Bolivia: On the Road to Development

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Revised

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Foreword

This report was commissioned by the Ministry of Exports and Competitiveness of the Government of Bolivia, to review the main macroeconomic trends in the Bolivian economy since 1985, and to analyze policy options for the next administration. We are grateful to Presidents Jaime Paz Zamora and Gonzalo Sánchez de Losada, to Minister Fernando Campero, and other members of the Bolivian Government for support in preparing this report. We especially thank UDAPE, in particular its Directors, Juan Carlos Requena and Gaby Candia, for use of its facilities and outstanding studies. We are also grateful to Corporacion Andina de Fomento (CAF) for financing this project.

Section 1 of the paper offers a brief description of the Bolivian hyperinflation and the economic reform program introduced in 1985 to stabilize the economy and restore economic growth. In Section 2, we describe Bolivia's economic performance during the administration of President Victor Paz Estenssoro (1985-1989), where we stress the effects of the reform program and the external shocks that hit Bolivia during those years. In Section 3, we describe the consolidation of reforms during the administration of President Jaime Paz Zamora (1989-1993), and the return to sustained economic growth. In Section 4, we outline the main macroeconomic tasks facing the Bolivian economy: increased economic growth and amelioration of the extreme poverty still prevalent in rural Bolivia. In Section 5, we describe a range of policy options to address these tasks, including measures in finance, trade, state enterprise reform, and human development.
EXECUTIVE SUMMARY

Bolivia's defeat of hyperinflation in the mid-1980s, and its subsequent economic reforms, represent one of the most successful economic adjustment programs of the post-war era. In a short period of time, hyperinflation was decisively eliminated, and economic growth was restored after years of plummeting output.

These accomplishments were carried out despite a series of adverse external shocks that sharply reduced Bolivia's export earnings and national income. In part because of these shocks, and in part because of Bolivia's chronically low levels of national saving and investment, economic growth since stabilization has been modest, and so far too small to make a major dent in the country's extreme poverty and generally low standard of living.

The main challenge for Bolivia in coming years is to raise overall economic growth, to a rate of 6 percent per year or more rather than the prevailing rate of 3 to 3.5 percent per year. Generating higher growth will not be easy. It will require simultaneous advances on several fronts.

One key will be to increase national saving and investment rates. We point to several areas of financial and state-enterprise reform --including pension reform and capitalization of the public enterprises-- as key parts of a growth strategy. We also stress that more attention must be paid to raising rural productivity, both to enhance economic growth and to address Bolivia's deep crisis of extreme rural poverty. This will require a multifaceted
effort on agriculture R&D and improved provision of health and education services in the countryside.

On the macroeconomic front, the social agenda and the growth agenda will require continued discipline in macroeconomic management. In recent years, Bolivia has relied heavily on foreign concessional loans, both to fund investments and to help finance the budget. Bolivia must begin to replace the existing foreign financing by cuts in wasteful expenditure combined with higher domestic tax collections. Moreover, higher tax revenues will be needed to cover increases in social expenditures and important infrastructure investments. We therefore recommend a series of tax measures, mainly designed to broaden the base of existing taxes, improve tax collection, and increase revenues from direct taxes on households and enterprises.

In addition to continued fiscal prudence, we stress the need for a continuation of Bolivia's cautiously restrictive monetary policies of recent years. We suggest that responsible, low-inflation monetary policies can be enhanced by further strengthening the independence of the Central Bank of Bolivia.

Other main reform tasks include the continued promotion of nontraditional exports and the increased flexibility of the economy through the reform of labor legislation. Export promotion is not easy: new methods for export financing and project development should be developed. Infrastructure projects, encouragement of foreign direct investment, and expanded international trade treaties can also help to spur non-traditional exports. Labor law
reform would enhance Bolivia's competitiveness by lowering the costs of labor, which are unnecessarily raised by the current restrictions on job firing, and the government-mandated conditions on hours, vacation time, and other working conditions.

Overall, the tasks are immense and interrelated. An important early project of the new government should be to establish a medium-term macroeconomic framework that carefully integrates and quantifies the various parts of the government program. Our own calculations are very preliminary. Much more detailed work remains to be done.

With the appropriate policies, and given the political will to back them, Bolivia can look ahead to a much brighter economic future.
1. Introduction and Background

On August 6, 1993, with the inauguration of President Gonzalo Sánchez de Losada, Bolivia celebrated its fourth consecutive democratic transfer of power in eleven years. This is a remarkable and satisfying accomplishment for a country that had previously been known worldwide as the country of coups, revolution, and dictatorship. When democracy was reestablished in 1982, after 16 years of military rule punctuated by brief, failed democratic governments, the circumstances for establishing a stable democracy were far from auspicious.

President Hernan Siles Suazo took office in 1982 in the midst of an extreme debt crisis. He left office one year early, in 1985, after failing to control a severe macroeconomic crisis that eventually exploded in full hyperinflation. The bold economic reforms that have been carried out since 1985 deserve much of the credit for reestablishing a working economy and laying the groundwork for a vigorous democracy. In turn, healthy democratic life is making possible the continuation and strengthening of economic reforms.

The economic chaos of the first half of the 1980s had been preceded by a period of relatively rapid economic growth under the military regime of General Hugo Banzer. During the period 1971-78, GDP growth averaged 5.4 percent per year. Part of that economic achievement was illusory, however, since it was built upon a rapid accumulation of foreign debt. Even the real successes, however, were reversed by the remarkable period of political instability
Figure 1
Gross Domestic Product, 1961-1992
(millions of 1988 US$)

Source: IFS
Figure 2A
Inflation, 1961-1992
(annual average)

Source: IFS
Figure 2B
Inflation, 1961-1992
(annual average)

Source: IFS
government in the face of trade union demands, and political opposition in the Bolivian Congress. With the situation out of control, President Siles Suazo called for emergency elections, and stepped down one year early.

The 1985 elections brought President Víctor Paz Estenssoro to his fourth term as President (1952-56, 1960-64, 1964, and 1985-1989). After less than one month in office, President Paz unveiled a remarkably bold and wide-ranging economic program, the New Economic Policy (or NEP, also known as Supreme Decree 21060), that was to change completely the face of the country. President Paz soon won the backing in Congress of the Acción Democrática Nacionalista (ADN), led by General Hugo Banzer, and the NEP was carried out on the basis of a quasi-coalition government between Paz Estenssoro's Movimiento Nacionalista Revolucionario (MNR) and the ADN. The NEP succeeded in stabilizing the economy and setting the basis for renewed economic growth. The turnaround is seen vividly in figures 1 and 2. As we shall stress, this renewed growth came in the face of deeply adverse international shocks. As Gonzalo Sanchez de Losada said in 1985, the NEP was designed to "reinvent Bolivia," and it has done so economically as well as politically.

Four years later, in the 1989 elections, all the major candidates promised to maintain the economic direction of the NEP. As in 1985, the 1989 election produced no clear winner, so that the President had to be selected by the newly elected Congress. President Jaime Paz Zamora, leading the left-of-center Movimiento de Izquierda Revolucionario (MIR), came to power on the basis of a
coalition with ADN. This government maintained the thrust of the economic policies, and was able to continue the reduction of Bolivia's inflation to one of the lowest levels in Latin America. Economic growth increased as well, to around 3-3.5 percent per year in 1992 and 1993. The 1993 elections produced a wide plurality in favor of Gonzalo Sanchez de Losada, the architect of the 1985 economic reform, who was elected President by the Bolivian Congress for the period 1993-97.

2. The New Economic Policy: Stabilization and Structural Reform in an Adverse External Environment

2.1 Introducing the New Economic Policy

The new Government of President Paz Estenssoro was quick to implement comprehensive economic reforms in August 1985. While the most urgent goal of the program was to stop the hyperinflation, the policy package went far beyond macroeconomic stabilization measures, since it addressed itself to a remarkable range of structural issues as well. It can be said that the Bolivian program was the most comprehensive case of "economic shock therapy" that had yet been undertaken in the post-war world economy. Its success has subsequently helped to influence similar programs in Eastern Europe and the Former Soviet Union.

There were at least three reasons why the New Economic Policy
went beyond strict stabilization measures, to include issues such as trade liberalization and massive price decontrol. First, it was clear to the new government that Bolivia needed deep structural changes in the economy, particularly in the promotion of new industries to replace the faltering traditional tin mines. Second, the government simply lacked the capacity to administer the intricate set of regulations and controls on trade, prices, and interest rates that were then on the books. These regulations were not only unenforced, but had given rise to substantial corruption. And third, some of the structural reforms supported the stabilization effort. Trade liberalization, for example, implied that competition from abroad would discipline domestic enterprises after prices were decontrolled.

The main steps in S.D. 21060 were: the unification and stabilization of the exchange rate; major fiscal consolidation, centering on a sharp rise of public sector prices (especially energy-related), a cutback in subsidies and public investment, and a comprehensive tax reform (implemented in 1986); trade liberalization, including an immediate reduction of tariffs to a nearly uniform rate of around 20%, and an elimination of most non-tariff barriers; decontrol of private-sector wages and most prices; and liberalization of labor-market activity, including the rights to hire and fire workers. The New Economic Policy also made explicit the intention to restore creditworthiness with the international community, and particularly with the multilateral financial institutions.
The program was characterized by speed as well as comprehensiveness. The decontrol of prices, the reduction of the deficit through higher energy prices, and the liberalization of trade, were virtually immediate. The exchange rate was unified by eliminating the artificial exchange rate (which was just 5 percent of the black market rate on the eve of reforms!), and allowing the rate to be set in an auction market (though one with heavy government participation in the purchase and sale of foreign exchange).\(^2\) All capital controls were eliminated as well. The exchange rate was thereby unified at the former black market rate, and it quickly stabilized thereafter as a result of the implementation of fiscal and monetary austerity. Since price-setting had been substantially dollarized during the hyperinflation, it was possible to stop domestic price increases merely by ending the depreciation of the currency. Therefore, the hyperinflation was ended within days of the implementation of S.D. 21060. The stabilization was threatened briefly in early 1986 when the exchange rate started to depreciate because of over-expansionary policies, but the government was able to restore overall macroeconomic control and thereby sustain the hard-won fight against hyperinflation.

Tax reform was another important part of the program, though one that could be implemented only in the intermediate run. The

\(^2\) Although the auction market (the "bolso") was managed, the gap between the official rate (set there) and the black market rate (set in the street) was insignificant, as there were virtually no restrictions on participation in the bolsin, and the rate set there was always a market-clearing rate.
Congress did not pass the tax reform legislation until nearly one year after the start of the NEP, because the legislation was subject to long Congressional and public debate, and then there were administrative lags in implementing the new measures. The main goal of the tax reform was to broaden the tax base and to implement more efficient taxes. To this purpose, the tax legislation created a new value added tax, new patrimony taxes, and a uniform 10% income tax.

