, while the proximate cause was the sudden reversal in the net resource transfers from abroad, that obliged the government to substitute foreign financing with domestic financing, under the form of monetary emission. The importance of the external debt and of the negative net resource transfers abroad, in triggering the crisis, can be appreciated in Table 2. Notice in Table 2 the high degree of Bolivia's indebt ness in regard to the size of the economy and exports. In 1982, the beginning year of high inflation, a 2.1 percent of GDP was transferred abroad in net terms by the public sector. It is also interesting to note that the heavy net resource transfers abroad continued until 1985 (in 1985, the net resource transfer was 3.1 percent of GDP).

The deterioration of the economy heavily interacted with the political turmoil of the period 1979-1982. The long-lasting military government of general Hugo Bánzer (1971-1978) was succeeded by a string of short-lived military governments and interim civilian presidents.

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[2] It should be noted that the debt service to the foreign commercial banks loomed large in the debt troubles even if Bolivia's debt was mostly contracted with official lenders (52 percent in 1980). The apparent paradox is explained by the term structure of Bolivia's debt with the commercial banks, coupled with the sharp increase in international interest rates in 1981-

A special mention should be made of the notorious General Luis Garcia Meza, who took power after a coup in 1980, amid allegations of involvement in the cocaine traffic. He was punished by the world community with diplomatic and economic isolation; but, this had heavy and protracted consequences on the performance of the national economy. The dire state of the economy prompted the military to yield power to a civilian, Dr. Hernán Siles Zuazo, in October 1982.

Table 2

Bolivia's External Debt, 1980-1987
(Millions of U$ Dollars)

	1980	1982	1985	1986[p]	1987[p]
Total External Debt	2.701.0	3.169.0	4.143.2	4.619.1	4.729.0
Long-Term Debt	2.320.6	2.897.9	3.744.9	4.077.6	4.321.0
Public and Publicly Guaranteed	2.228.6	2.769.1	4.189.9	3.522.6	3.766.0
Private Nonguaranteed	92.0	128.8	555.0	555.0	555.0
Public External Debt (% of GDP)[a]	56.7	64.2	76.1	84.1	84.3
Public External Debt (% of Exports)[a,b]	213.1	301.4	432.6	516.1	639.5
Public Debt Service	290.3	287.1	242.1	160.8	164.2
As % of Exports[b]	27.8	31.3	32.8	23.6	27.9
As % of GDP	7.4	6.7	5.8	3.8	3.7
Net Resource Transfers[c]	178.2	-92.7	-131.9	138.4	48.3
As % of GDP[c]	4.5	-2.1	-3.1	3.3	1.1

Source: Basic data from World Bank, World Debt Tables, 1986-1987 Edition, and World Bank, Bolivia: Updating Economic Memorandum, 1988

Notes: GDP values are derived from GDP values in current Bolivian pesos divided by a PPP exchange rate
[a] Public and Publicly Guaranteed Long-Term Debt
[b] Exports of Goods and Services
[c] Net resource transfers related to public and publicly guaranteed long-term debt
[p] Preliminary

b. The Irresistible Aggravation of Inflation

The sudden severance from international credits and the need to service the old loans produced, not unsurprisingly, a rapid depletion of foreign exchange reserves in 1981-1982. The reserve

1982.

losses were aggravated by the substitution of foreign loans by domestic credit in order to finance a relatively rigid level of public expenditure, and this among expectation of rapid devaluations of the peso. In a country like Bolivia, with very shallow financial markets, domestic credit growth meant essentially, but not exclusively, and expansion of the money base.

Table 3

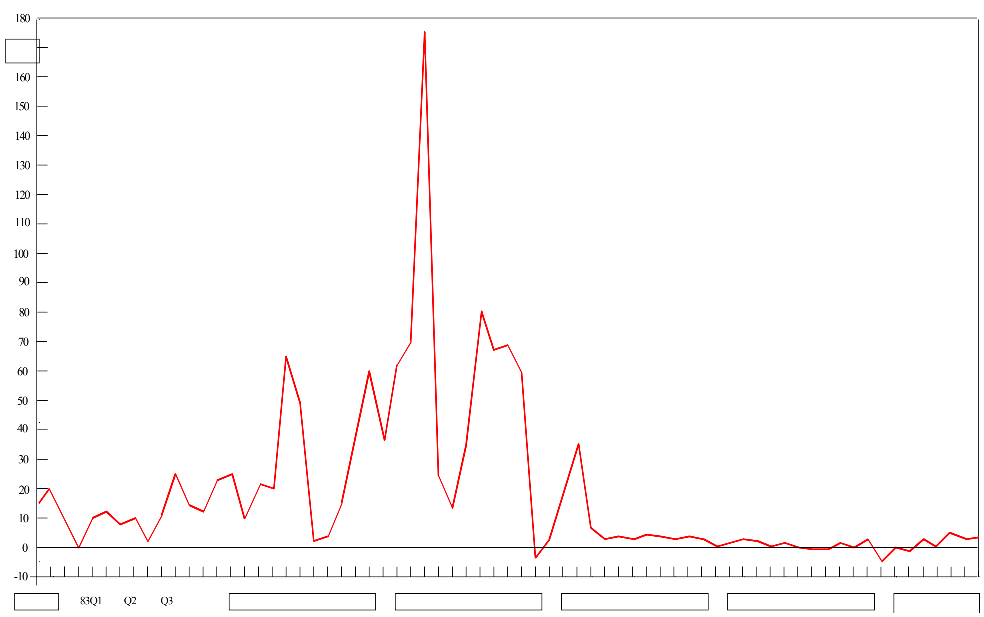
Quarterly Inflation Rates, 1983-1998[a]
(Percentages at Annual Rates)

