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**Working Paper**

## Macroeconomic constraints on economic development and poverty reduction: the case of Bolivia

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**Kiel Working Paper No. 1060**  
**Macroeconomic Constraints on Economic**  
**Development and Poverty Reduction:**  
**The Case of Bolivia**

by  
**Rainer Schweickert**

July 2001

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# **Macroeconomic Constraints on Economic Development and Poverty Reduction: The Case of Bolivia\***

## **Abstract**

Bolivia's macroeconomic performance in the period 1994 to 1998 is analyzed and compared with the performance in former periods and the performance of other developing countries (grouped according to income, region, and debt status). This allows to assess what has been achieved in Bolivia since the deep crisis of the early 1980s. A special focus is whether the constraints to investment, economic development, and redistribution, i.e. on domestic savings, export performance, and fiscal revenues have been relaxed. Findings suggest an overperformance with respect to stabilization and an underperformance with respect to the growth constraints.

Keywords: Stabilization, Macroeconomic Constraints, Economic Development, Bolivia

JEL classification: E65 ; 011

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## **I. INTRODUCTION**

Poverty reduction strategies should have three layers. At the bottom, there should be a strategy which supports positive growth rates because economic growth is the single most important factor influencing poverty (Ames et al. 2000). Although the trickle down effects from higher growth to improvements in the income distribution are debatable, it is extremely difficult to achieve any ambitious poverty targets without growth. In the middle, there should be a redistribution policy, i.e. a progressive public revenue and expenditure system which automatically translates overall growth or individual income improvements into higher net transfers from the rich to the poor. Finally, on top of these two layers, there should be a public expenditure system which improves human capital formation in order to improve the chances of the poor to actively participate in the formal economy.

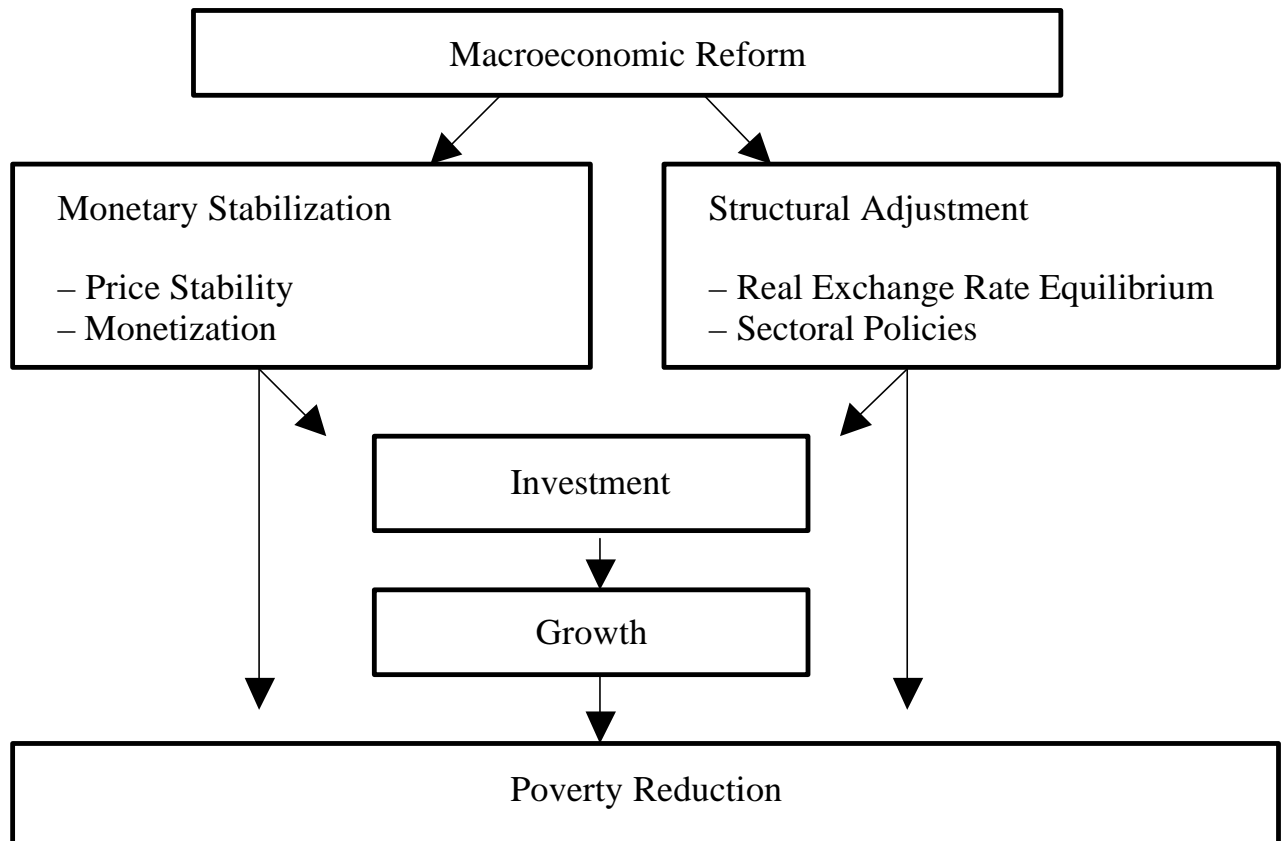
This paper concentrates on the first layer of poverty reduction strategies. The relevant questions here are (1) to which extent the macroeconomic reforms implemented in Bolivia since the combined hyperinflation and debt crisis in the early 1980s have improved the perspectives for higher growth and, through this channel, for a more equal income distribution and (2) to identify the remaining bottlenecks for satisfactory and sustainable growth. The first question is related



to the economic performance which could be observed so far, while the second question asks for the macroeconomic constraints to be considered when designing pro-growth strategies.