2.2 The terms of trade collapse

The world economy could not have provided a more adverse early blow to Bolivia's reforms than the October 1985 collapse of world tin prices. Only two months after the start of the NEP, the international tin cartel, which had been artificially sustaining world tin prices by purchasing tin for inventory, went bankrupt. The accumulated tin stockpiles had by that point accumulated to nearly one year's worldwide consumption. The price of tin immediately plummeted by around 60 percent, from $5.60 per pound to $2.60 per pound. The London Metal Exchange even ceased quoting trade in tin. At the time, tin was Bolivia's second most important legal export (and third, if the unrecorded trade in coca paste is included), contributing some $150 million per year to export earnings, or 25% of total recorded exports. The export decline not only represented a sharp loss of national income, but constituted a deep fiscal shock and a social crisis as well. In 1985, the state
Bolivian tin company, COMIBOL, employed 30,000 workers, almost all of whom would be made redundant by the collapse in world prices.

This shock was soon followed by another, almost as severe from a fiscal point of view. Bolivia's main recorded export in 1985 was natural gas, which it sells almost exclusively to Argentina. After the fall in world energy prices in 1986, Bolivia had to renegotiate its natural gas contract with Argentina, at a loss of around $100 million in annual export earnings. Moreover, Argentina was suffering a fiscal crisis nearly as acute as Bolivia's, and it proved unable or unwilling to continue timely payments for its natural gas imports. As a result, Bolivia lost not only the contractual earnings, but suffered extended periods of arrearages from Argentina, rising to an accumulated arrearage of around $325 million by 1989.

Ironically, Bolivia not only suffered deep losses from its main legal exports, but also from its unrecorded coca trade. It appears that world prices for coca paste fell sharply in the mid-1980s, perhaps related to the surge of production in Peru and Amazonian Brazil. Moreover, the Government reinforced its interdiction efforts against narcotics traffickers, and even launched joint military operations with the United States in 1987. These shocks probably cut $100-$300 million from Bolivia's estimated $600 million annual exports of coca leaf and coca paste.

The conjunction of these external shocks was an unexpected and deep blow to the reform process. In total, they probably cost Bolivia around $600 million per year, or ten percent of GNP, if
Figure 3
Terms of Trade (1980 = 100)

Source: UDAPE
account is taken of Argentina's non-payments for energy as well as the loss in unrecorded coca earnings. As shown in Figure 3, Bolivia's terms of trade (export prices divided by import prices) declined by around 70 percent between 1980 and 1992! This magnitude of loss in national income due to external shocks is virtually unprecedented in a period of one decade, and is perhaps four times larger in relation to the economy than the shock suffered by the United States in the 1970s from the rise in world oil prices.

The external shocks vastly complicated the reforms in several ways: the loss of fiscal revenue (particularly from tin and gas); the need for a major reduction of employment in COMIBOL, with all of the attendant social and political consequences; the squeeze on real incomes, almost universally (and mistakenly) attributed both inside and outside the country to economic reforms rather than to the international events; and the urgency of establishing alternative bases for growth in the economy, after the losses in the main export sectors.

2.3 Successful stabilization: 1985-89

We have noted the remarkable speed of the initial stabilization. After the huge initial depreciation of the official exchange rate (from 67,000 pesos/$ to 1.1 million pesos/$), the tenfold increase in gasoline prices, and the elimination of most price controls, at the start of September 1989, it took just a little over one week for hyperinflation to end. Prices increased by
almost 40% in the first week of the program, and then dropped by 4.6% the following week. Inflation was kept under control during the following 12 months, except for a brief outburst in the last weeks of 1985 and the start of 1986 as the result of an excessive increase in the money supply. Higher public-sector prices, particularly in energy, and other gains in tax collection made possible by the slowdown of inflation, allowed fiscal revenues to increase by nearly 10 percent of GDP in the first year of the program, and this provided the underlying basis for continued stability.

Stabilization also brought a remonetization of the economy, and a revival of the banking sector. One measure of monetization, the ratio of M2 to GDP, fell to 8.8% in 1986, and then recovered to 15% by 1989 (see Figure 4). Much of the increase in high-powered money in the economy after 1985 came from an inflow of capital (probably Bolivian money holdings that had gone offshore during the high-inflation period), in a context of a pegged exchange rate. The Central Bank of Bolivia bought foreign exchange reserves and thereby increased the peso money supply. Gross foreign exchange reserves rose from $60 million in August 1985, to around $150 million by the end of 1985, and almost $400 million by 1989.

It has often been claimed that Bolivia's stabilization was highly contractionary, contributing to a fall of output and a rise of unemployment. This argument is not convincing, however, when Bolivia's post-stabilization experience is compared to the previous trends in the economy, and when account is taken of the external
Figure 4
Financial Deepening (M2/GDP)

Source: UDAPE, IFS
shocks that hit Bolivia in 1985 and after. We already saw in Figure 1 that per capita income fell sharply every year between 1979 and 1985, the start of the NEP. In October 1985, Bolivia was hit by the collapse of tin prices. In 1986, GDP fell again, by 2.5 percent, which was a relatively mild recession in the face of the strong stabilization and the huge external shocks. In 1987, GDP began to rise, for the first time in six years. During 1988-1992, per capita GDP rose every year. Thus, the NEP marks the beginning of economic recovery, not the onset of recession!

It is even hard to argue that the fiscal contraction in 1985 reduced aggregate demand. Rather, the inflation tax, which was running at about 12 percent per year, was replaced by explicit taxes (mainly on energy products) of a like amount. Stabilization therefore amounted to a shift of taxes, rather than a net rise of taxes. Moreover, the reestablishment of creditworthiness with the international financial institutions led to substantial inflows of official finance (as well as a partial cancellation of pre-existing debts), and these inflows supported a rise in domestic investment spending.

Unemployment did however rise in the first years of the reform, but this unemployment was, to a substantial extent, the result of the closure of most of COMIBOL's tin operations. Total employment in COMIBOL dropped by around five-sixths, from 30,000 to 5,000 employees. The unemployment rate rose significantly, as shown in Figure 5. It began to decline in 1989. To offset some of the economic hardship on the lower income groups, the Government
established the Emergency Social Fund, an internationally funded program to promote employment through small-scale infrastructure projects. Non-governmental organizations (NGOs) throughout the country ran many of the ESF projects at the local level. The ESF is widely and rightly regarded as a major success, in terms of social policy, temporary employment creation, and small-scale infrastructure development. Several other countries in Latin America have studied Bolivia's ESF to model their own social efforts. During the Paz Zamora administration, the ESF was converted into the Social Investment Fund, which continues operating today.

During this period, Bolivia was also able to reach a comprehensive settlement for reduction of its external debts. Bolivia became the first country in the world to sign a debt-reduction agreement with its commercial bank creditors, two years before the Brady Plan was unveiled (indeed, elements of Bolivia's pioneering debt agreement were incorporated into the Brady Plan). The basic agreement allowed Bolivia to use donor-country funds to buy back much of its debt at 11 cents on the dollar. By the end of the Paz Estenssoro Administration, approximately two-thirds of the commercial bank debt had been written off in this manner.³ This process was completed during the Paz Zamora Administration, with the final repurchases made at around 16 cents per dollar. As described below, the Paz Zamora Government also achieved agreements

³ For a detailed analysis of Bolivia's negotiation with commercial banks, see Sachs (1990).
with official creditors for significant cuts in the official debt.

By combining strong domestic reforms with tough international negotiations, but always in a cooperative setting, Bolivia was able to achieve debt reduction and new official financing at the same time. This contrasted sharply with Peru's experience during the Garcia Presidency, when Peru's confrontational suspension of debt servicing was not backed up by suitable internal reforms. Peru, like Bolivia, did not service its debts, but it also obtained no formal settlement for debt reduction, and was basically cut off from new official funds. Thus, while both Bolivia and Peru were in arrears to the banks throughout the second half of the 1980s, Bolivia was able to achieve a net positive resource transfer (new loans in excess of debt servicing), while Peru continued to experience a negative net resource transfer.\(^4\)

3. The Reemergence of Growth: 1989-93

The first three years under the NEP succeeded in ending high inflation and stopping the continuous decline of the real economy, and these accomplishment were carried out in the context of highly adverse international shocks. While growth resumed in 1987 and 1988, it remained low. The achievement of the next administration was to build upon these early and tentative achievements, in order

\(^4\) A comparison of Peru's and Bolivia's experience with external debt is carried out in Larrain and Sachs (1991).
to increase the nation's growth rate.

3.1 The Consolidation of Stability and Economic Growth

The 1989 elections brought to power President Jaime Paz Zamora in a coalition with General Banzer's Accion Democratica Nacionalista (ADN). As promised during the campaign, the basic economic policies of the previous administration were maintained. During the Paz Zamora Administration, the country was able to reduce inflation to just 13 percent in 1992, and to around 10 percent for 1993. At the same time, economic growth edged upward from 1.5 percent per year during 1986-1989 to a rate of 4 percent per year during 1990-92, representing a per capita growth rate of around 1.7 percent per year (population growth is estimated at 2.3 percent per year).

Bolivia's experience as well as international comparative evidence strongly suggests that political stability supports economic growth, in part by improving the quality and quantity of investment spending. In Bolivia, domestic fixed capital formation (including both public and private-sector investments) increased from a low of less than 10% of GDP in 1983, to around 16% of GDP in 1992. Even more remarkable has been the recovery of Bolivia's private investment, which rose from US$95 million in 1988 (2 percent of GDP) to US$420 million in 1992 (7.5 percent of GDP). Private investment thereby increased from 20% of total investment to 44% of total investment.
Bolivia's growth prospects were further strengthened during the Paz Zamora Government by new successes in reducing the country's external debt burden through the partial cancellation of official indebtedness. The first step was the cancellation of long-term debts to Argentina in 1989, matched by the elimination of Argentina's short-term debts to Bolivia. By the end of 1989, Bolivia had reached a similar agreement with Brazil, leading to the cancellation of around $330 million owed to Brazil. President Bush's Enterprise for the Americas Initiative led to the elimination of over $370 million of debt owed to the U.S. In 1991, Bolivia became the first country in Latin America to obtain Toronto terms in its negotiations with the Paris Club. These terms, previously reserved for the lower-income countries of Sub-Saharan Africa, allowed Bolivia to reduce another $89 million of foreign debt.