1983		1984		1985		1986		1987		1988	
Q1	136.5	Q1	610.4	Q1	126.269.9	Q1	325.6	Q1	18.9	Q1	9.7
Q2	122.9	Q2	3.765.6	Q2	5.265.3	Q2	41.4	Q2	7.0	Q2	37.8
Q3	577.9	Q3	661.1	Q3	35.139.4	Q3	20.5	Q3	6.2		
Q4	843.3	Q4	12.767.0	Q4	95.8[b]	Q4	4.6	Q4	1.4		

Source: Basic data from the Bolivian National Institute of Statistics
Notes: [a] Final month of quarter over final month previous quarter, at annual rates
[b] The stabilization program was announced on August 29, 1985

Figure 1

Monthly Inflation Rates



Given the very low level of foreign exchange reserves, the military government of early 1982 abandoned the long-lasting policy of unified fixed exchange rates, that had prevailed since 1957, and adopted a dual exchange rate regime, with an official rate and free market rate. The peso depreciated very rapidly, anyway more rapidly than expected, in the free (or parallel) market. This rapid depreciation gave a strong push to inflation. In this way, the stage was set for the acceleration of inflation.

When the civilian government of Siles Zuazo was installed in October 1982, the economy was already in an inflationary path. High inflation reached hyperinflationary proportions in April 1984. The data in Table 3 and Figure 1 depict the main features of the inflation rates in the last six years.

In order to understand the period, it may be helpful to trace back the steps in the aggravation of inflation. One of the first moves of Siles Zuazo was to do away with the dual foreign exchange regime, returning to a, in principle, unified fixed exchange rate regime. The official exchange rate was steeply devalued to achieve this. In addition, foreign exchange controls (along with price controls on a relatively large set of goods and prohibition of many imports) were imposed. Dollar and dollar-denominated contracts among Bolivian residents were converted to peso contracts, in the so-called "de-dollarization measure".[3] The measure aimed to ease the pressures against the peso in the domestic foreign exchange market. The objective of a unified fixed foreign exchange rate was however not met. The parallel market, that had become a "black market" continued to thrive as can be observed in Table 4. The government aware of this situation allowed a increasing number of transactions in the parallel market, returning de facto to the dual system. It should be noted that the parallel market played a very central role over the whole high inflation period.

[3] De-dollarization was the most controversial measures taken by the Siles Zuazo government and was based in the faulty premise that the demand for dollars was a flow demand for domestic transactions, ignoring the fact, that in a period of rapid inflation, the shifts in asset demand were more important. With a exchange rate controls and the uncertainty on the availability of dollars that came along, there was also a steeped up transactions demand for international purchases. De-dollarization was also presented as a form of debt-relief to strangled producers, and indeed it was!

Table 4

1983		1984		1985		1986		1987		1988	
Q1	111.5	Q1	336.2	Q1	349.9	Q1	5.8	Q1	0.7	Q1	0.7
Q2	102.8	Q2	73.8	Q2	346.8	Q2	2.1	Q2	1.1	Q2	0.7
Q3	237.4	Q3	304.9	Q3	852.6	Q3	1.1	Q3	0.8		
Q4	210.8	Q4	312.6	Q4	7.9[a]	Q4	0.9	Q4	1.2		

Source: Basic data from the Bolivian National Institute of Statistics
Notes: [a] Final month of quarter over final month previous quarter, at annual rates
[b] The stabilization program was announced on August 29, 1985

Inflation accelerated, after a short period of calm after Siles Zuazo inauguration. Siles Zuazo unable to redress the fiscal situation, whose severity was due to a great extent to the burden of the foreign debt service, continued the policy of heavily resorting to domestic credit. The monetary emission became endogenous to inflation and grew at very high rates. In that circumstance, the well know phenomena of the deterioration of fiscal revenues in real terms, and of the flight away from the peso occurred.[4] Tax collections steadily fell and in the first quarter of 1985 were less than 1.5 percent of GDP. With the public reducing their demand for pesos (in real terms), the base for the inflation tax declined. The government, therefore, to collect the same real resources with monetary emission had to increase its rate-of-growth, and a higher inflation rate followed. Since the economy was fairly "closed", because of the controls on foreign exchange and imports, monetary expansion meant essentially higher inflation. The public, indeed, was not any longer willing to accept pesos of financial assets denominated in pesos. Pesos were substituted by dollars, as "domestic" money to a great extent, although currency substitution was far from complete. For instance, most wages continued to be paid in pesos. The extent of de-monetization can be appreciated by observing that M1, the relevant

[4] Readers will recognize in the assertions above the familiar Cagan model (1956). There is some econometric evidence, provided by Sachs (1986) and Morales (1986) that lend support to the Cagan model and its extensions.

money supply figure, decreased in real terms by mid-1985 to less than one third of its value in the beginning of 1982, as can be observed in Table 5.

The Siles Zuazo government made at least six major attempts at stabilization. In all attempts, not unsurprisingly, exchange rate management was the most important measures, with steep devaluations of the official exchange rate. Steep hikes in administered prices usually complemented the devaluation. But, the government, unable to withstand the liquidity crunches and the labor unrest hat appeared in the trail of each stabilization program, caved in a few weeks after each program.[5] The uncompleted stabilization programs of Siles Zuazo aggravated the situation. In fact, it seems ex-post facto that more stubbornness in sticking to the objectives and a heavier dose of demand management, with tighter fiscal and monetary policies was needed. Siles Zuazo was too weak politically to carry a drastic stabilization program. It should be mentioned that two of Siles Zuazo stabilization programs were fairly orthodox and quite similar in content to the one of August 1985, that has stopped inflation.