Figure 1 shows the relationship between macroeconomic reforms and poverty reduction. Macroeconomic reforms should improve both monetary stability and structural adjustment, thereby improving the availability of loanable funds and the economic environment for more investment. More investment should then lead to higher growth rates with positive trickle down effects for poverty alleviation via the labor market – depending on labor market conditions – and via public investment – depending on the revenue and expenditure system.<sup>1</sup>

Therefore, Bolivia's economic performance with respect to monetary stabilization, investment and growth will be analyzed next. Subsequently, the remaining challenges for structural adjustment, i.e. the macroeconomic

**Figure 1 — Macroeconomic Reform and Poverty Reduction**


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<sup>1</sup> There is also a more direct impact of macroeconomic policy on poverty reduction (Ames et al. 2000). First, monetary stability helps the poor. They are the most likely to suffer from high inflation rates because they tend to hold most of their financial assets in the form of cash and because they are less able to protect the real value of their income from inflation than the better off. Second, maintaining real exchange rate equilibrium benefits the poor because overvaluation reduces income from activities in the tradable goods sector and increases spending on non-tradable goods, a pattern which especially hurts the poor. Additionally, macroeconomic policies also affect the two other layers of poverty reduction strategies.

constraints to more investment will be explored. This will be done in both a times series context and in a cross country context. For this reason, economic development since 1970 has been split up into two stages, the first consisting of two periods, in which the macroeconomic puzzle was created and the second, comprising three periods, in which Bolivian authorities tried to solve the puzzle (Box 1; Table A1). This allows to follow the improvements over time and to compare what has been achieved finally, i.e. in the period from 1994 to 1998, with the standards set by other developing countries grouped according to income, regional affiliation, and debt status (Table A2).

To end this comparison with data available for 1998 makes sense not only for reasons of data availability but also because poverty reduction is a long-run target. As stated by the president of the Bolivian Central Bank with respect to the recession which started in 1999 “...(a) main message...is that the current difficulties, some of them severe, in the terms-of-trade, stock prices and currencies of many countries of the (Andean) region, caused by the international crisis, should not obscure the results of what has been achieved to date and, more importantly, the perspectives for the region (Morales 1999). Hence, the inclusion of the recession period into the analysis would reveal little if any insights into the long run perspectives relevant for the chances to reduce poverty in Bolivia.

### Box 1 — Macroeconomic Episodes in Bolivia, 1970–1998

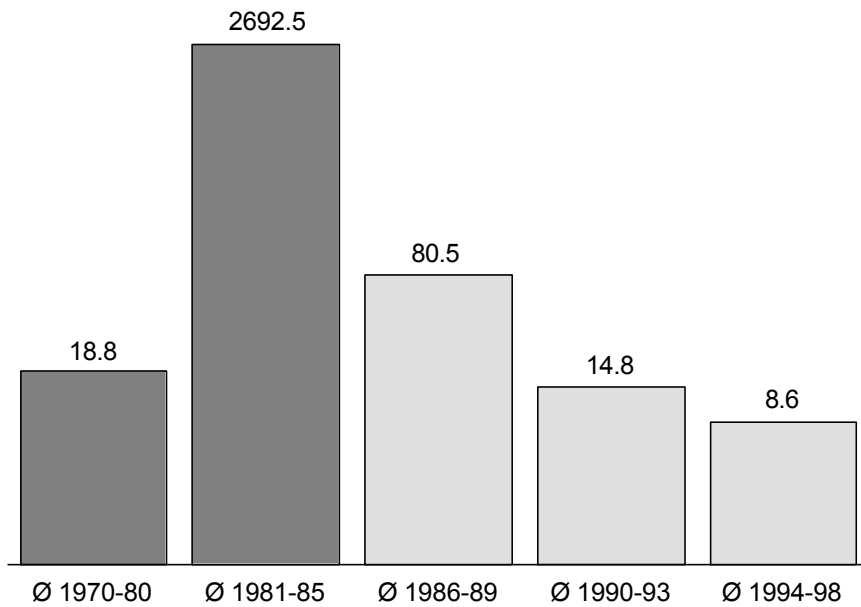
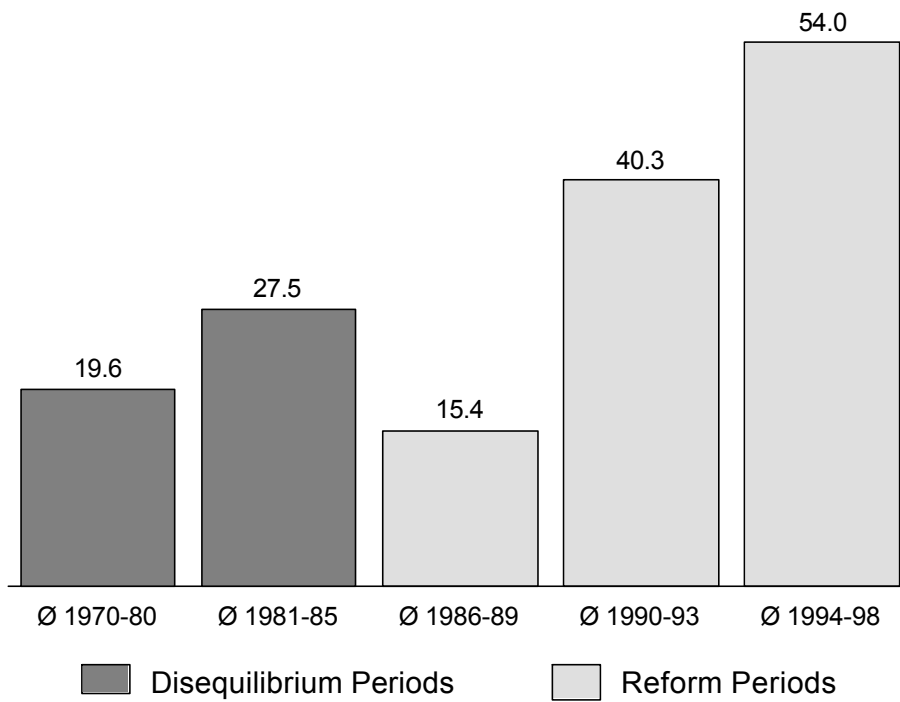
Macroeconomic Disequilibrium	
1970–1980	Destabilization
1981–1985	Crisis
Macroeconomic Reforms	
1986–1989	Stabilization
1990–1993	Consolidation
1994–1998	Structural Adjustment
Destabilization	Positive terms-of-trade shocks led to expectation of increasing public income and a rapid debt accumulation
Crisis	Negative external shocks (higher interest rates, lower export prices, overall debt crisis) led to a debt crisis in Bolivia; the government tried to finance its way out by money creation thereby triggering hyperinflation.
Stabilization	The main steps towards stabilization were the unification of the exchange rate at a market clearing level, a major fiscal consolidation (including rising public-sector prices, a cutback in subsidies and public investment and a tax reform), trade liberalization and the elimination of all capital controls, the deregulation of wages and prices, the liberalization of labor-market activities, financial liberalization, and monetary austerity.
Consolidation	Major structural reforms (e.g. privatization of state enterprises and pension reform) were discussed; disinflation continued with debt restructuring and a crawling peg exchange rate regime.
Structural Adjustment	Implementation of privatization and pension reform; further disinflation.

