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Adjustment and Growth in a Hyperinflation:
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I. Introduction

The main purpose of this paper is to examine the problems of external adjustment and of resumption of growth following the hyperinflation stabilization in Bolivia. The paper addresses a variety of questions concerning stabilization with liberalization, simultaneity in the liberalization of the current and capital accounts of the Balance-of-Payments, the costs of stabilization, the overhang of the hyperinflation in impeding economic recovery, and the possible conflicts between inflation stabilization and external adjustment. The discussion is entirely based in the Bolivian experience, but I believe that some of the conclusions may have a more general character.

Bolivia experienced between April 1984 and August 1985 the rather uncommon disgrace of hyperinflation. In those seventeen months, prices increased by a factor of 625. The hyperinflation was abruptly stopped in late August 1985 with a shock orthodox program supported by tight monetary and fiscal policies. The year of 1987 ended with an annual inflation rate (December to December) of only 10.6 percent. It should be stated from the outset that the August 1985 program is not only a stabilization program but it also includes a broad package of policy reforms with the avowed finality of freeing markets. The Bolivian hyperinflation and stabilization have received significant attention in academic as well as in policy-making circles (See, for instance, Sachs (1986), Sachs (1987), Kiguel and Liviatan (1987), Bernholz (1987), Morales (1987a), Morales (1987b), and Morales (1987c)).

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Good results in the inflation front have not been accompanied, unfortunately, by a true recovery of the economy. Thirty months after the announcement of the stabilization program, definite signs of growth are still missing. As worrisome, external adjustment seems to be quite far from being achieved. An update on the economic situation after two years of stabilization effort seems to be necessary and is thus provided in the paper.

The paper is organized as follows. In Chapter II a review of the hyperinflation period is given and some thoughts are dedicated to the welfare costs of high inflation and their long-run overhang. Chapter III provides the main elements of the stabilization program and the package of policy reforms, and the results to date. In Chapter IV, I examine the outstanding problems of economic recovery and the recent economic policy measures taken to hasten it. Some considerations on the long-term prospects of the economic reconstruction are also included. Chapter V gives the main conclusions.

II. The Economic Crisis and 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 already showed up in 1978-1979. The most revealing signs were related to the extreme vulnerability of the export sector and the lack of adaptability of the economy to external shocks. Moreover, the economic structure was heavily tilted towards the production of non-tradeables. In the 1970s, significant efficiency losses in the use of capital had also occurred and Bolivia had substantially increased her foreign indebt ness. Furthermore, to compound the problems, an illegal economy, based on the production of cocaine and other derivatives of coca leaves, strongly surged in the mid-1970s. The coca based economy has had a marked impact in the development of the Bolivian economy in the last decade, with mostly negative effects.

In 1979, GDP growth rates started a steady decline to the point of becoming negative in 1982. The deterioration of the economy heavily interacted with the political turmoil of the period 1979-1982. It is in this context of declining economic activity, that high inflation made a very strong appearance in 1982. The accumulation of fiscal deficits since the mid-1970s, that could be financed by making appeal to the foreign debt, was the ultimate cause of the eclosion of the hyperinflation, while the proximate cause was the sudden reversal i the net resource transfers from abroad. The high fiscal deficits themselves were very much related to the development model followed in the previous thirty years as described in Section IV below.

The importance of the external debt and the net resource transfers abroad in triggering the crisis can be appreciated in Table 1. Notice in Table 1 the high degree of Bolivia's indebtness in regard to the size the economy and exports. Creditworthiness was already an issue in 1980, whose severity increased by 1982. In 1982, the beginning year of high inflation, a 2.4 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 (5.3, 3.0, and 3.5 percent of GDP in 1983, 1984, and 1985 respectively). Moreover, the high inflation crisis itself was preceded by very significant capital flight (about 10 percent of GDP in 1980), especially associated with political uncertainty in the period going from 1978 to 1981 and by severe exchange rate overvaluation. It should be noticed that Bolivia had faced debt repayment difficulties already in 1980. 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 term structure of its debt with the commercial banks, coupled with the sharp increase in international interest rates in 1981-1982, produced the large transfers abroad mentioned above. Moreover, actual net resource transfers from the official multilateral lending agencies were also negative from 1983 to 1986.

Table 1

Bolivia's External Debt, 1980-1986
(Millions of U$ Dollars)

	1980	1982	1985	1986[p]
Total External Debt	2.701.0	2.169.0	4.143.2	4.619.1
Long-Term Debt	2.320.6	2.897.9	3.744.9	4.077.6
Public and Publicly Guaranteed	2.228.6	2.769.1	3.189.9	3.522.6
Private Non-Guaranteed	92.0	128.8	555.0	555.0
Use of IMF Credit	80.4	86.1	51.3	144.5
Short Term Debt	300.0	185.0	347.0	397.0
Public External Debt (% of GDP)[a]	62.9	71.2	84.4	93.2
Public External Debt (% of Exports)[a,b]	312.1	301.4	432.6	516.1
Public Debt Service	290.3	287.1	242.1	160.8
Interest Payments	163.9	181.0	100.0	86.7
Principal Repayments	126.4	106.1	142.1	74.1
Public Debt Service (As % of Exports)[b]	27.8	31.3	32.8	23.6
Public Debt Service (As % of GDP)	8.2	7.4	6.4	4.3
Memorandum Items:				
Net Resource Transfers[c]	178.2	-92.7	-131.9	138.4
Net Resource Transfers (As % of GDP)[c]	5.0	-2.4	-3.5	3.7
Gross Domestic Product (GDP) in Current Dollars	3.544.0	3.890.7	3.781.5	3.779.5

Source: Basic data from World Bank, World Debt Tables, 1986-1987 Edition
Notes: GDP values are derived from GDP values in current Bolivian pesos divided by a PPP exchange rate
[p] Preliminary
[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

Bolivia did not suffer a terms-of-trade loss between 1980 and the third quarter of 1985, as many of the neighboring countries did. On the contrary there was a light improvement. The big fall in terms-of-trade would come after the current stabilization program had begun in August in 1985. Table 2 yields the relevant figures on the evolution of key external and domestic prices.