High inflation was not the only manifestation of the economic crisis. In fact, and not independent of the inflation process, GDP growth rates were negative between 1982 and 1985. GDP declined in 11.3 percent between 1981 and 1985, while investment rates fell from 11.8 percent in 1981 to 7.1 percent in 1985. As a reflection of the foreign debt difficulties the import capacity declined at the staggering average annual rate of 14 percent between 1982 and 1985. This reduction in the import capacity is indeed an important explanatory factor of the fall in GDP and investment, but it is not the only factor.[6]

Perhaps inflation in itself could not explain the decline in activity, but the measures taken to suppress the symptoms of inflation, most of them of the form of official exchange rate and price controls, had strong welfare costs. The uncertainty that went along with high inflation had also a negative impact on investment and output. Exchange rate and price controls led to an enormous expansion of black markets. The economy went underground to a large extent and, therefore, the measured decline in GDP may not be in reality as high, since many productive activities went unrecorded. However, the informalization of markets had to

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5 The first stabilization program of Siles Zuazo was the most heterodox, with strong, albeit insufficient measures of fiscal correction and a well-defined and activist incomes policy. The program purported to obtain an "expansive stabilization". As time passed by, the stabilization packages became more orthodox.

6 In 1983, the economy suffered a supply shock, with a strong reduction in agriculture's output due to severe droughts in western Bolivia and uncontrollable floods i the eastern part of the country.

produce strong welfare losses because information was more difficult to obtain. Only the parallel market for foreign exchange systematically provided the information parameter that most economic agents needed for their pricing decisions. The parallel foreign exchange market functioned very smoothly, except on some rare occasions, usually following a stabilization attempt. The market was essentially an assets market, was very volatile and, thus, in spite of its transparency, had severe deficiencies as a guide for the entire price system.

Table 5

Nominal and Real Value of the Money Stock M1[a]

		M1[b] (Millions of current Bolivian Pesos)	Real M1[c] (Millions of 1980 Bolivian Pesos)
1982	Q1	17.995	11.162
	Q2	22.075	10.573
	Q3	31.420	9.914
	Q4	47.043	9.512
1983	Q1	61.586	10.056
	Q2	75.137	9.512
	Q3	92.099	8.121
	Q4	137.831	7.250
1984	Q1	206.522	6.478
	Q2	338.962	4.072
	Q3[d]	664.605	5.322
	Q4	2.092.363	5.610
1985	Q1	6.192.300	2.799
	Q2	18.433.295	3.250
	Q3	65.524.660	2.601
	Q4	150.975.080	3.816
1986	Q1	193.965.055	3.134
	Q2	214.846.445	3.201
	Q3	254.445.510	3.569
	Q4	315.876.790	4.324
1987	Q1[e]	362.970.900	4.780
	Q2	376.172.405	4.827
	Q3	413.953.350	5.271
	Q4	470.350.000	5.904
1988	Q1	479.350.000	5.973

Source: Central Bank of Bolivia, Statistical Bulletin, Several Issues

Notes: [a] Currency and demand deposits in Bolivian pesos

[b] Mid-quarter values (average of two quarter-end values)

[c] Mid-quarter value deflated by quarterly average of Consumer Price Index with base 1980=100

[d] Beginning of stabilization program

[e] The Bolivian monetary unit changed from the Bolivian peso to a new unit, the Boliviano, by chopping off six zeroes. For comparison purposes the data in the table is given in the old unit.

Table 6

Nominal and Real Wages, 1982 Q4 - 1987 Q2
(End-of-Quarter Values)

		Nominal Wages[a] (Current pesos)	Real Wages[b] (1980 pesos)	Real Wage[a] Index (Base 1980=100)
1982	Q4	28.771	5.223	94.3
1983	Q1	39.769	5.404	97.5
	Q2	41.431	4.537	81.9
	Q3	61.366	4.109	74.2
	Q4	122.150	4.752	85.8
1984	Q1	142.139	2.277	41.1
	Q2	375.600	3.739	67.5
	Q3	592.055	2.345	42.3
	Q4	4.552.002	5.048	91.1
1985	Q1	22.008.011	6.180	111.6
	Q2	49.050.852	3.421	61.7
	Q3	72.185.852	1.969	35.5
	Q4	235.008.250	4.000	72.2
1986	Q1	255.600.000	3.887	70.2
1987	Q1	279.800.000	3.593	64.9

Source: Basic data from UDAPE (1987), except for 1985-Q3, 1986-Q4 and 1987-A2. The numbers for 1985-Q3 have been recomputed by author using UDAPE (1987). The numbers for 1986-Q1 and 1987-Q4 come from World Bank, Bolivia Updating Economic Memorandum, 1988.

Notes: [a] The original UDAPE data from 1982-Q4 through 1985-Q2 have been multiplied by a factor of 7/6 to take into account extra bonuses. Those were suppressed in August 1985, with Supreme Decree 21060

[b] Nominal wages deflated by next month Consumer Price Index with base 1980=100

Real wages varied in a seesaw, with a tendency to deterioration as can be observed in Table 6. The seesaw pattern created a lot of social unrest, with many strikes and other forms of work stoppages. This of source affected directly the output levels and added to the surrounding uncertainty. Labor undisciplined, prompted itself in the inflationary process, was a major factor in reinforcing the inflation and in causing the fall in production. Labor unrest would however backfire to the unions with long-run political costs to them. By the end of the hyperinflation, the labor unions were completely discredited and this facilitated, in a very significant manner, the implementation of a drastic stabilization program.