Source: Antelo (2000); Jemio (2001, 1999); Larraín and Sachs (1998).

The paper is organized as follows. Chapter II reviews economic performance. Chapter III analyzes the macroeconomic constraints for investment and growth, i.e. savings, exports, and fiscal revenue, and shows their relevance in the case of Bolivia. Chapter IV discusses the main problems which explain these constraints. Chapter V concludes on the findings.

## **II. ECONOMIC PERFORMANCE**

A report on Bolivia's economic performance has to start with monetary stabilization achieved since 1985. Figure 2a shows the emergence of hyperinflation in the early 1980s due to monetary expansion thought to substitute for external credit inflows which dried up due to overindebtedness and the overall debt crisis in Latin American countries. Figure 2a also reveals the outstanding stabilization which was achieved with the help of monetary and fiscal austerity as well as a market determined crawling peg exchange rate regime. The return to moderate and even low inflation rates had positive effects for the monetization of the Bolivian economy which was relevant for the availability of loanable funds to finance investment. While the increase in the period average of domestic credit supply for the early 1980s reflects the

**Figure 2a — Monetary Stabilization in Bolivia, 1970–1998****A. Consumer Price Inflation (log; percent)****B. Domestic Credit Supply (percent of GDP)**

Source: Table A1.

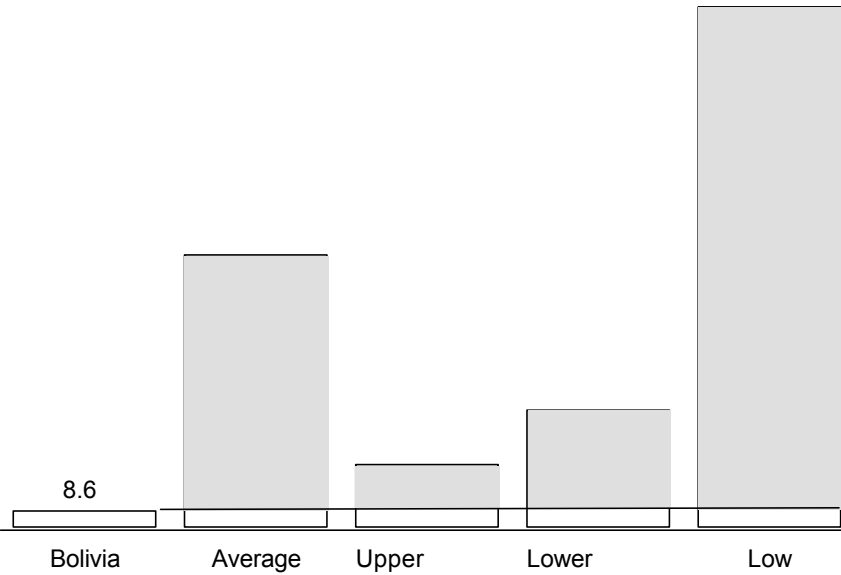
expansionary monetary policy which led to hyperinflation, the consequent periods show the credit crunch due to demonetization and the remonetization following to monetary stability and positive real interest rates.

An international comparison shows the dimensions of this success (Figure 2b). Compared with the averages of groups of developing countries according to income level, Bolivia shows the lowest inflation rate. Only the average of East Asian countries comes close and only the averages of East Asian middle income countries are below.<sup>2</sup> Bolivia also outperforms all groups of developing countries with respect to domestic credit supply. Only the averages for East Asian and moderately indebted middle income countries show higher values for this measure of monetization. Because Bolivia belongs to both the lower middle income Latin American and highly indebted countries, it would be too demanding to hit this standard. All in all, Bolivia's stabilization record outperformed all comparable groups of developing countries.

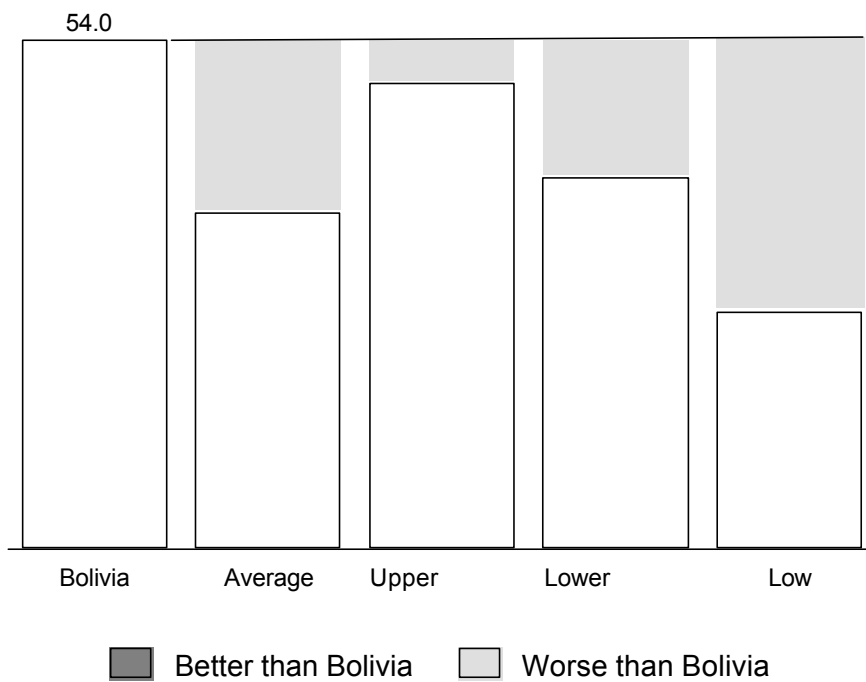
It is important, however, that stabilization translates into an increase in investment and growth. The period averages for growth and investment show that there was, at least, at partial success story (Figure 3a). After the slump in the