Table 2

Evolution of Key Prices
(Annual Rate of Change, Percentages)

	Average 1981-85	1986[p]	1987[p]
Domestic Prices			
Consumer Prices	610.9	276.3	14.2
Energy Prices[a]	690.5	307.8	0.9
Foreign Sector			
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
Terms-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	n.a

Source: Basic data from domestic prices and exchange rates is derived from 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.

Notes: [p] Preliminary
[a] Average domestic price of all derivatives

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 1980-1981. The reserve losses were aggravated by a substitution of foreign loans by domestic credit to finance a relatively rigid level of public expenditure. In a country like Bolivia, with very shallow financial markets, domestic credit growth meant essentially, but not exclusively, an expansion of the money base. Given the very low level of foreign exchange reserves, the military government of 1982 adopted a dual exchange rate regime, with an official exchange rate reserved for a handful of transactions in both the current and the capital account in the Balance-of-Payments; and a floating rate applicable to all other transactions in the uses side. Exporters were obliged to surrender 40 percent of their proceedings to the Central Bank at the official rate of exchange. The peso depreciated very rapidly, anyway more rapidly than excepted, in the parallel market. The rapid depreciation gave a strong push to inflation and caused an increase in the implicit tax to exporters embodied in the dual system. To evade this tax, exporters withheld their sales of foreign exchange to the Central Bank as much as they could. In doing so, they reduced at the same time their direct tax payments. With less foreign exchange holdings and less tax revenue, the government resorted increasingly to more internal credits. In this context, the stage was set for the acceleration of inflation.

b) The Hyperinflation

When the democratic government of Siles Zuazo was installed in November 1982, the economy was already suffering a significant deterioration. Indeed, the difficult economic conditions had prompted the military to yield power to a civilian government. High inflation reached hyperinflationary proportions in 1984. Between April 1984 and August 1985, prices increased by a factor of 625. The data in Table 3 and Figure 1 depict some of the main features of the hyperinflation. Bolivia's inflation was the only case of true hyperinflation in Latin American history.

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 were imposed and dollar and dollar-denominated contracts among Bolivian residents were converted to peso contracts, in the so-called "de-dollarization measure". The measure aimed to ease the pressures against the peso in the domestic foreign exchange market.[1] The objective of a unified fixed foreign exchange rate

[1] De-dollarization was the most controversial measure 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!

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.

Table 3

Quarterly Inflation Rates, 1983-1987[a]
(Percentages at Annual Rates)

1983		1984		1985		1986		1987	
Q1	136.5	Q1	610.4	Q1	126.259.9	Q1	325.6	Q1	18.9
Q2	122.9	Q2	3.765.6	Q2	5.265.3	Q2	41.4	Q2	7.9
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: Elaborated with basic data from the Bolivian National Institute of Statistics
Notes: [a] Final month of quarter over final month of previous quarter, at annual rates
[b] The stabilization program was announced of August 29, 1985

Table 4

Premiums in the Parallel Foreign Exchange Market, 1983-1987
(Percentages, Average over Quarter)

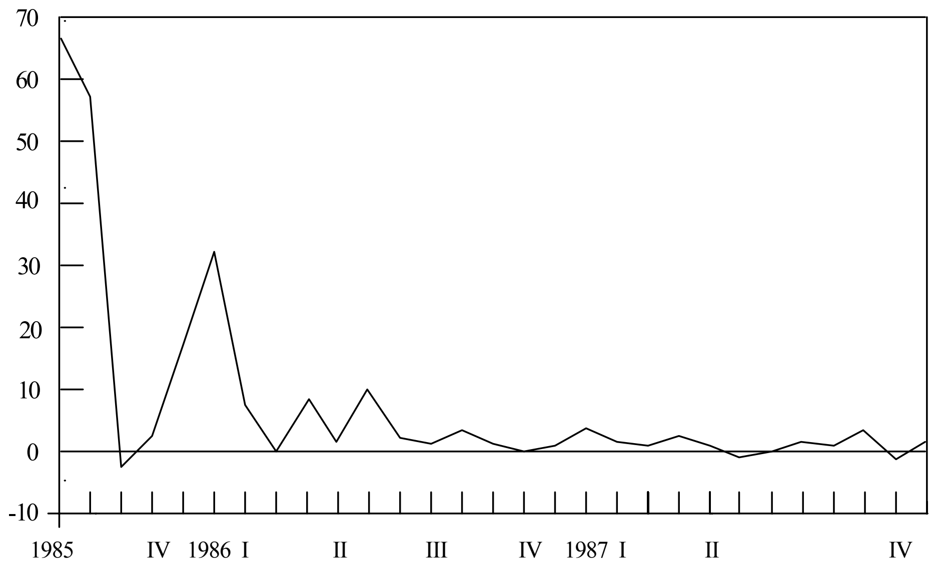
1983		1984		1985		1986		1987	
Q1	111.6	Q1	336.2	Q1	349.9	Q1	5.8	Q1	0.7
Q2	102.8	Q2	73.7	Q2	346.8	Q2	2.1	Q2	1.1
Q3	237.4	Q3	304.9	Q3	852.6	Q3	1.1	Q3	0.8
Q4	210.8	Q4	312.6	Q4	7.9[a]	Q4	0.9	Q4	1.4