Hyperinflation brought in very important changes in the distribution of wealth and income. Ironically, the biggest losers were the government and the public enterprises, which became completely decapitalized. Furthermore, inflation was regressive in regard to the distribution of income. The public had to undergo a learning process to fully anticipate inflation; in the meanwhile many people were heavily penalized, for instance, small depositors in the banking system. Also, the heavy subsidies implicit in the administered prices benefitted the few that had access to them, at the expense of those that were not able to easily evade the inflation-tax.

III. The Stabilization Program of August 1985

a. The Contents of the Stabilization Program

On August 29, 1985, the newly elected president Víctor Paz Estenssoro announced a far-reaching stabilization program. The stabilization program is contained in Supreme Decree No. 21060 (SD 21060 for short). The program is surprising for its broad scope and its simplicity. Exchange rate unification and stabilization, supported be very tight fiscal and monetary policies, are in the core of the program.

The mechanics for exchange rate unification show ingenuity: exchange rate operations can be freely performed, but the Central Bank sells foreign exchange in an auction open to the public. The bids for the central bank auctions are made in a sealed envelope. The Central Bank sets, before each auction, a floor price for foreign exchange and announces the amount for sale. Only offers higher or equal to the floor price are taken into account for the auction. The Central Bank buys foreign exchange from the public at the average price set in the previous day selling auction. The average price becomes then the official exchange rate. With this auction mechanism the Central Bank "guides" the foreign exchange market. The exchange rate premiums in the parallel market have rarely gone beyond 1.5 percent, after the second quarter of 1986 as can be observed going back to Table 4.

The unification of the exchange rates led to a huge 93 percent devaluation of the official exchange rate, immediately after the stabilization program was announced. This huge devaluation allowed a full backing with foreign reserves of the outstanding domestic money supply. The devaluation (and the administered price increases to which I refer below) reduced even more the already low dollar (and real value) of the stock of Bolivian pesos. A liquidity crisis ensued, since the public had to reconstitute their Bolivian money balances. This liquidity crisis allowed the constitution of foreign exchange reserves in the Central Bank, as the public had to dashboard dollars, and initiated a temporary de facto stabilization, that appeared first in the foreign exchange market and afterwards was transmitted to the other markets. The problem then became of how to sustain the effort. It is here that fiscal policy entered to play.

The fiscal correction component of the program was very drastic: with very steep increases in public prices, and therefore in the tax base, accompanied by a temporary freeze in public sector wages and investment. The initial fixing of the price of gasoline and other oil derivatives at international levels was the most important fiscal revenue measure. In addition, the government called for the payment of substantial back taxes owed by the state-owned petroleum enterprise Yacimientos Petrolíferos Fiscales Bolivianos (YPFB), adjusted at the new prices. As a result of these measures, revenues for the state petroleum enterprise YPFB increased, in real terms, more than 23 times between the third and the fourth quarter of 1985. Taxes for the general government, based on oil derivatives, increased in a similar proportion. This was not all, the YPFB revenues (as well as the revenues of other less important state enterprises) were deposited in the Central Bank and their use was tightly controlled by the Treasury. The controlled deposits became a factor of absorption of liquidity. This allowed an expansion of credit to the private sector, while maintaining the growth of total domestic credit within reasonable limits. The huge initial devaluation had also important fiscal revenue effects, because of the weight of foreign trade taxes in total government revenues, and the importance of exports for the public enterprises.

As a part of the fiscal package, wages in the public sector and public investment expenditures were temporarily frozen. About 10 percent of the employees inn the public sector were either dismissed or quit because of the prevailing low wages after the stabilization program. Furthermore, the state holding corporation of manufacturing enterprises Corporación Boliviana de Fomento was dissolved, and its properties were ceded to the regional development corporations, as an intermediate step in the privatization process. Smaller state owned companies were either dissolved or ceded to the municipalities.

Contrary to the Austral and Cruzado stabilization programs -that imposed price controls- the markets for goods, credit, and labor were almost completely liberalized. It has to be stressed that liberalization was viewed as an integral component of the stabilization program as well as a fundamental step for the adjustment program. Government interventions during the hyperinflation had tampered the price system so badly and given rise to enormous subsidies,mostly financed with money creation, that liberalization seemed to be a needed aide in the stabilization process.

Table 7

Nominal and Real Interest Rates, 1985-1988
(Percentages)

		Operations in Bolivianos				Operations in Dollars	
		Nominal Interest Rates[a]		Real Interest Rates[b]		Nominal Interest Rates[a]	
		Lending	Borrowing[c]	Lending	Borrowing[c]	Lending	Borrowing[c]
1985	Q1	540.0	336.0	-88.1	-91.9	n.a.	n.a.
	Q2	540.0	336.0	-98.2	-98.8	n.a.	n.a.
	Q3	379.5	120.0	144.8	12.3	18.0	10.0
	Q4	291.1	110.0	-22.2	-50.7	16.8	11.2
19856	Q1	222.3	129.5	127.9	62.3	20.2	12.2
	Q2	97.1	48.9	63.6	23.6	22.6	15.0
	Q3	78.6	39.7	70.6	33.6	22.2	14.9
	Q4	64.8	33.4	38.5	12.2	22.0	14.9
1987	Q1	48.8	28.9	39.0	20.4	21.9	15.1
	Q2	47.4	27.3	38.8	19.8	25.0	15.5
	Q3	53.5	31.0	51.3	29.1	32.1	18.1
	Q4	49.4	29.2	36.2	17.8	30.0	17.8
1988	Q1	42.6	27.3	3.5	-7.6	27.1	17.4
	Q2	41.3	27.2	n.a.	n.a.	26.1	17.3