3.2 Growth in Nontraditional Exports

During the period 1985-1992, Bolivia has had to confront an enormous terms of trade decline, and in effect to reinvent itself as an exporting nation. Tin has disappeared as the leading export sector. Natural gas exports have also declined sharply, partly because of falling energy prices in world markets (reflected in its contract prices on sales to Argentina), and partly because of Argentina's announced intention to substitute its own energy resources for its previous imports from Bolivia. As we have
Figure 6
Traditional and non Traditional Exports
(in millions of US$)

Source: UDAPE
mentioned, the country's terms of trade have collapsed by almost 70% since 1980, among the greatest declines in the world. As a result, Bolivia's total exports almost halved, from over $1 billion in 1980 to just $570 million in 1987. Since then, exports have recovered to $830 million in 1992. In spite of this recovery, dollar exports are still $200 million below the level reached in 1980.

Looking at the aggregate numbers, the export picture is quite bleak. Nonetheless, the picture is more encouraging if we look at a decomposition of export earnings by sector (non-traditional versus traditional, and public versus private). The drop in export earnings is concentrated in traditional exports of the public sector. Since 1985, Bolivia has experienced major growth in nontraditional exports. They have increased from a mere $35 million in 1985 to $220 million in 1992 ($50 million higher than in 1980), as shown in Figure 6. At the same time, traditional exports declined from $867 million in 1980 to $638 million in 1985 and $610 million in 1992 (although they have risen from their lows of $460 million in 1987). Private-sector exports soared from $86 million in 1984 to $564 million in 1992, as shown in Figure 7. Public-sector exports, on the other hand, dropped consistently throughout the period, from $760 million in 1982, to $570 million in 1985, and to $266 million in 1992. It is the private, non-traditional exports that will hold the key for much of Bolivia's future growth.

What are the causes behind this spectacular rise in private exports? Clearly, the depreciation of the real exchange rate by
Figure 7
Public and Private Exports (in US$ millions)

Source: UDAPE
over 50% between 1984 and 1986, and its relative stability thereafter, is one important reason. Another is the restoration of private investment, much of which has been concentrated in new export projects, with particularly significant increases in soybean exports. Later on, we will discuss further policy steps that might be taken to broaden and deepen the growth of nontraditional exports.

3.3 Recovery of the Financial Sector

The financial sector has experienced significant changes since 1985. Interest rates and the investment decisions of commercial banks have been liberalized. State banks, such as the Agricultural Bank (Banco Agrícola) have been closed. The regulatory environment has been strengthened with the creation of a Superintendency of Banks.

Financial liberalization and a stable macroeconomic environment have been instrumental in continued growth of the financial sector. After increasing from under 9% of GDP in 1986 to around 15% in 1989, M2 climbed to 23% of GDP in 1992 (see Figure 4). Consequently, the loan portfolios of the commercial banks have increased at an average rate of 40% annually since 1985, from a low of less than $50 million in 1985 to almost $1.4 billion in 1992.
3.4 Public Sector Restructuring

The restructuring of the state sector began with the fiscal reforms of the NEP, and with the substantial scaling down of COMIBOL. This restructuring was continued by the Paz Zamora Government. In a key effort to improve the efficiency of government action, the Law on State Administration and Financial Control (SAFCO) was enacted in July 1990. This law established enhanced mechanisms of administration and oversight of all public institutions, and requires detailed statements on the use of resources by all public sector entities.

A Law on Privatization was passed in April 1992, allowing for the privatization of all state enterprises except for COMIBOL and the state oil company (YPFB). The law also established that natural monopolies require the enactment of regulatory procedures prior to privatization. By the middle of 1993, however, there had been few sales of large enterprises, and some of the sales of smaller enterprises had generated enormous controversy.

4. The Limitations of Economic Adjustment During 1985–92

At the end of the Paz Zamora government, and despite major economic achievements between 1985 and 1993, Bolivia still had many profound economic challenges to overcome. While overall economic growth has been positive since 1987, the growth has been modest, in
a country that has one of the highest levels of poverty in Latin America. The slow rise in per capita income since 1987 implies a very modest rise in living standards, and only a tiny dent on poverty. The adverse external circumstances certainly account for some of the lack of growth. We have noted that external shocks probably reduced Bolivian real income by around 10 percent. Nonetheless, Bolivia will have to undertake further efforts if it is to raise its modest growth rates to more satisfactory levels.

In addition to a harsh international environment for traditional exports, Bolivia's slow growth is due to very low levels of saving and investment, as well as the low average levels of educational attainment of the population. Even after years of recovery from the extremely low levels of investment in the first half of the 1980s, Bolivia's investment rates as a percent of GDP are among the lowest in Latin America, and less than half the rates of the fast growing countries of East Asia. The situation is even more dramatic with respect to domestic saving rates, as shown in Table 1. Much of Bolivia's investments are actually financed from abroad, via foreign loans from official institutions. Domestic saving accounts for only one-half to two-thirds of investment, and saving as a percent of GDP is between one-third and one-half of Latin American saving rates, and around one-fourth of the saving rates of East Asia. This isn't only a matter of Bolivia's poverty, since other very poor countries in Asia, such as China, save a much higher proportion of national income.

Bolivia continues to be plagued not only by slow growth but
### TABLE 1 – Investment and Saving (% of GDP, 1991)

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<thead>
<tr>
<th>Country</th>
<th>Gross Domestic Investment</th>
<th>Gross Domestic Savings</th>
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<tr>
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Sources: Bolivia – Instituto Nacional de Estadísticas.  
Other Countries – World Development Report, 1993
also by extreme poverty, and dismal social conditions in the countryside. Recent estimates suggest that about 80% of the country's population lives in poverty, with about 55% of urban households in poverty and nearly 90 percent of households in the agricultural highlands in poverty.\textsuperscript{5}

Because the highest levels of poverty are concentrated in the rural areas, poverty is closely related to the situation of traditional agriculture (as distinct from commercial agriculture in the Eastern lowlands). Peasant agriculture is characterized by very small land plots, serious ecological erosion, unclear property rights (e.g. the lack of land title enabling the mortgaging of land), and traditional technologies without increased productivity in recent years. While productivity has risen in many modern sectors of the economy, there has been no productivity growth in traditional agricultural sectors for the last two decades.\textsuperscript{6} Peasant agriculture continues to account for about 85% to 90% of the total cultivated area for potatoes, maize, soybeans, and wheat, and about 75% of the total output of these products.\textsuperscript{7}

Other social indicators also give evidence of the extreme poverty in Bolivia. As shown in Table 2, life expectancy at birth in Bolivia is just 60 years, much lower than the average for lower middle income countries (68 years), the appropriate reference group for Bolivia. Child mortality (under age 5) in Bolivia is a

\textsuperscript{5} The World Bank (1990), and Pereira and Velasco (1993).

\textsuperscript{6} The World Bank (1992).

\textsuperscript{7} Godoy, De Franco and Echeverría (1993).
TABLE 2 – Social Indicators

<table>
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<th>Health</th>
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<td>Life expectancy at birth</td>
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<td>Crude death rate (per 1000 pop.)</td>
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<td>Peru</td>
<td>45</td>
<td>65</td>
<td>233</td>
</tr>
<tr>
<td>Korea</td>
<td>53</td>
<td>72</td>
<td>153</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>64</td>
<td>78</td>
<td>53</td>
</tr>
<tr>
<td>Singapore</td>
<td>65</td>
<td>74</td>
<td>148</td>
</tr>
<tr>
<td>Malaysia</td>
<td>56</td>
<td>71</td>
<td>196</td>
</tr>
<tr>
<td>Lower middle income</td>
<td>–</td>
<td>68</td>
<td>17</td>
</tr>
</tbody>
</table>

staggering 125 per thousand, three times the rate of lower middle income countries, and worse than several countries in Sub-Saharan Africa. Infant mortality (under age 1) is 83 per thousand, twice the rate of lower middle income countries. Malnutrition is prevalent among 18% of children under 5. The adult illiteracy rate is 23%. As the table shows, most of these indicators have improved over the last twenty years, but Bolivia remains at or near the bottom of Latin America with regard to all of the social indicators.

5. An Agenda for the Future

The most important overall goal for Bolivia is an acceleration of economic growth from the levels of about 4 percent per year achieved in the past three years. Only a higher growth rate, on the order of 6 percent annually, as in the low-income countries of Asia, and as in Chile since the mid-1980s, promises to lift Bolivia from extreme poverty and into the mainstream of Latin American economies. Chile's economic growth followed nearly a decade of economic liberalization and stabilization, starting in the mid-1970s. It took time for these reforms to lay the basis for renewed private sector investment and sustained increases in export earnings. Like Chile, Bolivia has been setting the groundwork for renewed growth. Now, it must put together the necessary ingredients in the coming years.
5.1 Background: Sources of Growth in Bolivia

We can gain perspective on Bolivia's growth prospects by examining economic growth in an international setting. Why do some countries grow rapidly and other countries grow slowly? Of course, economists are far from providing a complete answer to this question, but in recent years many studies have shed light on the basic determinants of growth. In several studies undertaken, Harvard Professor Robert Barro has been able to identify many of the key determinants of economic growth. He has used a cross-section statistical analysis in which a country's economic growth rate over an extended period of time is related to structural characteristics of the country, such as its level of income at the start of the period, and the extent of education of the labor force.

The basic explanatory equation is set up as follows:

\[ \%\text{Growth}_i = a_0 + a_1 X_{1i} + a_2 X_{2i} + \ldots + a_n X_{ni} \]

In this equation, the per capita growth rate of country \( i \) is related to a set of structural characteristics \( X_{1i}, X_{2i}, \ldots, X_{ni} \) of the country. The idea is to get statistical estimates of the value of \( a_0, a_1, a_2, \ldots, a_n \), since these coefficients measure the effect of a change in the \( X \) variables on the rate of growth of the country.

According to these studies, the main explanatory variables are
as follows:

a) The initial level of income of the country. Poorer countries tend to grow faster than richer countries, all other things equal (in part because they are able to import the more advanced technologies and capital from the richer countries).

b) The educational attainment of the labor force. A more educated labor force raises the growth rate of the economy.

c) The ratio of government consumption expenditure to GNP. A higher share of government consumption expenditure tends to reduce the growth rate of the economy.

d) The number of revolutions, coups, and political assassinations during the observation period. Political instability tends to lower the growth rate.

e) The relative price of capital goods in the economy. A high price of capital goods tends to reduce the growth rate of the economy.

f) The share of investment in GDP. A high rate of investment tends to raise the growth rate of the economy.