Source: Elaborated with basic data from the Bolivian National Institute of Statistics
Notes: [a] The stabilization program was announced of August 29, 1985

Inflation, after a short period of calm after Siles Zuazo inauguration accelerated. Siles Zuazo unable to redress the fiscal situation, whose severity was due to a great extent to the burden of the foreign debt service, had to resort increasingly to domestic credit. The monetary emission became endogenous to inflation, and the well known phenomenae of the flight away from the peso and the deterioration of fiscal revenues in real terms occurred.[2] The Siles Zuazo government made at least six major attempts at stabilization. In all attempts, not unsurprisingly, exchange rate management was in the core, with steep devaluations of the official exchange rate as a first step. But, the government, unable to withstand the liquidity crunches that appeared in the trail of each stabilization program, gave up a few weeks after each program. In fact, it seems <u>ex-post facto</u> that more stubbornness in sticking to the objectives and a heavier dose of demand management, with tighter fiscal and monetary policies was needed.

Figure 1

Monthly Inflation Rates
August 1985 - December 1987



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.[3] The uncompleted stabilization

[2] 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 Cagan model and its extensions.

[3] 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.

programs of Siles Zuazo aggravated the situation.

c) The Real Effects of High 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.[4]

Perhaps inflation in itself could not be conductive to a decline in activity, but the measures taken to suppress the symptoms of inflation had strong welfare costs. Exchange rate and price controls led to an enormous expansion of black markets. The economy went underground to a large extent and the measured decline in GDP may not be in reality as high since many productive activities were unrecorded. However, the informalization of markets had to produce strong welfare losses because information was more difficult. The lack of fluent information, led to a more defensive price-setting behavior by producers and traders than otherwise. The parallel market for foreign exchange provided however an extremely important exception to the assertion given. This market functioned very smoothly and in a very flexible manner, except occasionally. The parallel market exchange rate provided an information parameter for almost all markets (it was a numeraire), but it was not the only one. Gasoline prices were another one.

The uncertainty that accompanied the high inflation process favored financial speculation at the expense of long-run investments. The uncertainty bore on the availability of foreign exchange needed for imported inputs at the official exchange rate for producers, on the official and parallel market exchange rates, on the possibility of sharp disinflation, and, last but not least, on the political conditions. Speculators with access to foreign exchange, at the official exchange rate, and to heavily subsidized credit could make very quick profits. The

[4] In 1983, the economy suffered a supply shock, with a strong reduction in agriculture's output due to severe droughts in western

possibility of making quick above-normal profits with access to subsidized foreign exchange and credit, was indeed a deterrent to entrepreneurial activity. In fact, the opportunity cost of productive investment was given by profits in speculative activities. Uncertainty coupled with the sharp reduction in access to foreign financing led to a nose dive in the investment rates.

Table 5

Real Wages, 1982.Q4 - 1986.Q4

	Real Wages[a]	Real Wage Index (Base 1980=100)
1980 Q4	4.504	81.3
1983 Q1	5.020	90.6
Q2	4.280	77.3
Q3	3.929	30.9
Q4	4.462	80.5
1984 Q1	3.180	57.4
Q2	3.371	60.8
Q3	3.199	57.7
Q4	7.302	131.8
1985 Q1	5.921	106.9
Q2	4.876	88.0
Q3	3.751	67.7
Q4	4.558	82.3
1986 Q1	4.023	72.6
Q2	4.180	75.4
Q3	4.325	78.1
Q4	4.476	80.8

Source: Basic data from UDAPE (1987)

Note: [a] In Bolivian pesos of 1980. Nominal wages at end-of-quarter deflated by the Consumer Price Index of last month of quarter

Real wages varied in a seesaw, with a tendency to deterioration as can be observed in Table 5. The seesaw pattern created a lot of social unrest, with many strikes and other forms of work stoppages. This of course affected directly the output levels and added to the surrounding uncertainty. Labor undiscipline, prompted itself in the inflationary process, was a major factor in reinforcing the inflation and 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 successful stabilization program.

Bolivia and uncontrollable floods in the eastern part of the country.

Hyperinflation brought in very important changes in the distribution of wealth and income. It took a learning process to fully anticipate it and in the meanwhile many uninformed people were heavily penalized, for instance, small depositors in the banking system. More importantly, the heavy subsidies implicit in the administered prices benefited the few that had access to them, at the expense of those that were not able to evade the inflation-tax. Inflation was indeed regressive. Ironically, the biggest losers were the government and the public enterprises, who became completely decapitalized.

It is important to underscore that, by the final months of the Siles Zuazo government, Bolivian analysts and the political establishment saw in the hyperinflation not only a transitory monetary disarray, but rather, the indictment of the development model followed by Bolivia since 1952. A different development model, based in free markets, had to be, together with stabilization, an integral part of the needed economic reform.