Source: Basic data from Central Bank of Bolivia, Statistical Bulletin, Several Issues, and from Afcha and Huarachi (1987)

Notes: [a] Linear annualized interest rates at end of quarter
[b] Real ex-post annualized interest rates. They have been computed according to the formula: {[(1+i)*(P(t)/P(t+1))**4]-1}*100, where i is the relevant nominal interest rate and P(t) is the Consumer Price Index in quarter t
[c] Average rates for time deposits

The program of August 1985, has been followed by several deep reforms intended to consolidate the stabilization process. Among the reform, those aimed at strengthening the public finance have received top priority, for instance the tax reform of mid-1986 and the reorganization of public enterprises.

In January 1987, Bolivia changed its monetary unit from the Bolivian peso to the Boliviano. This currency reform did not play any role in stabilization, except the minor one of facilitating the accounting of domestic transactions.

What role, if any, had the (illegal) cocaine foreign exchange proceeds in the stabilization program? In this context, Article 142 of DS 21060 has been the subject of heated controversy, in Bolivia and elsewhere. Some critics in the Bolivian press claimed that the phrasing of Article 142 to implied a permission to launder illegally obtained dollars in the windows of the Central Bank and in the domestic private banks. Those dollars allowed a steady supply to the public, stabilizing thereby the exchange rate. As a proof of this claim, they pointed out to the substantial positive quantities registered under the heading of "Errors and Omissions" in the Balance-of-Payments. However, this interpretation of "Errors and Omissions" should be subjected to a more careful scrutiny once more data is available. While the numbers in "Errors and Omissions" may contain some of the dollar proceeds of illegal activities, they include more than that, for instance, unhoarded dollar bills out of the huge stock that the public maintained domestically during the hyperinflation, and incompletely recorded repatriations of capital.

b. The Results of the Stabilization Program

The inflation stabilization record since February 1986 to date is indeed very impressive. See again Table 3 and Figure 1 in order to appreciate the dramatic fall in inflation. It took no more than two weeks to temporally stop inflation.

Unfortunately, shortly after the stabilization program was announced, the Bolivian economy suffered a strong and adverse external shock. In the last quarter of 1985, the international tin market collapsed and, in addition, the public could already foresee the impending crisis in the energy market. The fall in terms-of-trade was a huge 18 percent, as was seen in Table 1. This weakening of the external sector, aggravated moreover by a wrong handling of the auction mechanism for foreign exchange in the Central Bank, affected expectations and, hence, the demand for foreign exchange. This and some untightening of control on the expenditures of the public enterprises, plus a seasonal increase in the money base to finance the traditional Christmas bonus in the public sector, rekindled inflation in December 1985 and January 1986. (With monthly inflation rates of 16 and 33 percent respectively). Those two months were the most dangerous months for the stabilization program.

In the last week of January 1986, the government decided to tighten again, with a stronger dose, its monetary and fiscal policies. For instance, legal reserve requirements in the banking system were temporarily increased and government employees went unpaid for a while. The Central Bank announced, at the same time, that it would increase almost five times its daily supply of dollars to the auction mechanism. Almost immediately, all speculative bubbles disappeared and a nominal appreciation of the peso in 18.3 percent was obtained, vis-à-vis the rate prevailing the month before. Prices followed the exchange rate and they either stopped increasing or even decreased. It is important to note, for subsequent effects, that domestic prices did not decrease however in the same proportion as the price of the dollar. It should be also noted that a shift in the stabilization policy occurred, namely, the change in the price anchor from announced checks in the rate of expansion in monetary emission to the exchange rate. Exchange rate stability became a cornerstone of the over-all stabilization process, while in August 1985, the policy was that of an accommodating realistic exchange rate.

A mention should be made of the political context to carry out stabilization. First, there is no doubt that the social demand for stability and order was very strong. Second, the mismanagement of the economy during the Siles Zuazo administration had completely discredited the parties in the left of his coalition and their allies in the labor unions. The calls of the labor unions to oppose stabilization went mostly unheard. Last, but not least, Paz Estenssoro party, the center-right MNR, signed a pact with the rightist party, ADN, of former President Hugo Bánzer. The pact allowed close cooperation in congress, crucial for the needed supporting legislation. A significant share in the stabilization success can be attributed to this pact.

The return to internal price stability has allowed Bolivia to regain access to the lending of official, bilateral and multilateral creditors. From September 1985 to December 1987, the new loan commitments amounted to U$ 1,300 million. However only a small fraction of the commitments has actually been disbursed. In June 1986, nine months after the stabilization program had begun, Bolivia reached a stand-by agreement with the International Monetary Fund (IMF); a Compensatory Financing Facility shortly followed. The fiscal deterioration in 1987, unfortunately precluded a complete fulfillment of the stand-by agreement. More recently, in May 1988, negotiations for a Enhanced Structural Adjustment Facility were crown with success. In regard to the outstanding foreign debt, Bolivia is current in her payments to official multilateral creditors, and has rescheduled a significant portion of her debt with official bilateral creditors in the Paris Club. A scheme of debt buy-back, that implies a substantial cancellation, has recently been agreed with the foreign commercial banks.

While the benefits of the stabilization program seem clear, the evaluation of the costs in terms of foreign output and employment are more difficult. The effects of the external shocks, concomitant with the beginning of the program and the overhang of the low growth, low investment rates, of the hyperinflation period, could the picture. The economy decreased in 2.6 percent in 1986, and open unemployment increased from 18 percent to 20 percent.[7] But what fraction of this deterioration can reasonably be attributed to the stabilization program?