According to these studies, Bolivia grew on average at a rate of 0.8 percent per capita per year during 1960-85, compared with an overall average growth rate among the sample of 110 countries of 2.2 percent per capita annually. What accounts for this slower growth? According to the statistical analysis of Barro, Bolivia should have grown faster than average because it was a poorer country, other things equal. But other things were not equal. Bolivia grew more slowly than average because of: a below average educational attainment; a higher than average level of government
consumption in GDP; a much higher degree of political instability; a relatively high price of investment goods; and a lower than average rate of overall investment.

Interestingly, the statistical analysis (not reported here in detail) suggests that Bolivia's political instability alone reduced its growth rate relative to the average by 1.5 percent per year, the largest single negative effect on Bolivia's growth. The poor education attainment probably slowed growth by another 0.5 percent per year compared with the average country, the low investment rate by 0.4 percent per year, and the high relative price of investment goods by 1.5 percent per year compared with the average country in the sample.

The precise values must be taken with a grain of salt. The cross-country equation for 110 countries does not precisely explain the growth rates in these countries, and so cannot explain precisely why Bolivia has long grown less rapidly than the average country. Nonetheless, the statistical results are highly suggestive. They indicate that to grow faster, Bolivia should first and foremost maintain its hard-won political stability. The return to stable democratic rule after 1985 has probably contributed to a marked increase in Bolivia's growth after the mid-1980s. Bolivia must also invest more, and raise the educational attainment of the labor force, to spur its overall growth rate. It is to a more precise estimate of how much investment should rise, to which we now turn.
5.2 Investment Needs for Higher Growth

We have already stressed that a high rate of investment is necessary to sustain an increased rate of growth in the next few years. For decades, Bolivia has had a chronically low rate of capital formation, and this has been reflected in Bolivia's chronically low rate of growth. Although investment has recovered from the very low rates of the mid-1980s, gross fixed capital formation (fixed investment) has hovered around 15% of GDP since 1988, as shown in Table 3. (In 1992, fixed investment reached 15.6% of GDP.) During this same period, output has grown at an annual average rate of 3.5%.

A brief examination of various countries which have experienced high growth in the 1980s shows that their investment efforts have been substantially higher than Bolivia's. Hong-Kong, Korea, Malaysia, Singapore, and Thailand have had average GDP growth rates of between 6 and 9 percent during the past decade. As we saw in Table 1, such growth rates are based on investment rates of around 30 percent or more.

The Asian economies have also displayed a high efficiency in the allocation of investment, as measured by the incremental capital output ratio (ICOR). The ICOR is measured as the ratio of the net investment rate to the growth rate of the economy. Net investment is measured as gross investment minus depreciation. In principle, the ICOR measures how much investment would have to be raised, as a percent of GDP, for each 1 percentage point increment
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>1988–92</td>
</tr>
<tr>
<td>Growth of GDP</td>
<td>2.7%</td>
<td>2.8%</td>
<td>4.1%</td>
<td>4.6%</td>
<td>3.4%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Gross Capital Formation</td>
<td>17.6%</td>
<td>13.1%</td>
<td>10.2%</td>
<td>17.2%</td>
<td>21.2%</td>
<td>15.9%</td>
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<tr>
<td>Gross Fixed Capital Formation</td>
<td>16.0%</td>
<td>15.0%</td>
<td>14.4%</td>
<td>15.3%</td>
<td>15.6%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Inv acc. (%GDP)</td>
<td>1.6%</td>
<td>-2.0%</td>
<td>-4.2%</td>
<td>2.0%</td>
<td>5.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Total Saving</td>
<td>17.6%</td>
<td>13.1%</td>
<td>10.2%</td>
<td>17.2%</td>
<td>21.2%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Public</td>
<td>0.9%</td>
<td>1.9%</td>
<td>2.8%</td>
<td>3.7%</td>
<td>3.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Current income</td>
<td>28.2%</td>
<td>27.7%</td>
<td>29.5%</td>
<td>30.6%</td>
<td>30.6%</td>
<td>29.3%</td>
</tr>
<tr>
<td>Tax revenues</td>
<td>8.2%</td>
<td>7.6%</td>
<td>7.9%</td>
<td>8.1%</td>
<td>10.1%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Non tax revenues</td>
<td>20.0%</td>
<td>20.1%</td>
<td>21.6%</td>
<td>22.5%</td>
<td>20.5%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Current costs</td>
<td>27.3%</td>
<td>25.8%</td>
<td>26.7%</td>
<td>26.9%</td>
<td>27.5%</td>
<td>26.8%</td>
</tr>
<tr>
<td>External</td>
<td>4.9%</td>
<td>4.8%</td>
<td>-1.1%</td>
<td>4.5%</td>
<td>9.4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Private</td>
<td>11.8%</td>
<td>6.4%</td>
<td>8.5%</td>
<td>9.0%</td>
<td>8.7%</td>
<td>8.9%</td>
</tr>
</tbody>
</table>

Source: Cuentas Nacionales 1988–1992, INE
in the overall GDP growth rate. For example, if a country invests 30 percent of GDP, and has a depreciation rate of 10 percent of GDP, then the net investment rate is 20 percent of GDP. If the economy is growing at 8 percent, its ICOR would be 2.5 (=20/8). In principle, to raise the growth rate to 9 percent per year would require investment of another 2.5 percent of GDP. Gross investment would have to rise to 32.5 percent of GDP, and net investment to 22.5 percent of GDP. The lower is the ICOR, the more efficient presumably is investment. Of course, the ICOR is not a perfect measure, and it tends to display wide fluctuations year to year. Over a period of a few years, however, it can give a fairly accurate sense of investment needs to achieve particular rates of growth.

Table 4 shows the average ICORs of the newly industrialized countries of East Asia between 1971 and 1988. According to the ICOR indicator, the most efficient economies in this group are Korea and Thailand, which had ICORs of 2.2 and 2, respectively. Bolivia's ICOR for the period 1961-81 was 2.8, implying that the country needed 2.8 points of net investment to support an additional 1 percentage point of GDP growth. The problem with Bolivia seems to lie more with the very low investment rate rather than a high ICOR (that is, high levels of investment needed to support a modest increase in growth). For Bolivia to grow more rapidly, it will be necessary to increase significantly the rate of fixed investment from the current level of about 15% of GDP.

Table 5 carries out a simple exercise on investment
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<tr>
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<td>Korea</td>
<td>2.2</td>
<td>3.2</td>
<td>2.0</td>
<td>2.3</td>
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<td>Malasia</td>
<td>2.3</td>
<td>1.9</td>
<td>1.8</td>
<td>2.9</td>
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<tr>
<td>Singapore</td>
<td>3.2</td>
<td>2.7</td>
<td>2.6</td>
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</tr>
<tr>
<td>Thailand</td>
<td>2.0</td>
<td>2.1</td>
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<table>
<thead>
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<tbody>
<tr>
<td>Bolivia</td>
<td>2.8</td>
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Bolivia – Author’s calculations from IFS data.
requirements for growth in Bolivia. We assume a depreciation of the capital stock in the order of 7% of GDP per year, and an ICOR of 2.8, which corresponds to the average efficiency of investment during the period 1961-81. To be able to grow consistently at a rate of around 6 percent per year, Bolivia will therefore need to increase its rate of fixed capital formation to around 24% of GDP.\textsuperscript{8} Inventory accumulation might add another 1% of GDP to investment, so that total capital formation would reach 25% of GDP. The fixed investment rate of 24% of GDP likely cannot be achieved in a couple of years, given the current rate of just 15 percent of GDP. In the numerical exercise in the Table, we assume investment gradually picks up to reach that level in 1996 and grows to an even higher target in 1997. We stress, however, that a numerical exercise as in Table 5 is highly uncertain, given the range of possible investment levels arising from the pipeline project and from capitalization.\textsuperscript{9}

We strongly believe that an investment rate of around 24% of GDP is plausible in the medium term, given Bolivia's investment opportunities in the gas pipeline to Brazil and in other key

\textsuperscript{8} The warranted investment rate is equal to the rate of depreciation (assumed to be 7% of GDP per year) plus the growth rate (6%) multiplied by the ICOR. Thus, the warranted investment rate is 23.8% = 7% + 6\%*2.8.

\textsuperscript{9}One of the important analytical tasks for the next government is to prepare a careful medium-term scenario as in Table 5, incorporating the best information on possible investment levels, foreign capital inflows (including concessional loans and foreign direct investment), and government saving and investment. UDAPE is ideally suited to carry out such a task, which will be of enormous use in orienting overall macroeconomic policymaking.
TABLE 5. Saving, Investment, and Growth (% of GDP and rates of GDP growth)

<table>
<thead>
<tr>
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</thead>
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<tr>
<td>Growth of GDP (%)</td>
<td>3.5</td>
<td>3.0</td>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
<td>6.5</td>
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<tr>
<td><strong>Gross Capital Formation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Fixed Capital Formation</td>
<td>15.2</td>
<td>16.4</td>
<td>18.2</td>
<td>21.0</td>
<td>23.8</td>
<td>25.2</td>
</tr>
<tr>
<td>Inventory accumulation</td>
<td>0.6</td>
<td>2.0</td>
<td>2.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
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<tr>
<td>Total Saving</td>
<td>15.9</td>
<td>18.4</td>
<td>20.2</td>
<td>22.0</td>
<td>24.8</td>
<td>26.2</td>
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<tr>
<td>Domestic</td>
<td>11.4</td>
<td>10.4</td>
<td>11.2</td>
<td>12.0</td>
<td>14.8</td>
<td>16.2</td>
</tr>
<tr>
<td>Public</td>
<td>2.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Current income</td>
<td>29.3</td>
<td>30.5</td>
<td>32.0</td>
<td>33.0</td>
<td>34.0</td>
<td>34.0</td>
</tr>
<tr>
<td>Tax revenues</td>
<td>8.4</td>
<td>10.0</td>
<td>11.5</td>
<td>12.5</td>
<td>13.5</td>
<td>13.5</td>
</tr>
<tr>
<td>Non tax revenues</td>
<td>20.9</td>
<td>20.5</td>
<td>20.5</td>
<td>20.5</td>
<td>20.5</td>
<td>20.5</td>
</tr>
<tr>
<td>Current costs</td>
<td>26.8</td>
<td>27.5</td>
<td>29.0</td>
<td>30.0</td>
<td>31.0</td>
<td>31.0</td>
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<tr>
<td>Private</td>
<td>8.9</td>
<td>7.4</td>
<td>8.2</td>
<td>9.0</td>
<td>11.8</td>
<td>13.2</td>
</tr>
<tr>
<td>External</td>
<td>4.5</td>
<td>8.0</td>
<td>9.0</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Foreign direct investment</td>
<td>1.0</td>
<td>4.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>6.0</td>
</tr>
<tr>
<td>All other</td>
<td>7.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>4.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Cuentas Nacionales 1988-1992, INE and authors calculations.
sectors of the economy. The capitalization scheme of the new government of President Sánchez de Losada is designed in part to attract several percent of GDP in new investments by encouraging the recapitalization of the major economic sectors that remain under state ownership, including the oil and gas sector (YPFB), railways (ENFE), electricity generation and distribution (ENDE), telecommunications (ENTEL), smelters (ENAF), and the national airlines (LAB).