III. The Stabilization Program and the Policy Reforms of August 1985

a) The Main Characteristics of the Stabilization Program

On August 29, 1985, the recently 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, supported by very tight fiscal and monetary policies, is the core of the program.[5] The fiscal correction component of the program is very drastic: 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 most important fiscal revenue measure. In addition, the government called for the payment of substantial back taxes owed by YPFB, adjusted at the new prices. As a result of these measures, revenues for the state petroleum enterprise YPFB increase, 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 de facto initial devaluation had also important fiscal revenue effects.[6]

As a part of the fiscal package, wages in the public sector and public investment

[5] The instrument of exchange rate unification shows ingenuity: exchange rate operations can be freely performed, but the Central Bank sells foreign exchange in an auction open to the public. The bids are made in a sealed envelope. The Central Bank buys foreign exchange from the public at the mean price set in the previous selling auction. The Central Bank sets, before each auction, a floor price for foreign exchange and the amount for sale.

[6] Because of the weight of foreign trade taxes in total government revenues.

expenditures were temporarily frozen. Twenty-five thousand workers in the public sector (about 10 percent of employment in 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 wither 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.

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. The exchange rate premiums in the parallel market rarely went beyond 1.5 percent after the second quarter of 1986 as can be observed in Table 4. The fiscal deficit decreased in 1986 to 4 percent, and a process of gradual remonetization of the economy occurred.

It took no more than weeks to temporally stop inflation. In the last quarter of 1985, the international tin market collapsed and, in addition, the public could already foresee the impeding crisis in the energy market. 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 enlightening 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, and with a stronger dose, its monetary and fiscal policies. For instance, legal reserve requirements in the banking system were temporarily increased and government employees were not paid in time. 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. 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.

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, Bolivia reached an stand-by agreement with the IMF for 45 million of SDR; a Compensatory Financing Facility of U$ 43 million also followed. Negotiations for a Structural Adjustment Facility were stalled, and replaced instead for negotiations for an Extended Fund Facility. No agreement had been reached at the moment of writing this paper.

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 other was very strong. Second, the mismanagement of the economy during the Siles Zuazo administration had completely discredited the labor unions and their political allies in the parties of the left. Their calls to oppose stabilization went mostly unheard. Last, but not least, Paz Estenssoro party, the center-right MNR, signed a pact with the rightist party, AND, of former President Hugo Bánzer. The pact allowed close cooperation in congress, crucial for the needed supporting legislation. Many people attribute to this pact a significant share in the stabilization success.

While the benefits of the stabilization program seemed clear, the evaluation of the costs in terms of foregone output and employment are more difficult. The effects of the external shocks (see again Table 2) 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] Real wages took an initial deep but they have been growing steadily since early 1986. In order to disentangle the effects of the external shocks from the effects of the stabilization program, the regression model in Section IV, on the sources of growth, was used.

Inflation stabilization and the ensuing political and economic stability, by way of supply-side effects and the shift from the inefficient inflation tax to the efficient explicit taxes, should, ceteris paribus positively affect growth. The investment rates did not decrease after the stabilization program and the import capacity actually increased (in 37.5 percent) because the fall in export revenue was more than compensated with new disbursements of foreign loans. Our long-run growth model predicted for 1986 a growth rate of GDP of around 1.43 percent and yet the observed result was quite the opposite (-2.6 percent). The negative residual (-4.03 percent) therefore may be due to a fall in aggregate demand, caused by the stabilization program.

In the aftermath of the stabilization program there was a fall in government consumption that was not matched by an increase in the private consumption of domestic goods. As is shown in Section IV there has been a jump in consumer imports in the two years following the announcement of the stabilization program. Public investment was initially frozen and afterwards was penalized by the temporary disorganization brought about by reductions in government personnel. Private investment grew very timidly because of the extremely high real interest rates. The data in Table 8 in Section IV seems to lend support to the contention that there was a strong reduction in the demand for non-tradeables. It is true that the fall in the production of minerals and hydrocarbons, directly caused by the external shock,

[7] Those 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!. The government has established, with the support of international cooperation, a minimum employment program for the unemployment. Moreover some of the mines of COMIBOL have ceded to cooperatives of its former workers.

had also a derived demand effect on the non-tradeables. The presumption is however that the direct effects of the stabilization program in the demand for non-tradeables were more important. Remark in Table 8 the big reductions in the agricultural, construction and services output. The parsimonious public investment and the high interest rates negatively affected the construction output. The dismissals of government employees contributed to the decrease in the services sector. Notice that even in the absence of external shocks, the dismissal of government employees had to have an important unemployment effect, over a considerable period of job search, given an economy with very imperfect information and segmented labor markets. Some of the arguments above are analogous to the ones used by Wicker (1986) in his study of the aftermath of the European hyperinflations.

c) The Policy Reforms

The program of August 1985 is more than a stabilization program, as has been stated above. It contains in addition a very broad set of policy reforms, whose common thread is the goal to obtain a more market-oriented economy. The opening-up of the economy aims at a re-invigoration of export-led growth, and economic efficiency and growth have become now the leitmotif of Bolivian development. Notice that the current and capital account of the Balance-of-Payments were simultaneously liberalized. Almost all domestic price ceilings were lifted as well as those bearing on interest rates, the public was allowed to open again domestic deposits in dollars, and job protection clauses in the labor legislation were greatly attenuated. Wage indexation was suppressed. Only the prices for gasoline and other oil derivatives, and a handful of prices for public utilities are fixed by the government. Even in the case, international prices are used as parameters for the internal price fixing.