It is useful to distinction between the supply and the demand effects of stabilization. It can be reasonably argued that the inflation stabilization had important positive supply-side effects. As the set of relative prices started to truly reflect scarcities, a better allocation of resources resulted; moreover, informal markets became formal, with evident efficiency gains. In regard to the labor market, in a predominantly agrarian society, the unemployment effects of stabilization, based on analysis of the Phillips curve may not be appropriate. The number of sectors with salaried workers, where problems of nominal wage rigidity could have been present, is relatively small. Aggregate supply problems had other sources, mainly related to the functioning of the price system and the availability of foreign exchange (and therefore the capacity to import). Import capacity increased in 1986 (in 37.5 percent), in spite of the fall in export revenues, because they were more than compensated with new disbursements of foreign loans. Had aggregate demand stayed constant, the economy should have grown after stabilization.

There is no doubt that the terms-of-trade shock had an enormous impact on aggregate

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7 The unemployment figures, although based in official sources, are very tentative. Hard data on unemployment is very difficult to obtain. In countries like Bolivia without unemployment benefits schemes, laid-off workers of established enterprises shift to lower paying, unstable jobs, and hence they still have employment! More important than the quantity of

demand, as well as on the output of the most directly affected sectors, hydrocarbons and especially mining. The solutions for the long-term structural problems of the mining sector, including substantial overstating, became urgent once the collapse of the thin market occurred. The market collapse and the end of the hyperinflation indeed precipitated a drastic solution, that led to the dismissal of 23,000 miners, out of 30,000 in the state-owned Corporación Minera de Bolivia. An unknown, but presumably substantial, number of miners were also laid-off in the privately operated mines. In the turmoil following this drastic reform, output fell 26 percent in 1986, as can be observed in Table 9. In the hydrocarbons sector, output was reduced in 4 percent.

Table 8

Real Exchange Rate, 1985-Q4 - 1987[a]

		Real Exchange Rate (In Bolivianos of 1985-Q4)	Real Exchange Rate Index (Base 1985-Q4=100)
1985	Q4	1.3	100.00
1986	Q1	1.2	95.3
	Q2	1.1	86.7
	Q3	1.1	82.4
	Q4	1.1	81.4
1987	Q1	1.0	80.4
	Q2	1.1	82.7
	Q3	1.1	85.2
	Q4	1.1	87.3

Source: Elaborate with basic data from International Monetary Fund, International Financial Statistics, March 1988, and Central Bank of Bolivia, Statistical Bulletin, several issues

Note: [a] Bolivian monetary unit (Boliviano) per U$ dollar, adjusted for differentials in U$ Wholesale Prices and Bolivian Consumer Prices. A fall in the real exchange rate signifies real appreciation

The decrease in private consumption observed in 1986 may be explained mainly by the fall in Gross National Income resulting from the substantial deterioration of the terms-of-trade. The reduction in real wages was also a factor, although less important than initially presumed. Real wages took an initial dip but they recovered their pre-stabilization level in December

jobs lost is the fact of a deterioration in the quality of the jobs.

1985; in government employment the recovery has not proceeded at the same pace as in other sectors of the economy. The fall in government consumption and investment can be directly attributed to the stabilization program. Notice, however, that the shift from the inefficient inflation tax to the efficient explicit taxes should not, ceteris paribus, have reduced total consumption.

The initial very tight monetary policy embodied potentially receive consequences: very high interest rates, followed afterwards by significant increases in the private sector indebtness. Exchange rate overvaluation, mainly spanned by the monetary policy, came also a few months after the stabilization program went into effect, as can be observed in Table 8. A shift in the composition of consumption between domestic and foreign goods also occurred. As is shown in Table 10 there has been a jump in imports, mostly of the consumer type, in the two years following the announcement of the stabilization program.

The data in Table 9 seems to lend support to the contention that there was a strong reduction in the demand for non-tradeables. Notice the big reductions in the construction and services output. Output in those sectors is essentially determined by demand. It is true that the fall in the production of minerals and hydrocarbons, caused by the external shock, had also a derived demand effect on the non-tradeables, but the direct effects of the stabilization program in their demand, had to be more important. The dismissals of government employees very directly contributed to the decrease in the services sector. The government lost almost 18,000 of its workers in the 15 months following the stabilization program.

Investment rates did not decrease after the stabilization program started. Public investment was initially frozen and afterwards was penalized by the temporary disorganization brought about by reductions in government personnel. Private investment grew, but very timidly, because of the extremely high real interest rates. The parsimonious public investment and the high interest rates negatively affected the construction output.[8]

The costs of stabilization were not distributed evenly; the social costs were high. Those that lost their jobs, in stable and relatively well paid positions, were the most direct victims. For instance, the number of workers enjoying health insurance and social security benefits

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8 Notice the parallelism of some of the arguments above with the ones used by Wicker (1986), in his study of the aftermath of

declined from 343,000 in 1985 to 319,000 in 1986, i.e. 24,000 workers representing 2.2 percent of the urban labor force. In addition, there were other costs, that appeared in somewhat more subtle ways. Unfortunately, many of the conclusions below are based on informed presumptions, given the lack of data. It appears that the costs of the stabilization program fell more heavily on those citizens that depended from government employment and public expenditure.

The availability and quality of public services suffered a great deterioration, especially those in labor-intensive services like public education and health. Under the assumption that the poor benefit in a great proportion than the rich from those government services, especially of those like education and health, their deterioration therefore penalized them. This cumulative loss in the quality of the services has been labeled "social debt".