The gas pipeline project by itself promises to provide a major macroeconomic boost. Investment requirements for the project until year 2000 are estimated to be around $1.6 billion, with annual investments on the order of $156 million, or 2.5 percent of 1992 GDP. A recent study by UDAPE (1993) suggests that the project would raise GDP growth by approximately 1 percent per year during the period 1993-2000. This is roughly consistent with our estimate of an ICOR of 2.8, since the project will contribute --on average--nearly 2.5 percent of GDP in new investments for several years. By the end of the decade, the project would also contribute as much as 5 percent of GDP in increased government revenues, and $230 million per year in increased export earnings.

5.3 The Capitalization Program

The second candidate for providing a major boost to investment is the Capitalization Program of the new government. Under this proposal, still to be formulated in detail and approved by
Congress, the Bolivian Government will seek to attract a major international investor for each of the large public enterprises. The foreign investor will agree to finance new capital investments in the enterprises in return for an equity stake of up to 50%, and a long-term management contract. The remaining shares of the participating state enterprises will be widely distributed among Bolivian citizens. This novel approach to privatization of the state enterprises could accomplish several objectives.

First, and most importantly, the capitalization program would help to finance large-scale investments in major sectors of the Bolivian economy. By allowing foreign investors a long-term management contract and a 50% equity stake in Bolivia's main state enterprises, it should be possible to attract hundreds of millions of dollars, or possibly even billions of dollars, of new net investment in the country. The investments would come directly in new equity capital, and also in subsequent international borrowing that leverages the initial equity investment. Second, the capitalization program would accomplish the goal of privatizing the main state enterprises while maintaining substantial Bolivian ownership in the process.

Third, by depoliticizing the management of the enterprises, the capitalization process could lead to a major increase in enterprise efficiency. Not surprisingly, past Bolivian governments have exercised their ownership powers for political purposes, assigning top managerial positions to political appointees and pushing the enterprises to hire for patronage. Many of the
enterprises have consequently been chronically overmanned and subject to political manipulation. It has been widely documented that privatization can boost efficiency in competitive conditions (see Vickers and Yarrow, 1991). In Bolivia, an increase in enterprise-level efficiency would translate into a sizable macroeconomic effect because the firms subject to capitalization produce a significant share of GDP.

5.4 The Insufficiency of Saving

One important constraint on Bolivia's investment rate is the low rate of domestic saving in Bolivia. The country already relies to a remarkable extent on foreign saving, particularly in concessional credits from the international financial institutions. In 1992, we noted in Table 3, foreign saving came to over 9 percent of GDP, though this was far higher than the average for 1988-92. It would be most unwise to rely on an increase in foreign saving to, say, 15 percent of GDP or more, in order to raise the domestic fixed investment rate to the targeted level of 24 percent of GDP. Such a large amount of foreign financing is unlikely to be achieved. If it were achieved mainly through foreign borrowing, it would likely saddle the country with enormous foreign debts. Without an increased domestic saving effort, foreign investors will almost surely limit their own risk in the Bolivian economy.

Domestic saving has been chronically low in Bolivia, even lower than domestic investment, which has historically been
bolstered by foreign saving. Bolivia's low saving rate is evident whether one compares Bolivia with industrialized economies, or with other middle-income countries, as we saw in Table 1. The gap between Bolivia's very low saving rate and its somewhat higher investment rate is measured by the current account deficit, which has been -- on average -- around 5 percent of GDP per year since the start of economic reforms in 1985.

These current account deficits, and the accumulated foreign indebtedness that they represent, have so far been manageable for two reasons. First, Bolivia has benefitted enormously from a substantial cancellation of pre-1985 indebtedness. Second, the new borrowing has generally been on highly concessional terms. In essence, the most of the counterpart of the measured current account deficits are foreign grants rather than foreign debt.¹⁰ Nonetheless, the concessional financing has its limits. Bolivia will reach limits on its ability to attract new concessional credits, and will in fact have to start repaying some of the borrowing undertaken in the mid-1980s. Moreover, the major aid benefactor, the United States, is clearly cutting back on its

¹⁰From a technical point of view, Bolivia's GNP is higher than recorded, since part of each concessional loan is in fact a transfer of income to Bolivia. The concessional portion of each loan should be added to GDP to arrive at GNP. Because of accounting conventions, however, the concessional loan is counted entirely as a loan rather than as a transfer. Proper economic accounting would show a somewhat higher national saving rate (since the transfer is used to support investment rather than consumption). Nonetheless, it is important to raise saving out of Bolivia's own domestic income, since the concessional financing is very likely to be cut back in the future, and then Bolivia will have to be saving out of its own resources.
overall international financial assistance.

For these reasons, it is urgent for the Bolivian Government to consider ways to spur domestic saving. In our growth exercise presented in Table 5, we have suggested that Bolivia's national saving should rise significantly in the next four years, from the current level of slightly over 10% of GDP, to more than 16% of GDP in 1997, in order to finance the overall rise in capital formation to 25% of GDP. While such an increase would be historically unprecedented, it would still represent an average rate of saving by international standards.

What can be done to boost Bolivia's saving rate? While international evidence is not conclusive on this point, our belief is that capital market reform offers the best way to encourage new saving in Bolivia. In particular, we believe that the reform of the state retirement system described in the next section could play a key role in encouraging saving by individual households, even those in the traditional sectors of the economy that have not heretofore participated in the formal financial system. Of course, other factors conducive to a high saving rate include overall macroeconomic stability, modest rates of taxation on saving, and a microeconomic environment fostering the profitability of private-sector investment (clear property rights, efficient enforcement of contracts, openness of the economy).

5.5 Reform of the State Pension System
Bolivia's current state pension system is in deep crisis. First, it covers just 11 percent of the labor force, so that the vast majority of the population has no access to a state-run or privately run pension system for retirement. It appears as well that households make little use of the banking system to accumulate financial assets for retirement. Second, for the small proportion of the labor force covered by the state-run retirement system, Bolivia's pay-as-you-go scheme (in which current payroll taxes on workers within the system are used to finance the pensions to eligible retirees) has moved into a substantial deficit that is expected to keep increasing in time. In 1993, the deficit is expected to reach $30 million; by the year 2000 it is projected to surpass $82 million; and by 2010 it is forecast to top $200 million on current arrangements. This, in itself, represents a serious fiscal problem that should be addressed.\textsuperscript{11} Third, the existing pension is extremely low, at around $50 per month, and a sizeable majority of recipients receive even less than this average.\textsuperscript{12} Thus, the system is inadequate even for the covered workers.

Advantages of pension fund reform

Social security reform has been studied in Bolivia for the last few years, and a reform project was prepared by the Paz Zamora Government, but was not implemented. This project was motivated in

\textsuperscript{11} See UDAPE (1993).

\textsuperscript{12} In 1992, 81\% of retirees of the Basic Pension Fund (FOPEBA) received less than $56 per month.
part on Chile's social security reform, and stipulates a change to a system in which workers would have individual retirement accounts, and benefits would be directly tied to individual contributions. As in Chile, the individual retirement accounts would be managed by private, regulated pension funds making investments in Bolivia's capital market and to a limited extent, in the world capital market. We believe that such a reform could achieve major benefits for the social security of the Bolivian people, and for the macroeconomy, by encouraging higher household saving and thereby increased national investment.

The gains would come in several ways. First, by linking a household's contributions to its eventual benefits, the incentive to save would be enhanced, and households would have the means and the incentive to provide more adequately for their retirement. Second, the system would be designed to include far more than the 11 percent of the labor force currently covered. With the combination of greater savings incentives, and much greater coverage of the system, we would envision a major increase in voluntary household saving for retirement. A well-designed public education effort alongside the reform would also encourage household participation. In essence, a sound, individual-based retirement system could help to revolutionize the life-cycle planning and saving of the vast majority of Bolivia's households.

In Chile, pensions under the new individual retirement scheme introduced in 1980 have roughly doubled compared to those under the previous pay-as-you-go system. The average annual return of the
pension fund since 1980 is 13% in real terms. Although it is expected that the return would converge to levels of 6 to 7% per year, a worker that stays in the system until age 65 (mandatory retirement) could easily attain a pension 50% higher than his or her last wage. New contributions to the system run at 4% of GDP per year and, as of mid-1993, the accumulated pension funds amount to about one-third of GDP. And the coverage of the system is around 69% of the employed labor force.\textsuperscript{13}

Third, by designing the new system to foster the development of private, competitive pension funds, the efficient management of Bolivia's domestic savings would be encouraged. The pension funds would become active participants in a newly invigorated capital market, and the funds could provide substantial new investment resources for Bolivian enterprises. The Chilean social security reform, for example, was instrumental in raising Chile's stock market capitalization to more than 100% of GDP. Attractive price-earnings ratios have encouraged many companies to seek their financing through new stock offerings. Chile's private pension funds have also become major purchasers of corporate bonds. Overall, securitization has risen markedly.

From the old to the new scheme: transitional issues

One of the trickiest problems in introducing the new system involves the transition from the old system to the new system.

\textsuperscript{13} A good, recent analysis of the Chilean pension system is provided by Diamond and Valdés (1993).
Currently, retirees receive pension benefits out of taxes paid by younger workers within the system (as well as by direct contributions from the budget to cover the deficit of the system). When the younger workers are taken out of the state system, and begin to save on their own account, there is no obvious way to fund the current retirees. The problem continues as older workers now in the system retire in the next few years. Their contributions during these coming years would not be sufficient to meet their accumulated benefits, which otherwise would have been paid for out of taxes on the younger workers. The transition must plan carefully for the funding of the existing obligations.