The program of August 1985 has been followed by several deep reforms. An import tariff reform establishes a uniform rate of 20 percent. A tax reform was also enacted, whose core is constituted by a uniform value added tax of 10 percent and taxes on visible wealth, like houses and motor vehicles. The value added tax supersedes the old progressive income tax. Changes in the Central Bank and the state-owned mining enterprise COMIBOL have also been carried out. In COMIBOL, 23 thousand workers out of 30 thousand workers have been laid off; and in the Central Bank as high as 60 percent of the employees have been discharged.[8] In regard to her foreign debt, Bolivia is current in her payments to official multilateral creditors, and has rescheduled her debt with official bilateral creditors in the Paris Club. However, the substantial Bolivian debt to Argentina still posits sever difficulties, since the natural gas sales of Bolivia provide a good collateral to Argentina and a de facto preferred creditor status. A scheme of debt buy-back, that implies a substantial cancellation, is currently being discussed with the foreign commercial banks.[9]

The government has also announced the preparation of a set of long-term policies that aims at a far-reaching de-centralization of the administrative structure, with increased power and technology, in joint venture arrangements, of the state-owned companies in the crucial mining and energy sectors. New mining and hydrocarbons codes are currently under study.

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8 Bolivia is engaged in a process to buy back her debt from the commercial banks with the discounts prevailing in the secondary market for loans (about 90 percent). To obtain the funds for the buy-back operations, the government is asking for cooperation of governments with which maintains closes relations and that are willing to contribute to a fund supervised by the IMF.

9 In spite of the recessionary conditions of the economy tight away after the stabilization program was announced, foreign trade liberalization gave rise, for a short period, to above-normal profits for importers since they could benefit from "privatization" of the import tariff. Indeed, many imports, especially luxury imports, had prices that were well above the CIF-international

IV. The Problems and Instruments of Recovery

a) The Main Outstanding Problems

After 30 months of implementation of the stabilization program, some of the old problems remain and new problems have surfaced. The recovery of the economy has been lowlier than was expected and more important signs, in terms of output growth and employment, have yet to surface.

The state of the public finances is still delicate. 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 show a jump upwards to 6 percent. The fiscal woes are very much related to the payment lags by Argentina, that inside in taxes related to the foreign trade, but there has also been an expansion in unbudgeted expenditures, especially in the public enterprises. Although significant progress has been accomplished in the area of internal taxation, the full implementation of the Value Added Tax will still take some time. On the other hand, taxes on visible wealth are collecting more than the expected revenues. In the expenditure side, the debt service continues to be a very big difficulty, in spite of the significant debt alleviations obtained. The floating internal debt of the central government has been growing and is a source of strain with regional development corporations and domestic suppliers. The debt of the state-owned oil company YPFB owed to two multinational petroleum companies operating in Bolivia is also substantial and is impairing crucial foreign investments in the hydrocarbons sector. As a reflection of the fiscal problems, the government has not been able to constitute savings that could be used as counterpart funds to official

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price plus the new tariff.

foreign loans. The difficulty to mobilize the contracted foreign credits is of course of the main obstacles to economic recovery.

The private financial sector is currently facing huge problems. The extremely high interest rates that have ensued the stabilization program have created a severe deterioration of the loan portfolio of several banks (see Table 6 for estimates of real interest rates). More worrisome, after a substantial decline in interest rates in 1986 and the first half of 1987, in the second semester of 1987 real ex-post interest rates as well as interest rates for dollar-linked loans have actually increased. Three small banks, in a system comprised by 17 banks, went bankrupt in 1987. There is a number of other banks in close danger of bankruptcy. The rapid accumulation of debt in the domestic private sector, moreover of the distress financing type, has produced the failure of severe important industries. There is no doubt that high interest rate are impeding recovery and threatening the stabilization program.

Table 6

Nominal and Real Interest Rates, 1985-1987
(Percentages)

	Nominal Interest Rates[a]		**Real Interest Rates[b]**		**Nominal Interest Rates[a]**	
	Lending	**Borrowing[c]**	**Lending**	**Borrowing[c]**	**Lending**	**Borrowing[c]**
1980 Q1	540.9	336.0	-87.0 -	-91.2 -	n.a. n.a.	n.a. n.a.
Q2	540.0	336.0	98.1 -	98.7 -	18.0	10.0
Q3	379.5	120.0	21.2 -	63.9 -	16.8	11.2
Q4	231.1	110.0	44.7	64.9		
						12.3
					20.4	14.9
1986 Q1	222.3	129.5	132.9	65.9 17.0	22.6	14.9
Q2	97.1 78.6	48.9 39.7	54.8 61.9	26.7	22.0	14.9
Q3	64.8	33.4	41.2	14.3	22.0	
Q4						
	49.8 47.8	28.9 27.9	35.0 43.3	16.1 24.1	22.6	15.1
1987 Q1	51.5	31.0	43.0	23.6	22.6	15.3
Q2	60.0	28.2	n.a.	n.a.	32.1	18.1
Q3					33.4	18.1
Q4						

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 is the relevant nominal interest rate and P(t) is the Consumer Price Index in quarter t
[c] Average rates for time deposits

The situation of the banking sector 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. Dollarized deposits are used to finance dollarized loans, and with internal activity mostly oriented to the production of non-tradeables, a devaluation may increase the risks of default by borrowers of the bank. To hedge against these risks, banks prefer to make very short loans to finance imports and increased their collateral requirements.[10]

Table 7 gives some estimates of the real exchange rate. 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 7 deserve caution: admittedly they are rough and additional research is needed.