Table 9

Economic Growth and Employment

	Annual Average 1981-85	**1986p**	**1987p**
Growth Rates %			
Gross Domestic Product at Market Prices	-2.1	-2.9	2.2
Agriculture	3.5	-4.7	-0.2
Hydrocarbons	0.0	-4.0	2.3
Mining	-9.9	-25.9	-21.4
Manufacturing	-9.7	2.1	7.2
Construction	-6.9	-7.9	5.6
Services I	-2.3	3.7	5.8
Services II	1.5	-3.0	1.7
Labor Force	2.5	4.1	n.a.
Labor Market Participation Ratio (%)	70.2	70.5	n.a.
Unemployment Rate	13.5	20.0	n.a.
Underemployment Rate (%)	54.9	57.3	n.a.

Source: Basic data from Central Bank of Bolivia, Statistical Bulletin No. 259, June 1987, and UDAPE (1987)
Notes: * Services I includes commerce, communications, electricity, gas and water, and banking and

the European hyperinflations.

other financial serviced
** Services II includes housing, central and local government services, and personal services

Table 10

Current Account Balance
(In Millions of U$)

	1980	1982	1985	1986[p]	1987[p]
Current Account Balance	-7	-176	-282	-400	-450
In which:					
Trade Balance	264	250	72	-165	-312
- Exports FOB	942	828	623	547	454
- Imports CIF	-678	-578	-552	-712	-766
Memorandum Items:					
Current Account Deficit					
(As % of GDP)[a]	0.2	4.5	7.5	10.6	11.2
Central Bank Foreign Exchange					
Reserves (Net)	-102	-437	137	247	161

Source: Central Bank of Bolivia, Statistical Bulletin, No. 259, June 1987, UDAPE (1987), and Afcha and Huarachi (1987)
Notes: [a] See Table 3 for source of GDP values in current dollars
[p] Preliminary

In 1986, the Bolivian government, with the financial cooperation of the World Bank and several friendly foreign governments, established a Social Emergency Fund, with the purpose of alleviating the worst consequences of unemployment and, more generally, poverty. The Social Emergency Fund has been very successful in meeting its objectives, especially in regard to temporary employment, and in garnering foreign aid.

IV. The Prospects and Problems after Stabilization

After almost three years of implementation of the stabilization program, the dramatic and sustained fall in the inflation rate is the outstanding gain. However, some of the old development problems remain and new problems have surfaced. The recovery of the economy has been slowlier than was expected, when the stabilization program was announced, and more important signs after the initially planned slump, in terms of output growth and employment, have yet to appear.

The resumption of growth has proved to be more difficult than to stop inflation, due in no small part to interest rate, exchange rate, and fiscal problems.[9] High interest rates and some degree of exchange rate overvaluation seem to be part parcel of (temporarily?) successful stabilization programs. For problems of this type high inflation stabilization, see e.g. Dornbusch (1987) and Sargent (1982).

There is no doubt that high interest rates are impeding recovery and represent a threat to

9 High interest rates and exchange rate overvaluation are not, of course, independent phenomena. The connections between

the stabilization program. During the hyperinflation years, lending and borrowing interest rates were negative in real terms. This produced a very substantial debt liquidation, but at the same time destroyed the mechanisms of financial savings. Given the extremely tight policy followed in the stabilization aftermath, real interest rates soared, but they started to decline in 1986 and the first half of 1987; however, in the second semester of 1987 real ex-post interest rates, as well as interest rates for dollar-linked loans started to increase again. (See again Table 7 for estimates of real interest rates). The unexpected high inflation rate of the second quarter of 1988 made negative the ex-post real interest rates for boliviano deposits and loans, but this seems to be a very transitory phenomenon.

The extremely high interest rates that have followed the stabilization program have created a severe deterioration of the loan portfolio of several banks. The rapid accumulation of debt in the domestic private sector, moreover of the distress financing type, has produced both the bankruptcy of three small banks, in a system comprised by 17 banks, and of several important industries. The situation of the Bolivian banks is compounded by the fact that most of their time deposits are, first, in dollars or are dollar-indexed, and, second, have very short maturities. This "parking lot money" adds vulnerability to the banking system.[10]

Table 8 gives some estimates of the real exchange rate based on bilateral price comparisons. It will be noticed there a real appreciation of the Bolivian currency unit in 1986 and 1987 vis-à-vis the situation prevailing in the last quarter of 1985. A slight correction has been in operation in the last months. The figures in Table 8 deserve caution: admittedly they are a first approximation.

The simultaneous opening of the current and capital accounts of the Balance-of-Payments initially produced an almost simultaneous deterioration of the current account and a very important capital repatriations. Until mid-1987, the Central Bank had to intervene to avoid a revaluation of the Boliviano. A substantial fraction of the current account deficits of 1986 and 1987 was financed with these capital repatriations. However, in the second semester, the wind changed and the Central Bank started to lose foreign exchange reserves. The Argentinean payment delays for her natural gas purchases from Bolivia was a major

the two in Bolivia have been examined with econometric methods by R. Morales (1988).

10 A financial sector loan secured by Bolivia from the World Bank in May 1988 may, however, mitigate some of the worst conditions.

explanatory factor of this situation. With the resumption of the Argentinean payments and the tightening, once again, of fiscal and monetary policies, the situation has improved in the first semester of 1988.

The use of the exchange rate to keep inflation low has indeed high medium-term costs as has been stressed by Dornbusch (1986a) and Dornbusch (1986b). But, a more rapid depreciation of the exchange rate before inflation stabilization is fully consolidated may be also unwelcome as is pointed out by Sachs (1987a). The Bolivian authorities are indeed facing a tough policy dilemma in the management of the exchange rate and there is no easy way out at sight.