## Figure 2b — Monetary Stability in International Comparison, 1994–1998

### A. Annual Consumer Price Inflation (percent of GDP)



### B. Net Domestic Credit Supply (percent of GDP)



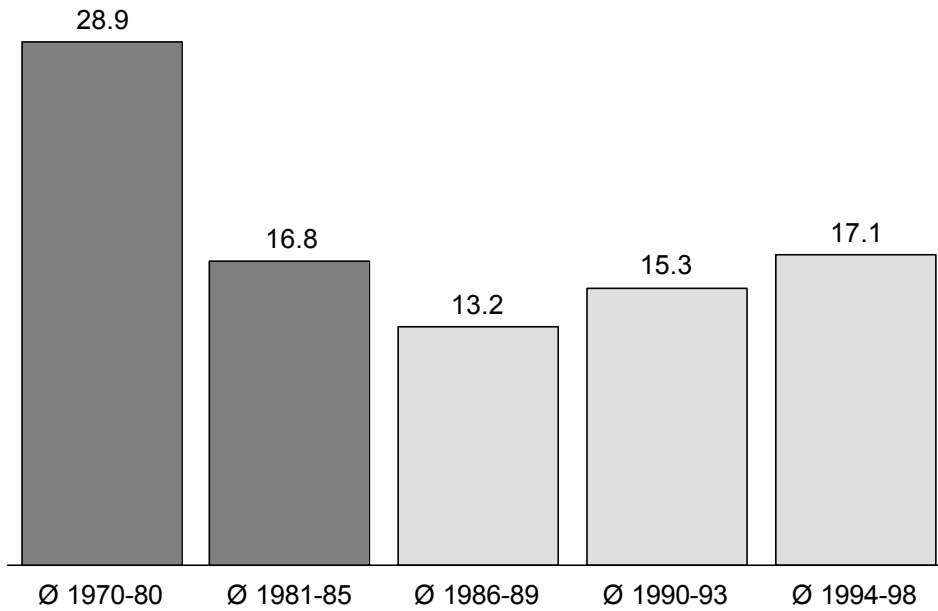
Source: Table A2.

<sup>2</sup> See Tables A1 and A2 for all results, not shown in the figures.