The essential trick, employed in Chile, is to force the new pension funds to purchase government debt or other government assets during a transition phase, and to use the funds raised by selling the debt to cover the pension obligations of the currently retired and soon-to-be retired workers. The younger workers still support the older workers, not through a payroll tax, but rather through their individual retirement contributions which are then invested in government bonds or other government assets sold to the pension funds. The essential pay-as-you-go arrangement remains for several years: young workers buy debt, and the proceeds of the debt sales are transferred to the old workers. In the end, the government builds up a stock of debt equal to the value of the accumulated pension obligations of the current retirees plus the portion of the future pensions of current workers that will not be covered by their own future contributions into individual
retirement accounts.

The transition period then involves a kind of subtle relabeling. Future payments by young workers are henceforward called "contributions into individual retirement accounts," rather than payroll taxes. The government gets its revenues to support the retirees by selling bonds rather than collecting taxes. But the underlying flow of funds is basically unchanged, at least regarding the existing retirees. To get the accounting right, Chile issued special zero-coupon, "recognition" bonds to workers already in the state system that had not yet retired. The bonds were deposited in the individual retirement accounts of these workers, and were set at an amount equal to the benefits that these workers had already accumulated through previous participation in the state retirement system. When these workers retire, and the bonds come due, the Government will presumably have to sell new bonds on the market (e.g. to the pension funds) to retire the existing bonds.

Some have charged that the transfer to the new system is too expensive, in that it leads to a large government debt. But this approach reflects a basic misunderstanding. The Government takes on no new obligations in the new system that it does not already have in the old system. It is not really running a larger deficit, or accumulating a larger debt. Rather, it is relabeling categories. The government already has a debt to the existing retirees and to the current workers that are expecting benefits when they retire. This debt is implicit, however, rather than explicit. The retirees (or their pension funds) do not now hold a piece of paper called
"government debt" guaranteeing them a specified payoff from the government, but they are entitled to the payoff nonetheless according to the current pension law.

Therefore, the emergence of explicit treasury debt in the transition process merely makes explicit a government obligation, or debt, that the public sector already has incurred. The government will be able to meet that obligation as well in the new system as in the old, as long as it can require that a portion of new pension contributions of young workers be used to purchase government debt in order to continue to pay the existing retirees. In this sense, there is no new fiscal burden imposed by the transition to the new system.

Still, careful planning is required to manage the transition period correctly. The new pension funds must be required to keep a proportion of their portfolios in newly issued government bonds. This proportion must be high enough at the start to cover the existing retirees. The proportion is allowed to decline later on, as these preexisting obligations are met, and the current retirees die. Similarly, since young workers are absolved of the payroll tax, they must be required to make a minimum contribution into their new retirement accounts, in part to make sure that enough government bonds are sold to cover the existing retirees.

These financing problems are not likely to be severe in the case of Bolivia, since the pension reform is likely to increase enormously the number of contributors to the system (who would then be purchasing the new government bonds), as well as the size of the
total contributions compared with the existing payroll tax. In other words, new inflows of saving into the individual retirement accounts should easily exceed current payroll contributions into the state retirement system. As long as an adequate proportion of the inflow of saving is channelled towards government debt in the early years of the system, the problems of transition will be readily handled. Moreover, as we describe in the next section, the capitalization program can also help to ameliorate the transition problems.

5.6 Linking Pension Reform and Capitalization

We believe that the capitalization program and the pension reform have important synergies, so that each could strengthen the other. By linking capitalization with pension reform, the transition problems in the social security reform could be eased substantially. At the same time, the development of private pension funds in the reform program would help to solve a major puzzle of the capitalization program: how to distribute the 50% ownership of the state enterprises to the Bolivian people.

Consider first how the capitalization problem could help to solve the transition financing arrangements of the pension reform. As we have noted, the government must find a way to pay for existing obligations to retirees and current workers that are now covered by the state retirement system, since payroll taxes will be eliminated once the individual retirement account system is
total contributions compared with the existing payroll tax. In other words, new inflows of saving into the individual retirement accounts should easily exceed current payroll contributions into the state retirement system. As long as an adequate proportion of the inflow of saving is channelled towards government debt in the early years of the system, the problems of transition will be readily handled. Moreover, as we describe in the next section, the capitalization program can also help to ameliorate the transition problems.

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introduced. Capitalization can be used in two ways. First, rather than giving current workers "recognition bonds" as in Chile, the workers could receive a block of shares of the state enterprises instead. (The workers would have the shares deposited into their pension fund accounts, rather than receiving the shares directly). The value of these shares would then cover the existing state obligations to the workers in the system. (Of course, it would be possible to offer a mix of recognition bonds and equity). Second, the Bolivian Government could sell some of the state enterprise shares (e.g. at a below-market price) to the pension funds over time, in return for contributions to the individual retirement accounts. These sales, rather than the issuance of government debt, would help to cover the pension benefits of the existing retirees.

At the same time, the emergence of private pension funds in the pension reform would help to solve a major problem with the capitalization scheme: what to do with the 50 percent of enterprise shares that will remain in Bolivian hands. There is a continuing debate about what to do with the Bolivian proportion of the shares. Should households receive vouchers, as in the Czech Republic or Russia, to enable them to purchase the state enterprise shares? Should each household receive one share of each company? These two options for a free distribution of shares would pose tremendous, and perhaps insurmountable, logistical obstacles. Each state enterprise would suddenly find itself with millions of shareholders, many times more than most large companies listed on the New York Stock Exchange! The burdens of so many shareholders,
in terms of stock trading, dividend payments, registration of shares, etc., would likely absorb the operating profits of the companies.

If instead the shares are held mainly in a few financial intermediaries such as pension funds, with households owning shares in the intermediaries rather than the individual companies, then the logistical problems would be dramatically eased. Each individual, for example, would own an individual retirement account. That account would be managed by one of a handful of private pension funds. These funds, among themselves, would hold the Bolivian proportion of the state enterprise shares. The companies, therefore, would have only a few large shareholders, rather than millions of individual shareholders. This approach would also probably be preferred by the foreign investment partner, who would like to deal with a few large and well managed funds, rather than hundreds of thousands or even millions of small shareholders.

The gains would not only be logistical in nature, those such gains may by themselves be enough to justify the choice of the share distribution mechanism. Another gain would be in the quality of corporate governance provided by the financial intermediaries versus individual shareholders. If the enterprise shares are distributed among millions of shareholders, no shareholder will have the incentive or interest to monitor the company's management very closely. If instead the Bolivian proportion of the shares are held by a few large pension funds, then each pension fund would
have an incentive to monitor the management of the enterprise, and would presumably maintain a seat on the corporate board of directors.

5.7 Raising Rural Productivity

The reform period has made vivid the division between the "two Bolivias," the urban sector which has begun to take advantage of the macroeconomic stability to increase investment and growth, and the peasant rural sector, which has remained stagnant in the face of the huge changes of recent years. Agricultural productivity in the traditional highlands farming has remained basically unchanged during the past two decades.\textsuperscript{14} It is very likely that the rural poor have fallen farther behind the modern sector during this period, and may very well have lost ground in absolute terms, though comprehensive data are not available to make definitive judgements.

It is a harsh truth that Bolivian Governments in recent years have done little to address the deep crisis of rural poverty. The crisis is clearly multifaceted: adult illiteracy, inadequate primary and secondary education, poor rural health including tragically high infant mortality and morbidity, stagnant technology, and ecosystems in crisis. Much of the work of the next administration will simply be to launch a strategy to address these problems; there will not be full solutions for decades.

\textsuperscript{14} See The World Bank (1992).
We can only sketch some of the dimensions of an adequate strategy for this sector of the economy. We would point first to the very low level of rural productivity in traditional farming, particularly in basic staples such as wheat, potatoes, soybeans, and maize. Part of the reason for low productivity is the virtual absence of basic agricultural research and development in Bolivia (see Godoy et al, 1993). What little R&D is performed tends to be devoted to commercial crops (such as soybeans in the lowlands), as opposed to the traditional staples. Table 6 shows the remarkably low level of R&D expenditures as a percentage of agricultural GDP. Bolivia's R&D effort is by far the lowest of the countries shown in the table. The recent creation of the National Council for Agricultural Research and Extension (CNIEA) is a very good step in the right direction. Now it is important to give it adequate funding and political backing.

Another factor in low rural productivity is the absence of an adequate rural financial system that could help to finance small-scale improvements in infrastructure and farm technology. Part of the reason for the absence of adequate financial markets is the absence of clear property rights over much of the highlands landholdings. Without clear title, it is difficult to support a system of land mortgaging that should be part of an effective scheme of rural finance. Moreover, the absence of title might directly discourage land improvements by individual households because of fear that they will not be able to appropriate the returns to the investments.
TABLE 6— Expenditures on agricultural research in selected countries in Latin America and the Caribbean as percentage of agricultural GDP.

<table>
<thead>
<tr>
<th>Country</th>
<th>Year (*)</th>
<th>Research Expenditure as % of Agricultural GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1981</td>
<td>0.847</td>
</tr>
<tr>
<td>Venezuela</td>
<td>1983</td>
<td>0.843</td>
</tr>
<tr>
<td>Paraguay</td>
<td>1983</td>
<td>0.636</td>
</tr>
<tr>
<td>Mexico</td>
<td>1982</td>
<td>0.442</td>
</tr>
<tr>
<td>Colombia</td>
<td>1986</td>
<td>0.437</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1986</td>
<td>0.381</td>
</tr>
<tr>
<td>Ecuador</td>
<td>1986</td>
<td>0.317</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>1983</td>
<td>0.241</td>
</tr>
<tr>
<td>Argentina</td>
<td>1985</td>
<td>0.219</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1984</td>
<td>0.137</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1983</td>
<td>0.096</td>
</tr>
</tbody>
</table>

(*) Year for which latest information is available.
Sources: Pardey and Rosenboom (1990), and World Bank (1990)
Low rural productivity is also intimately connected with inadequate rural education and health. These problems have been widely discussed in Bolivia, and were featured in the 1993 Presidential Campaign. The proposal to return greater control over social services to the local communities is a promising direction for change, but it is also clear that overall funding levels for rural health and education are chronically inadequate.

In the first place, Bolivia's overall government expenditures on health and education are shockingly small when compared with other countries in the region. In 1991, government spending on health accounted for a mere 0.6% of GDP, and for 3.5% of GDP in education. In Costa Rica, by contrast, health spending was 8.3% of GDP, and education spending was 5% of GDP. This situation clearly requires an increased level of public expenditures. It makes little sense for the Bolivian military to absorb nearly one-third of the total budget, when social needs are so urgent! Part of increased social spending can come from a reallocation of the overall budget; part can be financed by foreign assistance; another part, however, will have to be financed from higher government tax collections.