Table 7

Real Exchange Rate[a]
(Base 1986.Q$=100)

[10] The National Revolution of April 1952 has had a marked impact in the Bolivian economic and social development of the last thirty-five years. The extent of the redistributional objectives of the National Revolution has to be underscored: a far-reaching agrarian reform, the nationalization of the three largest mining companies (owned by the so-called tin barons), and active political participation of the impoverished peasantry. In regard the development, the two most important objectives were production and export diversification. The march to the sparsely-populated eastern lowlands would accompany the process of agricultural growth and diversification. The broad redistributive aims of the National Revolution conflicted with its very ambitious goals of rapid economic development and caused a strong disruption in production and the upsurge of high inflation, that ended in 1957. With stabilization, popular mobilization faded, and a more bureaucratic state developed itself, committed to maintain some of the redistributive achievements of the Revolution, but also to shift some of the advantages of the deposed oligarchy towards new interest groups.

1985	Q4	100.0
1986	Q1	95.2
	Q2	86.6
	Q3	82.3
	Q4	81.4
1987	Q1	80.4
	Q2	82.6
1987	January	79.9
	February	79.7
	March	81.5
	April	81.5
	May	82.2
	June	84.0
	July	84.6
	August	85.1

Source: Elaborated with basic data from International Monetary Fund, International Financial Statistics, October 1987 and Central Bank of Bolivia, Statistics Bulletin, several issues

Notes: [a] Dollar against Bolivian monetary unit (Boliviano), adjusted for differentials in consumer prices

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 repatriation. Until mid-1987, the Central Bank had to intervene to avoid a revaluation of the Boliviano. However, in the second semester, the wind changed and the Central Bank has been losing foreign exchange reserves. The loss of reserves has led to the small correction in the exchange rate noted above.

The use of the exchange rate to keep inflation low has indeed high medium-term costs as has been stressed by Dornbusch (1986a,b). 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.

b) The Instruments for Recovery

The resumption of growth has proved to be more difficult than to stop inflation due in no small part to the problems mentioned above. 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 are, first, to reduce the internal administrative obstacles that impede a rapid disbursement of the contracted foreign loans, and second, 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. In the so-called reactivation decree (Supreme Decree No. 21660), the following measures were included:

- a relatively large public investment program, to be mostly financed with foreign loans;
- a simplification of the international bidding producers for public works and government purchases of goods and services;
- a tax rebate of 10 percent of the FOB value of non-traditional exports, and 5 percent for traditional exports;
- a reduction in the railroad fares for long-distance cargo and electricity costs for industrial use;
- loans for the private sector, sourced if foreign credits as well as from domestic sources, with a favorable interest rate of LIBOR plus a 5 percent spread;
- a proposal for a fundamental solution to the public debt with the international commercial banks based on a swap mechanism of debt by equity;
- a similar proposal for a fundamental solution of the debt, arising form the de-dollarization step taken in 1982, of the Central Bank with the domestic private banks and their foreign creditors;
- the creation of a fund in Bolivian pesos for short-term working capital with a favorable interest rate of LIBOR plus a 5 percent spread;
- banks were obliged to capitalize themselves by holding lower leverage ratios and, also, the ex-post supervision on their loan portfolio was increased;
- banks were proposed to intermediate a substantial volume of the foreign loans contracted by the government, with a reduction in red tape, but assuming a higher share of risk;
- The whole system to finance housing was overhauled with an once-and-for all shifting of bad loans to the Treasury.

Some significant departures in the reactivation decree SD 21660 from the philosophy underlying the stabilization decree SD 21060 may be observed. In the former, the government defines quite clear activist policies and a bigger role to government in the economy than in the latter.

The prevailing fiscal constraints have not allowed a full implementation of the package of recovery measures. For instance, because of fiscal considerations, the tariff rebate to exporters was never implemented. At some point in time, however, the government will have oblige these commitments. Furthermore, the stick-and-carrot approach to the domestic banking system has met strong opposition and some of the regulations are currently being challenged in the courts. However, in the last months compliance has increased. For example, domestic banks and their foreign creditors are finding attractive the proposals for debt/equity swaps.

Table 8

Economic Growth and Employment

	Annual Average 1981-85	1986^p	1987^p

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: p Preliminary

* Services I includes commerce, communications, electricity, gas and water, and, banking and other financial services

\# Services II includes housing, central and local government services, and personal services

The government seems to be in face of a difficult challenge, namely to lock-in disinflation, and at the same type reactivate the economy with fine-tuning measures. Preliminary estimates of GDP growth for 1987 range between 1 percent and 2.2 percent. The year 1987 is the first year since 1981 that the Bolivian economy exhibits a positive rate of growth (see Table 8). In spite of the opening up of the economy, and the tight credit market, the manufacturing sector showed a strong growth of 7 percent. The reduction in uncertainty, brought about by the inflation stabilization, may be an important explanatory factor in this growth. Growth in the construction sector was also very impressive (5.6 percent), partially due to a strong impulse in public works undertaken by the municipalities in an election year. GDP growth was obtained moreover with an inflation rate of 10.6 (December to December) but with a significant loss of foreign exchange reserves in the last quarter of 1987. Was the GDP growth obtained by the recovery package measures? It is much too early to give an answer.