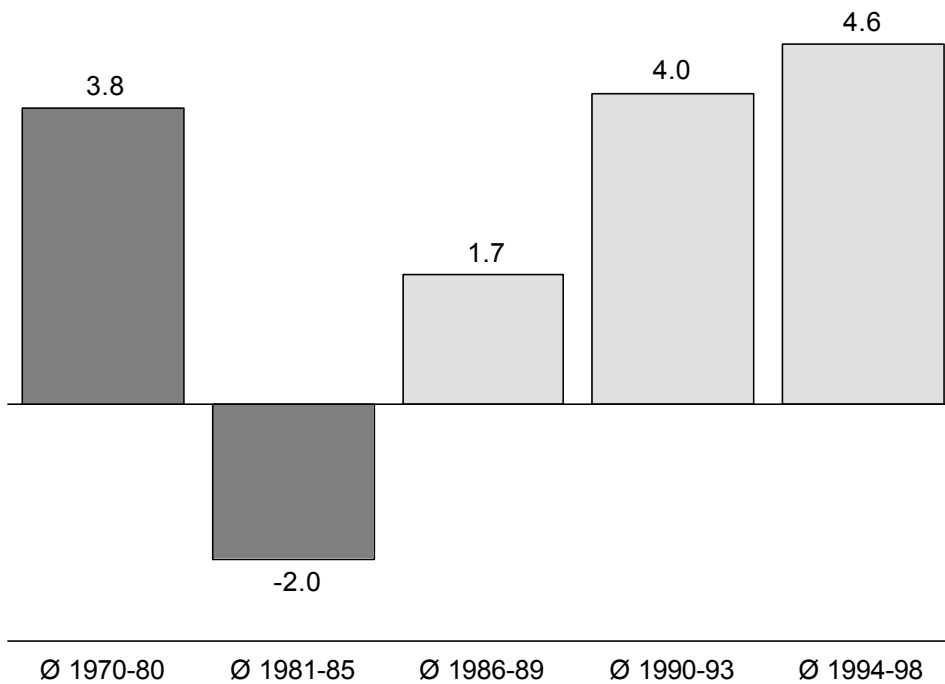



**Figure 3a — Economic Performance in Bolivia, 1970–1998**

A. Gross Domestic Investment (percent of GDP)



B. Real GDP Growth (percent)


 Disequilibrium Periods

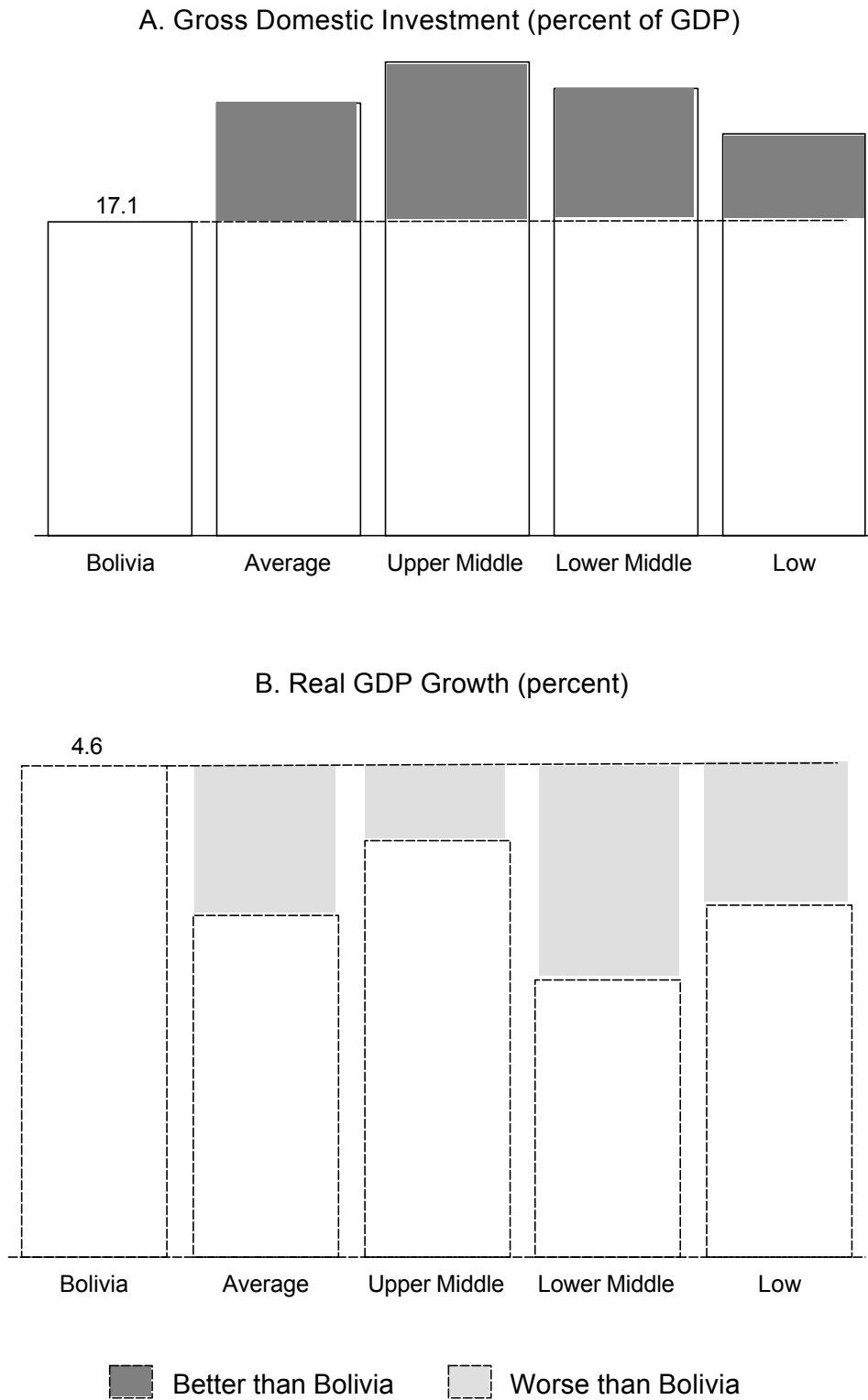
 Reform Periods

Source: Table A1.

early 1980s, real growth became positive in the stabilization period, reached the level of the 1970s in the consolidation period, and further increased in the structural adjustment period. The improvement achieved in the 1990s is even more pronounced if one compares the period averages of GDP per capita in purchasing power parities which increased about 17 percent from the structural adjustment to the consolidation period. Figure 3a also reveals, however, that the growth story was not matched by a comparable improvement in investment. The investment ratio reached its lowest level in the stabilization period and improved rather slowly afterwards, finally reaching the crisis but not the pre-crisis level.

The international comparison shows the same story (Figure 3b). While Bolivia's real growth rate outperformed the averages of all developing country groups, the investment ratio figures below all these averages and even below all averages for the subgroups not shown in Figure 3b. Obviously, Bolivia was able to achieve relatively high growth rates with a relatively low investment, i.e. higher growth resulted from increases in productivity due to successful reforms (see Box 1). A skeptical interpretation, however, would doubt the sustainability of this situation once the improvements in efficiency due to structural adjustment and recapitalization are discounted.

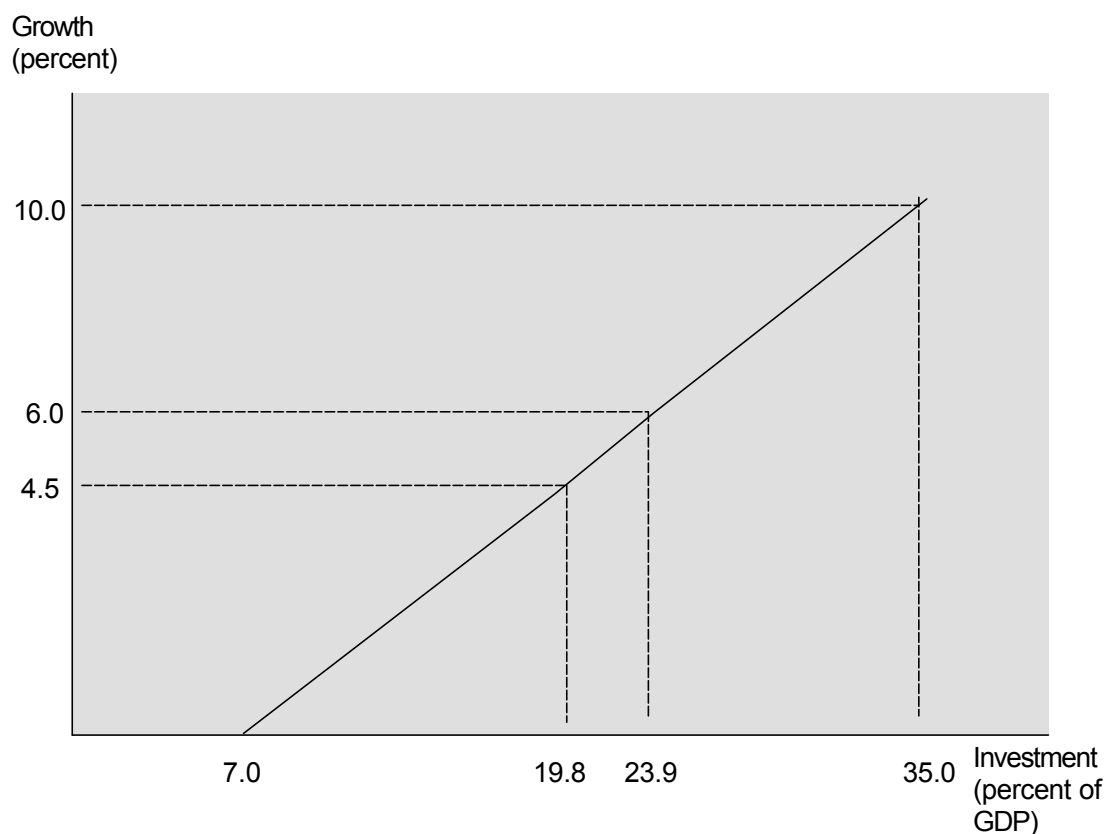
**Figure 3b — Economic Performance in International Comparison, 1994–1998**



Source: Table A2.