There is also scope for increasing the efficiency of social spending. For example, Bolivia devotes an enormous proportion of education expenditures to higher education, which is still provided virtually free of charge, while leaving rural primary and secondary education without resources. All international studies on this topic in recent years concur that much higher social returns could be achieved by redirecting the education budget towards the lower
levels of education, while requiring that university students pay part costs of their education. Moreover, there is evidence of waste and fraud in education spending, with "phantom" (non-existent) teachers absorbing a significant share of the payroll.

The same misallocation of resources is evident in health. A very large proportion of the budget is devoted to high-technology tertiary facilities, while primary health clinics are devoid of the most basic supplies.¹⁵ Fraud and abuse also drain the efficiency of government health spending. Other poor countries have been able to make great strides in reducing infant mortality and morbidity through well-administered national programs of mother-and-infant care and community health facilities. Such programs, as exemplified by the Community Health program in Caera, Brazil, should be emulated in Bolivia. UNICEF and the World Bank should be called upon for conceptual support, program design, and assistance in mobilizing international financing.

5.8 Fiscal Policy

In spite of sustained efforts at fiscal consolidation, and great successes in reducing inflation, Bolivia's stabilization efforts remain fragile because of the country's chronic budget deficit. Figure 8 shows the evolution of this deficit since the early 1980s. The economic reforms in 1985 ushered in a decisive shift towards fiscal stabilization, with the deficit falling from

¹⁵ As documented in Walsh (1993).
Figure 8
Public Sector Deficit, as % of GDP
nearly 30% of GDP in 1984 to an average of 5.5% of GDP during 1985-92. The deficit is currently forecast to be between 5 and 5.5% of GDP for 1993. The continuing budget deficit is (so far) consistent with low inflation because very little of it is financed by credits to the budget from the Central Bank. Approximately 80 to 85% of the deficit is financed from foreign sources, mostly on highly concessional terms. Of the remaining 15 to 20%, a portion is covered by foreign grants in kind that are resold by the Banco Central de Bolivia (BCB). Thus, BCB loans to the budget are very small.

The current situation is not sustainable, for two reasons: the large concessional financing is not permanent, and current expenditures are almost surely inadequate to cover the needs of the state, including expanded social spending and higher infrastructure investments. As for the first problem, Bolivia has been receiving financing from abroad on the order of 8 to 9 percent of GDP per year. Given the cutbacks in aid in many of the advanced countries, including the U.S., and the rise of aid priorities in Eastern Europe, the former Soviet Union, the Middle East and Africa, Bolivia should expect a decline in concessional financing in the years ahead. At best, the phaseout will be smooth and stretched out over several years. If foreign financing were to fall precipitously, and no other actions were taken to cut the deficit, monetary financing would once again become almost inescapable, exactly the scenario of balance of payments crisis leading to an inflation crisis of the kind that gripped the country in the first
half of the 1980s.

While there are certainly savings that can be achieved on the expenditure side, particularly in cutting waste in personnel expenditures in defense, education, and other areas, it is on the tax side that much of the adjustment is likely to be needed. Bolivia's tax effort, measured as the share of taxes in GDP, is remarkably low on an international comparative basis, even relative to other countries in Latin America which also have a low tax effort by international standards (see Table 7). Higher tax collections as a percent of income will be needed in the future not only to substitute for decreasing foreign financing, but also to cover increased expenditures on social services and infrastructure.

Higher tax rates or new taxes are, fortunately, not the only way to increase tax collections. It is our impression that substantial new revenues could be collected by broadening the tax base and strengthening tax administration. This would require changes in both indirect and direct taxation. The structure of taxes and other current fiscal revenue in Bolivia over the period 1988-92 is shown in Table 8.

**Indirect taxation**

The value added tax (VAT), implemented in 1986, and import tariffs are the most important indirect taxes. The current rate of the value added tax is almost 15%.\(^\text{16}\) In addition there is a

\(^{16}\) The rate is 13% of the gross value of the transaction, or 14.9% (13/87) of its net value.
<table>
<thead>
<tr>
<th>Country</th>
<th>Tax Revenue Direct</th>
<th>Tax Revenue Indirect</th>
<th>Total Revenue</th>
<th>Other Revenue</th>
<th>Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia</td>
<td>1.5</td>
<td>8.7</td>
<td>10.2</td>
<td>2.2</td>
<td>12.4</td>
</tr>
<tr>
<td>Brazil</td>
<td>4.6</td>
<td>5.6</td>
<td>10.1</td>
<td>57.8</td>
<td>66.2</td>
</tr>
<tr>
<td>Colombia</td>
<td>3.5</td>
<td>5.8</td>
<td>9.3</td>
<td>3.4</td>
<td>12.7</td>
</tr>
<tr>
<td>Chile</td>
<td>6.7</td>
<td>13.3</td>
<td>20.0</td>
<td>8.3</td>
<td>28.4</td>
</tr>
<tr>
<td>Mexico</td>
<td>5.4</td>
<td>8.2</td>
<td>13.6</td>
<td>1.1</td>
<td>28.3</td>
</tr>
<tr>
<td>Korea</td>
<td>5.4</td>
<td>5.8</td>
<td>11.2</td>
<td>6.2</td>
<td>28.6</td>
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<td>Singapore</td>
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<td>4.4</td>
<td>11.5</td>
<td>16.2</td>
<td>39.2</td>
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<td>Malasia</td>
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<td>5.9</td>
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<td>12.9</td>
<td>43.3</td>
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<tr>
<td>Thailand</td>
<td>5.3</td>
<td>8.9</td>
<td>14.2</td>
<td>6.0</td>
<td>34.5</td>
</tr>
</tbody>
</table>

Source: Bolivia – SAFCO
Other Countries: Government Finance Statistics Yearbook.
<table>
<thead>
<tr>
<th>Year</th>
<th>Tax Revenue</th>
<th>Indirect</th>
<th>Consumption tax</th>
<th>Value added tax</th>
<th>Direct</th>
<th>Transactions tax</th>
<th>Other tax revenue</th>
<th>Public enterprises</th>
<th>Other Current Revenue</th>
<th>Total Current revenue</th>
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</thead>
<tbody>
<tr>
<td>1988</td>
<td>7.5</td>
<td>0.4</td>
<td>3.8</td>
<td>0.6</td>
<td>0.5</td>
<td>1.1</td>
<td>2.2</td>
<td>16.7</td>
<td>2.8</td>
<td>27</td>
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<tr>
<td>1989</td>
<td>7.9</td>
<td>0.7</td>
<td>3.9</td>
<td>0.6</td>
<td>0.4</td>
<td>1.4</td>
<td>2.0</td>
<td>18.9</td>
<td>2.1</td>
<td>27.7</td>
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<tr>
<td>1990</td>
<td>8.1</td>
<td>0.6</td>
<td>4.2</td>
<td>0.5</td>
<td>0.4</td>
<td>1.1</td>
<td>2.0</td>
<td>18.9</td>
<td>2.7</td>
<td>29.5</td>
</tr>
<tr>
<td>1991</td>
<td>10.1</td>
<td>1.0</td>
<td>6.1</td>
<td>0.6</td>
<td>0.6</td>
<td>1.6</td>
<td>0.9</td>
<td>18.2</td>
<td>2.3</td>
<td>30.6</td>
</tr>
</tbody>
</table>

Sources: SAFCO
transactions tax of 2%. Because of exemptions and evasion, the 15% rate captures only around 6% of total GDP. In Chile, an 18% VAT captures around 11% of total GDP. Of course, no VAT will capture an equivalent proportion of GDP, since some sectors are inevitably excluded from the start. Nonetheless, we believe that Bolivia's VAT collections could be raised substantially.

One key problem is the existence of special exemptions for several kinds of small businesses, such as retail outlets and transport services. While these exemptions are well-intentioned, it is now clear that they cover far more than the proverbial street vendor. The special regimes have become a major source of tax losses. In 1992, 160,000 taxpayers under the special regime for small businesses contributed around US$600,000 in VAT taxes, or less than $4 per taxpayer. The special regime for small transport businesses (with fewer than 3 vehicles) covered 80,000 taxpayers in 1992, who paid just $40,000, or $0.50 per taxpayer. These special regimes reduce the tax base, give rise to evasion and underreporting (including by firms that are customers of the firms in the special regimes), and give unfair competition to enterprises that must compete with firms that pay virtually no VAT taxes. For this reason, these special regimes should be or eliminated, or at least scaled back dramatically.

Increasing the rate of VAT rate does not seem an appropriate solution at this point, at least until the problem of special regimes and evasion is seriously addressed. It may turn out that tighter administration and a sharp cutback in the special regimes
are sufficient to raise the increased revenues that are needed from the VAT. On the other hand, it seems unwise for the government to move in the other direction, of lowering the VAT, in view of the pressing need in the medium term to increase overall tax revenues.

Further revenues can be raised by better enforcement of trade taxes. Under the current law, imports pay a general tariff of 10%, while capital goods pay only 5%. These rates are reasonable. In addition, all imports are subject to an effective VAT of 15%. Unfortunately, these import taxes are not well enforced. Smuggling of imports is estimated at between $300 and $500 million per year, so that evasion may be close to $100 million. Corruption and politicization of the customs service has been a chronic problem in Bolivia, which should be addressed with urgency by the new government.

**Direct taxation**

Direct taxes, including personal and corporate income taxes, continue to provide a very small proportion of Bolivia's overall tax revenues. The corporate and personal taxes represented less than 10% of total revenues in 1992, constituting around 1% of GDP. This is remarkably low in absolute terms and on an international comparative basis. Bolivia can and should do more to collect higher direct taxes, both on corporations and individuals.

The corporate tax in Bolivia is currently based on presumed earnings rather than actual earnings or cash flow. It taxes the patrimony of companies (assets minus liabilities) at a rate of 3%,
(increased from 2% in 1990), and raised only $30 million in revenue in 1992. In our view, it would be feasible and advantageous to convert this tax into a tax on actual earnings or cash flow, based on a simplified uniform accounting system to be developed by the government. A tax on actual income at a flat rate of around 25% would be likely to increase tax efficiency as well as overall tax collections.

Revenues raised by the personal income tax are very low in Bolivia. Individuals are assessed at 10 percent of income, but then are allowed to deduct VAT payments. In fact, the income tax is seen less as a revenue raiser than an enforcement mechanism for the VAT, by encouraging households to collect VAT slips to claim their tax credits. The personal income tax raised only $20 million in 1992. We believe that the personal income tax should become an independent source of tax revenue, rather than a mere complement to the VAT. In our proposal, the deductibility of the VAT would be eliminated, and the flat tax rate of 10 percent would be replaced with a simple, graduated tax schedule. Most Bolivian households would continue to pay 10 percent, but income above a threshold would be taxed at 20 percent. (An alternative would be somewhat higher rates, e.g. 15 percent and 25 percent, but then maintaining a maximum deduction for VAT of between 5 and 10 percent of income).