Table 9

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	-347	137	247	161

Source: Central Bank of Bolivia, Statistical Bulletin No. 259, June 1987, UDAPE (1987), and Afcha and Huarachi (1987)

Notes: [p] Preliminary

[a] See Table 3 for source of GDP values in current dollars

It is worthwhile to focus on the impending adjustment problems. Bolivia, for two years in a row has constituted large trade deficits as can be observed in Table 9. Exports have fallen for the reasons indicated above, but, more surprisingly, imports have had a very high growth rate. Some preliminary evidence shows that most imports were of the consumer type. Since, disbursements of loans contracted abroad has been slow in a good proportion, the trade deficit has been financed with repatriated capital from Bolivians.

c) The Perspectives of Sustained Growth

A long view of Bolivia's development may help to fully understand the implications for growth and development of the deep policy changes of August 1985 and the current prevailing conditions. Bolivia, as most countries in Latin America, has to resume sustained growth. Bolivia's losses in GDP and other indicators of social development during the economic crisis give particular poignancy to the growth problem. With an annual GDP growth rate of 4 percent and a population growth rate of 2.8 percent per annum, only in year 2014 Bolivians will recover the per capita GDP of 1980!

It is useful to focus on the sources of growth in recent history. In 1962, after ten years of strong disruption in the economy after the National Revolution of April 1952, the Bolivian economy started to pick up momentum as can be seen in Figure 2.[11] The growth rates were sustained in the neighborhood of 5.5 percent in the long period running from 1962 through 1978. There is no doubt that Bolivia lived then a long-lasting small economic miracle.

To further examine the lessons of history, we can posit an equation, following Syrquin [1986] where GDP growth rates are explained by investment rates, labor force growth, and import capacity growth. In the specification for Bolivia a dummy variable was added to separate out the years of extreme political or economic instability from those that were more normal. The estimated equation appears below:

$$
\begin{array}{llllll}
g = & 2.08946 & + 0.462199r & + 0.033899m & - 1.86290p & - 2.04791d \\
 & (0.19462) & (3.42790) & (1.56641) & (-0.512349) & (2.12625)
\end{array}
$$

$R2 = 0.8194$
$DW = 1.4121$
$N = 26$

where:

g = Annual Rate of Growth of GDP
r = Investment Rate
m = Annual Rate of Growth of the Import Capacity
p = Annual Rate of Growth of Population
d = Dummy variable with value equal to 1 for years of extreme political or economic instability, and 0 otherwise.

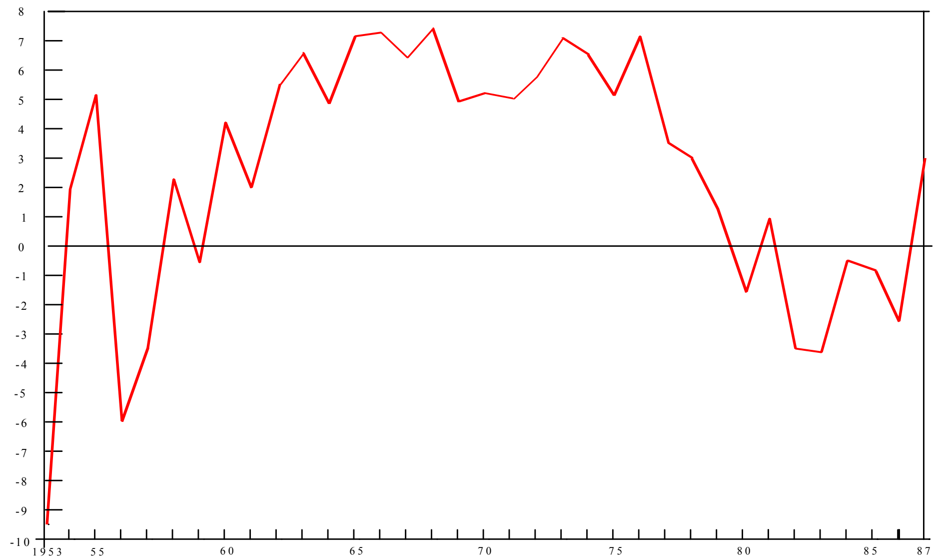
The data for year 1983 has been excluded from the sample.

The econometric estimates above show that high investment rates were the main explanatory factor of growth between 1960 and 1985. The growth of the import capacity was also an important explanatory factor, as is macroeconomic and political stability. Both, the achievement of high investment rates and increases in the import capacity were made possible by the generally good conditions of the international markets for Bolivian exports and a very substantial flow of foreign savings.

Figure 2

[11] This development model, with heavy state intervention in the economy, has aptly been labeled "stare capitalism" by many political scientists. See e.g. Malloy [1970]. In Morales and Sachs [1987], the high degree of indebt ness of the Bolivian economy is traced back to the development model set by the National Revolution.