Figure 4 tries to establish a sustainable relationship for growth and investment based on calculations by Larraín and Sachs (1998). The assumptions are a depreciation rate of 7 percent of GDP and an incremental capital output ratio (ICOR) of 2.8 which is about an average value. Larraín and Sachs argue that a growth rate of 6 percent defines a minimum growth rate below which no significant catching-up and trickling down effects could be expected. Based on this long-run relationship, the target rate for domestic investment would be 23.9 percent of GDP which is significantly higher than actual investment in the consolidation period.

**Figure 4 — Target Rates for Investment and Growth**



Source: See text.

### III. MACROECONOMIC CONSTRAINTS

Therefore, the next step is to look at the macroeconomic constraints – some like to call it gaps – which constrain investment. The most important constraint is of course domestic savings. Given the fact that the difference between savings and investment automatically widens the trade current account deficit and increases external vulnerability. A second constraint is the export performance which is relevant for investment in countries like Bolivia which have to import capital goods. The third constraint is government revenue which limits government expenditure in complementary investment like building up physical and human capital infrastructure.<sup>3</sup>

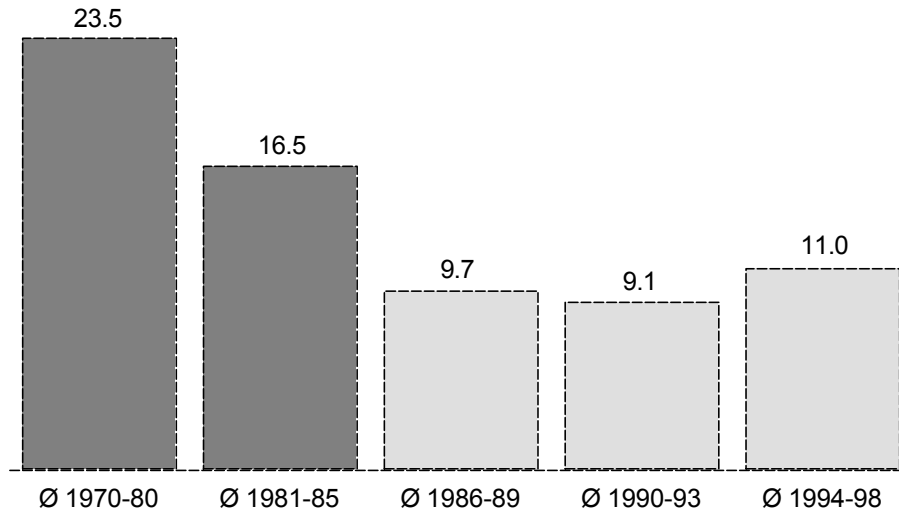
A look at the development of domestic savings reveal the main bottleneck for investment and growth in Bolivia (Figure 5). As was the case for the investment ratio, the savings ratio deteriorated in the crisis period and even more in the stabilization period. But different to investment, savings never improved significantly but stayed around 10 percent of GDP. The international comparison matches this observation. Only low income countries show – on average – lower overall savings rates but higher private savings rates than Bolivia (Table A2).

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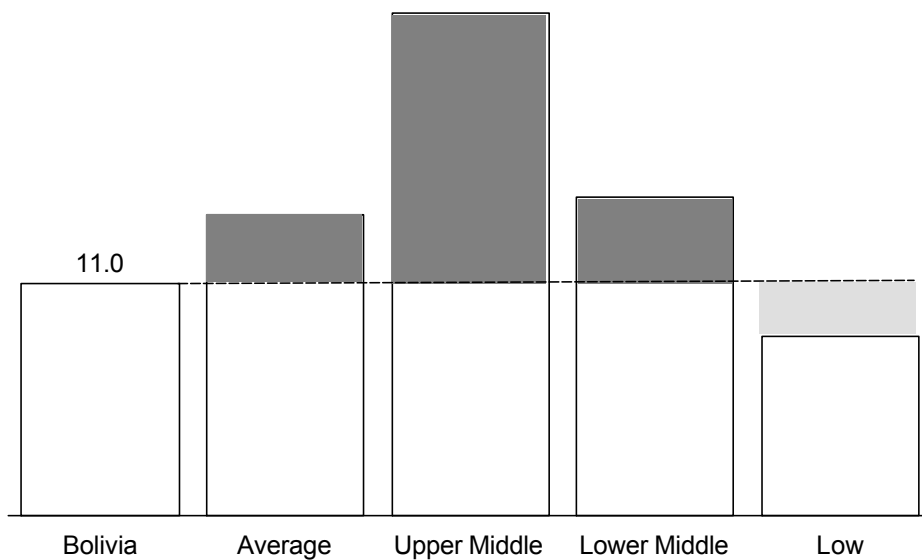
<sup>3</sup> On the three-gap model, see, e.g., Bacha (1989).

**Figure 5 — Macroeconomic Constraints to Investment I: Gross Domestic Savings (period averages; percent of GDP)**

A. Bolivia, 1970-1998



B. International Comparison, 1994-1998



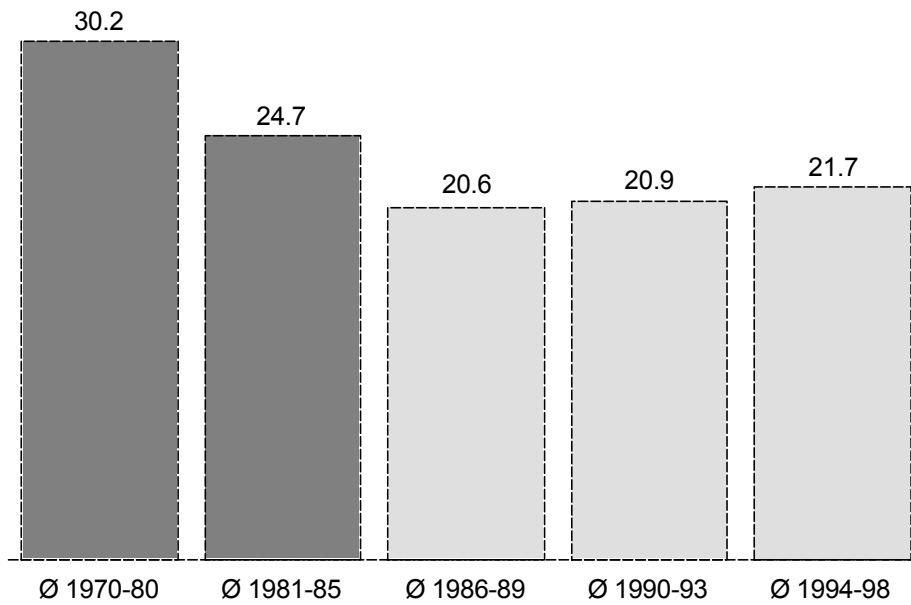
Source: Tables A1 and A2.