5.9 Monetary Policy

Monetary policy in Bolivia has been consistently restrictive
in the years since the stabilization, and has thereby supported a steady reduction of inflation to the current rate of around 10 percent per year. The key to the low-inflation policy has been a very low rate of domestic credit expansion, backed by market-based interest rates. The low domestic credit expansion, in turn, has supported a stable exchange rate. Pressures on the Central Bank of Bolivia to resume inflationary finance could arise in the future, however, especially if adequate care is not taken to reduce the large budget deficit and Bolivia's large dependency on foreign financing. No doubt, a steady increase in the tax effort to more manageable levels is the best guarantee of continued monetary stringency.

Nonetheless, the BCB's success in recent years should now be backed up by a stronger law on Central Bank independence, to provide a further firewall against political pressures for increased monetization of the budget. International evidence indicates a clear negative relationship between the degree of independence of a country's central bank and its rate of inflation. For example, Switzerland and Germany, the two low inflation countries of Europe, also have the most independent central banks, while high-inflation Italy has historically had the least independent central bank (though the Italian banking legislation has been changed recently to give new independence to the central bank). This negative relationship is shown in Table 9.

The Bolivian Central Bank law should clarify that monetary stability is the predominant goal of the BCB, along with prudential
<table>
<thead>
<tr>
<th>Country</th>
<th>Average Inflation</th>
<th>Index of Central Bank Independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>13.7</td>
<td>1/2</td>
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<tr>
<td>Spain</td>
<td>13.6</td>
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<td>New Zealand</td>
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<td>Australia</td>
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<td>Norway</td>
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<td>Canada</td>
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<td>6.9</td>
<td>3</td>
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supervision of the banking system; that the BCB has the independence to set the course of monetary policy to achieve monetary stability; that the BCB has no obligation to finance the budget, and indeed may not do so if it would conflict with the goal of monetary stability. These prescriptions should be backed up by strong guarantees of depoliticization of the institution, including job security for the BCB President and senior bank officials during fixed terms in office that are not coterminous with Presidential and Congressional terms.

Bolivia might also explore an even more extreme form of independence, the establishment of a currency board in which the domestic currency is pegged to an international currency (e.g. the dollar) and is fully backed by foreign exchange reserves. All domestic credit expansion by the Central Bank is eliminated, so that the Central Bank's only functions are to buy and sell foreign exchange at the predetermined exchange rate, and to monitor and supervise the banking system. Hong Kong has utilized such a system successfully for more than a decade. Argentina and Estonia have recently ended high inflations through such a mechanism. Its advantage and disadvantage are the same: it completely restricts the room for maneuver of the central bank. It is not an urgent alternative for Bolivia, and if it were ever to be introduced, it could be done without any shock to the system. Nonetheless, it is worth thinking about this option in the early months of the new government.
5.10 Trade Strategy

In view of Bolivia's continuing crisis with traditional exports (compounded by further declines in tin and hydrocarbons prices in mid-1993), the new government must continue to emphasize the vigorous development of nontraditional exports. As a general matter, these will best be promoted through low tariffs, access to foreign markets, and a stable business environment conducive to new investments in nontraditional exports.

The current tariff scheme (10% in general, 5% for capital goods) is quite reasonable. It is low by developing country standards, and balances the fiscal needs of the country with the needs for open trade. While it might be attractive from the point of view of trade promotion to give further tariff reductions for importers (e.g. zero tariffs on capital goods), the ease of tariff administration and fiscal needs probably merit a continuation of the simple, low tariff levels now in place. If other tax reform measures eventually succeed in raising overall tax revenues sufficiently, then a phased cut in tariff rates might be reconsidered. Equally important to low tariff rates, there are no significant non-tariff barriers.

Export incentives in Bolivia are confined currently to the real exchange rate, and a simplified drawback system which has 2 rates: 2% and 4% of the export value. The simplified mechanism has merit when there is a lack of capacity to administer a more complex system. Over time, at least for large exporters, Bolivia should
implement a conventional tariff rebate mechanism.

Trade financing continues to be a heavy cost for Bolivian exporters, in light of the high domestic interest rates. There has been some preliminary indication that the InterAmerican Development Bank might contemplate establishing an export-credit facility for Bolivian exporters, in which qualifying exporters would be able to secure lines of credit at world interest rates, rather than the very high domestic interest rates. Such an opportunity should be vigorously explored.

The Government should also consider mechanisms for establishing long-term financing for major new export related projects in the Bolivian private sector. In Eastern Europe and Russia, the G-7 governments have established "enterprise funds" to help channel equity and loan investments to new and promising private-sector enterprises. A similar scheme to promote long-term export projects in Bolivia should be examined together with the country's donor community.

Another important direction for trade promotion is investment in improved infrastructure, particularly transport, communications, warehousing, sewerage and other facilities for small business development. Bolivia does not have the financial capability for quickly improving infrastructure throughout the entire country. Therefore, its efforts must be focussed on the most promising areas. We would recommend focussing on three "growth poles" for small, export-oriented business: La Paz (including El Alto), Cochabamba, and Santa Cruz. Each has the potential to develop
have long viewed foreign investors as a threat, worthy of harrassment, rather than a source of jobs and income. This old mentality must be changed, in part through active leadership within the government. The Ministry of Industry and Commerce should take the lead in encouraging a hospitable environment for foreign investors.

5.11 Labor Market Reform

Flexible labor markets nurture competitiveness, and allow countries to respond more quickly and effectively to changing economic conditions in domestic and world markets. Bolivia's current labor laws have a number of shortcomings that raise Bolivia's labor costs and make it more difficult for Bolivian export firms to compete on world markets. The current labor legislation is overly complex, with a proliferation of special regimes for particular sectors. The government maintains an excessive role in the negotiation of labor contracts. The legislation is far too detailed in specifying the forms of compensation, bonuses, hours, etc., that should be part of privately determined contracts.17

Perhaps most importantly, limitations on the freedom to fire workers impose a large, hidden cost on hiring workers. If the labor force cannot be reduced except at high cost, firms will be

17 A good recent analysis of the labor regime in Bolivia is provided by Paredes (1993).
extremely reluctant to take on new workers that would otherwise be highly profitable. Under the current labor law, a worker with two years of job tenure is guaranteed 5 monthly wages in the event that he or she is laid off (see Paredes, 1993). Similar extra costs come with guaranteed vacation time, that should be an object of collective bargaining rather than legislative mandate. A worker with 10 years tenure in a company gets 30 working days per year of paid vacation; this is 50% more than in Chile, and 200% more than in Hong-Kong! Moreover, entrepreneurs are apparently required by law to open negotiations whenever the union wishes to negotiate, thereby increasing the potential vulnerability of the enterprise to unexpected job actions and frequent and expensive negotiations.

These provisions are enormously expensive for a country attempting to create new jobs, and to compete in a highly competitive international labor market against East Asian countries (and even other Latin American countries) that do not have these job protections. While the legislation may protect existing workers, it surely depresses the formation of new jobs in the economy, and thereby impoverishes the workers that are not yet in the formal, protected sector. At the same time, companies are encouraged to evade the laws by moving into the informal economy. This, in turn, weakens the efficiency of Bolivia's markets, and raises transactions costs throughout the economy.

A reform of Bolivia's labor laws would sharply limit the role of the state in basic decisions that should be part of a collective bargaining agreement rather than a government mandate (e.g. wages,
hours, vacation time, severance payments). Unnecessary increases in labor costs would be avoided in order to maintain Bolivia's international competitiveness and to foster a healthy environment for new job creation.

6. Conclusion

Bolivia's defeat of hyperinflation in the mid-1980s is regarded within Bolivia and around the world as one of the most successful economic reform programs of the post-war era. In a short period of time, hyperinflation was decisively eliminated, and economic growth was restored after years of plummeting output. As we have underscored, these accomplishments were carried out despite a series of adverse external shocks that sharply reduced Bolivia's export earnings and national income. In part because of these shocks, and in part because of Bolivia's chronically low levels of national saving and investment, economic growth since stabilization has been modest, and so far too small to make a major dent in the country's extreme poverty and generally low standard of living.

The main challenge for Bolivia in coming years is to raise the overall rate of economic growth, to a rate of 6 percent per year or more rather than the prevailing rate of 3 to 3.5 percent per year. Generating higher growth will not be easy. It will require simultaneous advances on several fronts, many of which we have outlined in this report. One key will be to increase national saving and investment rates. We point to several areas of financial
reform—including pension reform and capitalization of the state enterprises—as key parts of a growth strategy. We also stress that more attention must be paid to enhancing rural productivity, both to enhance economic growth and to address Bolivia's deep crisis of extreme rural poverty. This will require a multifaceted effort on agriculture R&D and improved provision of health and education services in the countryside.

On the macroeconomic front, the social agenda and the growth agenda will require continued care in macroeconomic management. Bolivia has been heavily reliant on foreign concessional loans, both to fund investment and to help finance the budget. Bolivia must think ahead to the time when the international community will start to cut back on this financing, and therefore begin to replace the existing foreign financing by higher domestic tax collections. Moreover, higher taxes will be needed to cover increases in social expenditures and important infrastructure investments. We therefore recommend a series of tax measures, mainly designed to broaden the base of existing taxes and to improve tax collection, but also to raise direct taxes collected from households and enterprises. In addition to continued fiscal prudence, we stress the need for a continuation of Bolivia's cautiously restrictive monetary policies of recent years. We suggest that responsible, low-inflation monetary policies can be enhanced by further strengthening the independence of the Central Bank of Bolivia.

Other main reform tasks include the continued promotion of nontraditional exports and the increased flexibility of the economy
through a reform of labor legislation. Export promotion is not easy: new methods for export financing and project development should be sought out. Modest changes in taxes may allow for some improvement in export profitability, though the room for maneuver vis-a-vis taxes is slight in view of Bolivia's continuing fiscal difficulties. Labor law reform would enhance Bolivia's competitiveness by lowering the costs of labor, which are unnecessarily raised by the current restrictions on job firing, and the government-mandated conditions on hours, vacation time, and other working conditions.

Overall, the tasks are immense and interrelated. An important early project of the new government should be to establish a medium-term macroeconomic framework that carefully integrates and quantifies the various parts of the government program. We have made a very preliminary start here, but much more detailed work remains to be done.

With the appropriate policies, and given the political will to back them, Bolivia can look ahead to a much brighter economic future.
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