In the year following the announcement of the stabilization program, the consolidated public sector deficit was as low as 4 percent of GDP; preliminary estimates for 1987 showed a jump upwards to 6 percent. The fiscal woes of 1987 were very much related to the payment lags by Argentina, that negatively affected tax collections related to foreign trade. This situation has very significantly improved in the first semester of 1988, and fiscal equilibrium has been restored on the main. But, as a reflection of the fiscal problems of 1987, the government was not able to official foreign loans. The delay in mobilizing the contracted foreign credits has been one the main obstacles to economic recovery.

A mounting pressure from the public obliged the government in July 1987 to announce a comprehensive package to reduce the obstacles to recovery. The general objectives of the recovery package, as stated in the reactivation decree SD 21660 are: first, to expand aggregate demand through the expansion of non-traditional exports, to this end a set of incentives was granted; second, to reduce the internal administrative obstacles that impede a rapid disbursement of the contracted foreign loans; and, third, to correct the situation of the private financial sector in order to have the banks in a position to safely intermediate the foreign loans destined to the private sector. The results of the reactivation measures are still well below expectations.

The stabilization program has been accompanied by some flares of social unrest, but they have been mostly controlled. However, the stabilization with the high costs of keeping inflation low, without a true recovery of the economy, has found political outlets. In the municipal elections of December 1987, Dr. Paz Estenssoro's party has obtained a poor third place in the largest cities. Bolivia is entering now a year of Presidential elections, that on the one hand reinforces the unblemished democratic record of the last six years, but on the other hand introduces some uncertainty among private investors, delaying investment and economic recovery.

V. CONCLUSIONS

Several conclusions can be drawn from the Bolivian experience with hyperinflation and stabilization:

1. High inflation was essentially a monetary phenomenon, where a falling demand for money interacted a growing nominal supply of money. The money expansion was fueled by a extremely weak fiscal sector, unable to collect genuine taxes, reduce expenditures, or borrow abroad to finance its deficits. Inflation itself weakened the fiscal revenues.

2. The rigidity in expenditures came mainly, but not exclusively, from the need to service

a large foreign debt, monthly accumulated during the supposed years of bonanza of the 1970s. The service of the foreign debt, coupled with almost no disbursements of new debt, led to very significant transfers of income abroad.

3. The parallel market exchange rate played a crucial role during the whole period of hyperinflation, as many domestic prices became indexed to it. It is no wonder therefore that exchange rate stabilization played a central role in the over-all stabilization process. Exchange rate stabilization was very rapidly obtained with a very tight monetary policy, and possibly, with some help of the laundering of dollars coming from the illegal cocaine traffic.

4. The fiscal correction package was crucial in <u>sustaining</u> the process. Given the difficulties of obtaining foreign loans, when the stabilization program begun, and the absence of an internal capital market, a tight monetary policy would have been impossible, without an accompanying fiscal correction. The state-owned petroleum enterprise YPFB was fundamental in redressing the fiscal situation

5. The stabilization program was accompanied by a package of ample liberalization program. Most price controls were abolished. This contrasted with the Austral and Cruzado plans. In a hyperinflation situation, and not just of high inflation, when almost all peso contracts had disappeared and the dollar had become the numeraire, the stabilization of the exchange rate in a context of opening up the economy to imports sufficed to reduce very significantly the fluctuations in domestic prices.

6. The real costs of inflation were very high. Inflation, the attempts to check it with price controls, and external constraints had important supply side effects that resulted in heavy losses in output, GDP decreased very substantially.

7. The government willingness to stick to its tight fiscal and monetary policies, however the political and labor opposition, explains in no small part the success at stabilization.

This continuity in policy was possible by the political agreement between the two largest parties, and by the extreme weakness of the labor movement, whose prestige had been eroded during the hyperinflation years. It must also said that the high unemployment rates labor activism more difficult.

8. Bolivia suffered several external shocks after the stabilization plan started, and this may explain the initial aggravation in unemployment and, afterwards, the slowness in economic recovery. The debate on the costs of stabilizing is not yet closed because of the presence of those disrupting shocks.

9. Bolivia needs to consolidate its inflation stabilization with economic growth. Otherways, the current de facto stabilization, with inflation kept at bay with overly restrictive fiscal and monetary policies, because there is no other medicine, is too vulnerable to external and supply shocks. Bolivia needs a recovery of its export sector and even more international cooperation to be able to make the transition from stabilization to growth.

10. The maintenance of macroeconomic and political stability is crucial to achieve sustained rates of growth, but also some imaginative measures are needed to protect the most vulnerable groups. The Social Emergency Fund has undoubtlely done a lot, but more is still needed. Macroeconomic stability requires to lock-in the inflation stabilization, to broaden the tax base, a realistic exchange rate, and normalization of access to selected international capital markets, that ultimately will lower interest rates. Most of those requirements are still far to be met. Political stability requires an imaginative incomes policy, and a more active public expenditure policy to solve the problems of accumulation of a social debt. Given the prevailing fiscal constraints and the political cycle, the achievement of political stability is indeed a tough challenge.

The rather uncommon Bolivian experience with hyperinflation an stabilization has several lessons that can be applied to other countries. These lessons fit the pattern of other hyperinflations. However, there are also circumstances that were very peculiar to Bolivia.

Among those were the structural frailty of the economy and the extreme political instability of the pre-crisis years. Those factors explain to a large extent what happened afterwards.

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