Export performance paralleled savings performance in Bolivia (Figure 6). The export ratio dwindled from about 30 percent in the 1970s to about 20 percent in the 1980s and showed no improvement in the 1990s. However, the interpretation of export performance has to consider the enormous burden of terms-of-trade adjustment which figures 12 percent in the crisis period, 12 percent in the structural adjustment period, and even 20 percent of GDP in the consolidation period (Table A1). Hence, the stability of the export ratio in the 1990s was quite a success and the performance of the 1970s was clearly pushed by enormous gains from terms-of-trade adjustment. If one accumulates all terms-of-trade adjustments from 1970 to 1998, the result is a burden of just about 8 percent of GDP. Because of these enormous swings in the terms-of-trade, the position achieved in the 1990s can best be evaluated by the international comparison. The result is quite the same as with respect to investment and savings with Bolivia underperforming relative to all country averages.

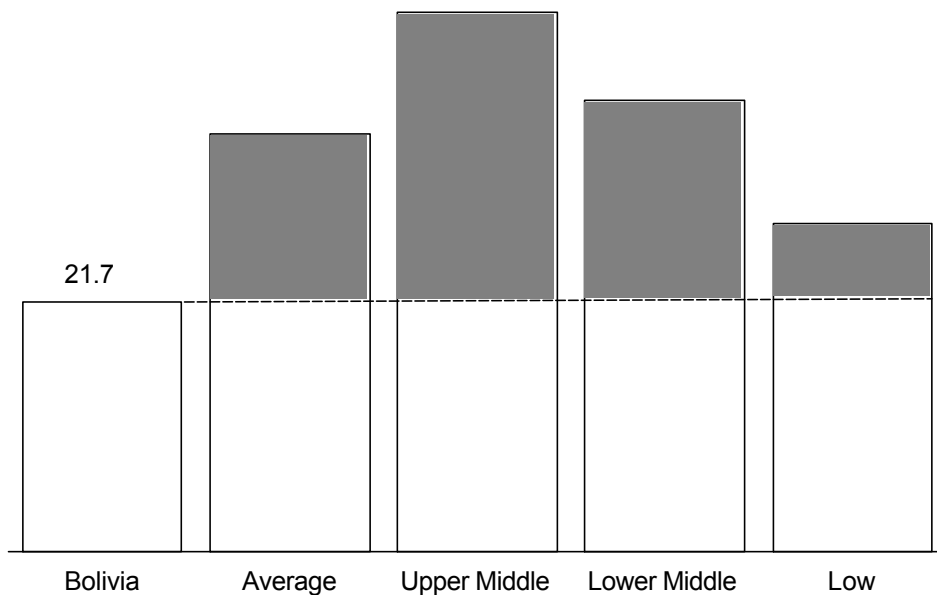
Looking at the third constraint to investment and development, fiscal revenue, the improvement made since the early 1980s is dramatic (Figure 7). Merely starting from scratch, i.e. with a revenue level of about 5 percent at the end of the crisis period, fiscal revenues increased continuously to about 25 percent of GDP in the consolidation period which is about an average for Latin American

**Figure 6 — Macroeconomic Constraints to Investment II: Exports (period average; percent of GDP)**

A. Bolivia, 1970-1998



B. International Comparison, 1994-1998

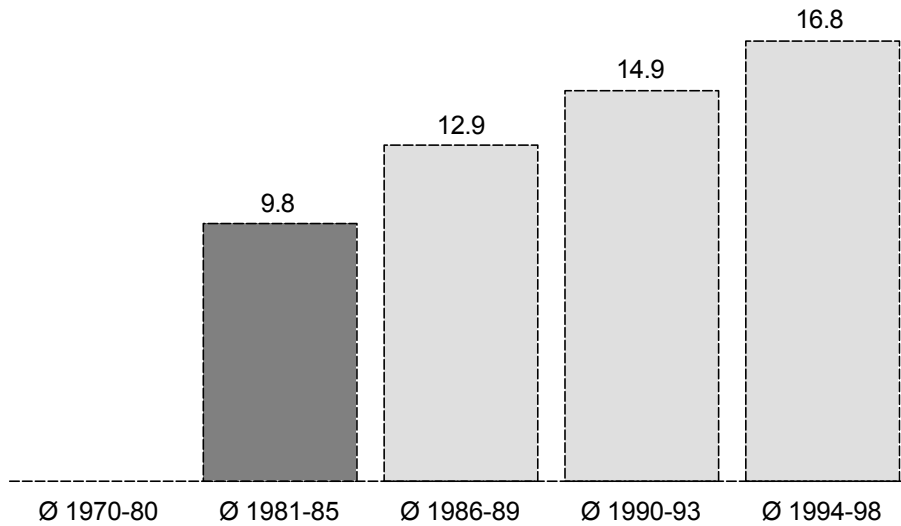


Source: Tables A1 and A2.