Annual Growth Rates of GDP, 1985 - 1987



Between 1962 and 1978, the growth rates were high and the inflation rates generally low, particularly during the 1960's. The military, that governed during most of the period 1962-1978, emphasized economic growth over all other objectives. High investment rates, heavily and increasingly concentrated in the public sector, were a main characteristic of the whole period 1962 to 1978. Indeed, in some years the share of public investment in total investment went over 60 percent. This share averaged 59 percent in the second half of the 1970's. A very significant expansion of employment in the public sector accompanied the investment effort. The organized private sector, as oppose to the so-called informal urban sector and the peasantry, was co-opted in the development vision of the governments of the period in a vast majority, and prospered essentially through government contracts and protection. Important exceptions to the assertion contracts given by the few subsidiaries of foreign enterprises in the petroleum sector and the medium-sized mining enterprises.

The contribution of foreign savings to the investment effort, and ultimately to he sustained rates of growth of GDP, was very substantial, amounting to an average of 18.5 between 1962 and 1978. During the 1960's, Bolivia benefited from heavily subsidized official loans and from important amounts of foreign direct investment. In the early 1970s, Bolivia gained access to commercial bank lending.

The Bolivian development of the last thirty five years has been characterized by a very undersified economic structure. The early efforts at import substitution stopped after some gains were made in the substitution of agricultural imports; no significant industrialization was ever achieved. By 1980, the share of value added in the manufacturing sector was only 15 percent of Gross Domestic Product, well below the corresponding number in neighboring countries. In fact, after the immediate period following the National Revolution, public policies were by far and large oriented to rehabilitate the traditional tin mining industry -that had been neglected and overtaxed during the revolutionary years of 1952 to 1956- to increase the value added of mineral exports by building smelters to refine the ores, and to develop and attract foreign capital to the hydrocarbons sector. High transportation costs prompted a return to the traditional export pattern of concentration on a few high value products per physical unit, mainly tin and, after 1973, natural gas. Geographical concentration also increased with almost half of the exports going to Argentina by 1985. The efforts to diversify the export base with agricultural products were short-lived and depended on very favorable international prices. Some attempts, of small significance, were also made to export manufactures to Bolivia's partners in the Andean Pact.

In all likelihood, the resumption of Bolivian growth will follow the traditional pattern but with less state intervention. The natural resources sector of mining and hydrocarbons will again provide the main engines of growth, although with some very important technological changes. With a consistent macroeconomic policy, and special attention to the exchange rate, growth in agricultural production and exports, may be obtained, first, at a slow pace and then it would accelerate. The chances for light manufacturing exports are not either negligeable. The development in the natural resources sector requires heavy inflows of capital, most of it foreign. One again, high investment rates and increases in the capacity to import will sustain the targeted rates of growth of GDP. In turn, they will depend on the availability of foreign savings. This of course posits very important debt as well as Current Account management problems.

The maintenance of macroeconomic and political stability is crucial to achieve sustained rates of growth. 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. Some of those requirements are still far to be met. Political stability requires an imaginative incomes policy, the overcoming of regional cleavages, and a more active public expenditure policy to solve the problems of accumulation of a social debt. Given the prevailing fiscal constraints, the achievement of political stability is indeed a tough challenge.

V. Summary and Conclusions

The Bolivian experience seems to indicate, once again, that orthodox stabilization programs, with tight monetary and fiscal policies, are indeed effective in stopping hyperinflations. The shock program halted the hyperinflation almost immediately and the disinflation ha been sustained for more than two years. The costs of disinflation, in terms of foregone output and employment, have been however higher than initially presumed. The economic recovery and the resumption of growth have been slow, are taking more time than excepted, and there is a general perception that they are more difficult to achieve than to stop high inflation. The government has had adopt in mid-1987 more activist monetary and fiscal policies to give some momentum to the economy.

A current account deterioration Has accompanied the disinflation process, even if a correction is allowed for the shock in terms-of-trade that Bolivia suffered in late 1985 and early 1986. Registered imports have been substantially larger than during the hyperinflation period. The growth in registered imports, in face of declining exports and the need to service a large debt, has been financed to a large extent with capital repatriation by Bolivians. The tight monetary policy, at least until the third quarter of 1987, and the ensuing high interest rates, were instrumental in bringing in deposits that previously were held abroad. Foreign loans have also been important in financing the current account gap. It is worth noting that Balance-of-Payments adjustment, via adjustments in the current account, seems to be quite at odds with disinflation. During the hyperinflation period, there were force majeure improvements in the current account, but at the cost of an upsurge in inflation. The current deterioration that followed the inflation stabilization should not come as a surprise, since overvaluation of the Boliviano seems to have been part and parcel of the stabilization effort, at least since February 1986.

The hyperinflation had very destructive real effects in the economy. Inflation stabilization therefore was a precondition for the resumption of growth. The questioning that may arise is not in regard to the need to stop hyperinflation but rather in the means to obtain it. The gains of the reduction in uncertainty that came along with stabilization were almost immediate in some production sectors. The fall in inflation was also crucial to normalize relation with official international creditors. The availability of new loans may be an essential factor in a take-off of the economy. When investment rates recover their historical levels and if the current rehabilitation of the import capacity is maintained, the sustained growth possibilities will be greatly enhanced. The process however may be lowlier than wanted. It should be stressed that a growing economy seems to be also a necessary condition to go from a transitory de facto stabilization, sustained with tight money, to a more permanent stabilization.

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