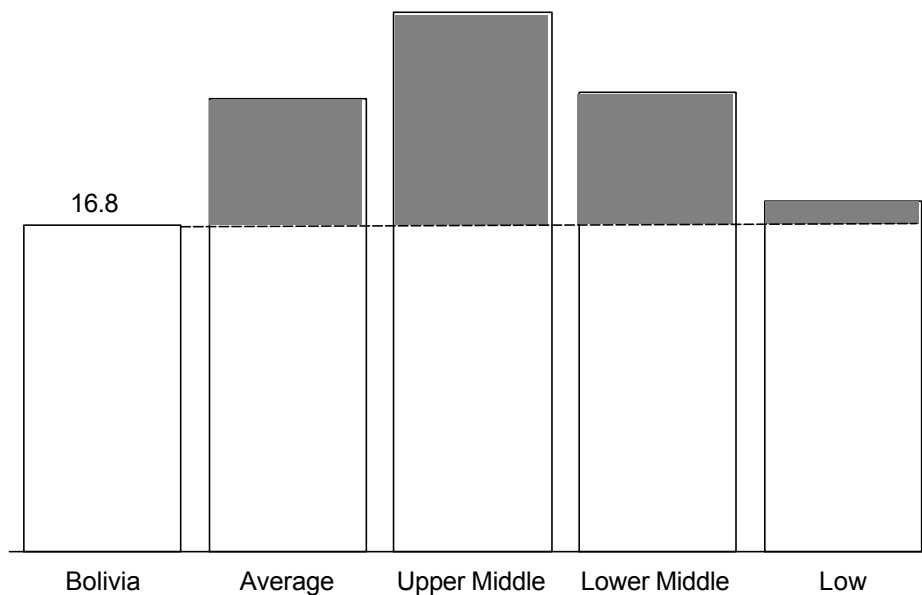


**Figure 7 — Macroeconomic Constraints to Investment III: Government Revenue, 1970–1998 (period average; percent of GDP)**

A. Bolivia, 1970-1998



B. International Comparison, 1994-1998



Source: Tables A1 and A2.

countries (World Bank 1999). However, an international comparison is possible only with respect to current revenue of the central government which in the case of Bolivia is substantially lower than total revenue. The comparison reveals that Bolivia again ranks last when compared to developing country groups. Arguably, the figure for overall government revenue is larger than the total average of all developing countries for current revenue of the central government.

However, there are two problems with such an interpretation. It is difficult to make assumptions about the average degree of fiscal federalism, i.e. distribution of government revenues among the center and the regions, of developing countries. But even if fiscal federalism is relatively strong in Bolivia, the regions – according to statements by the regional authorities – lack the capacity to invest in physical and human infrastructure. This would imply that the comparison shown in Figure 7 points to a relevant problem – a mismatch of revenue and capacity. Because the revenue of the central government is relatively low in international comparison, it lacks the financial funds for investment. On the other hand, the regions which should be relatively well endowed with financial funds at least claim to lack the administrative capacity to implement investment projects.

All in all, both the time-series and the international perspective support the assumption that investment in Bolivia has been seriously constrained by domestic savings, exports, and to some extent by fiscal revenue. In the following external

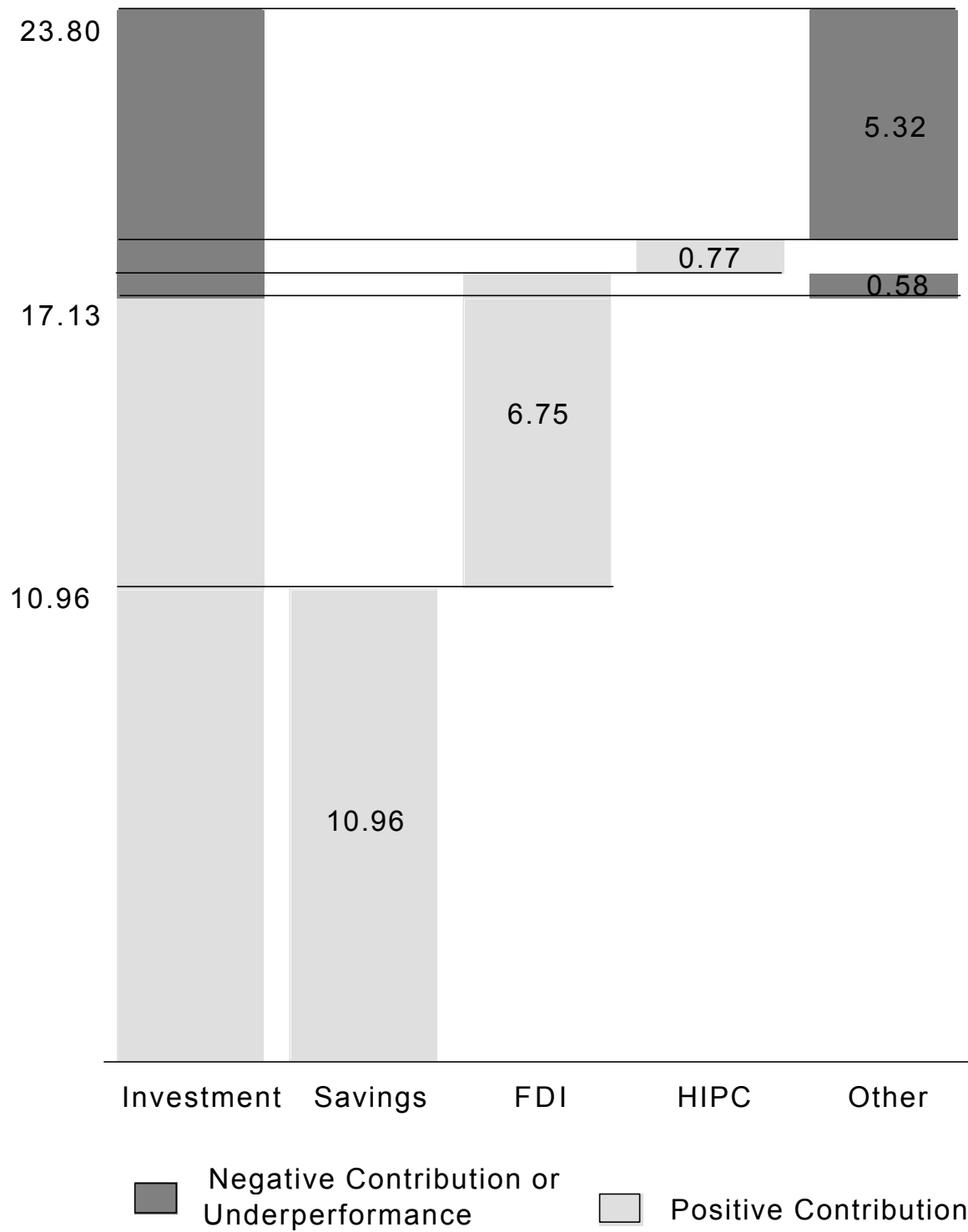
and domestic aspects related to the savings and export constraints will be discussed.

#### **IV. EXTERNAL CONDITIONS AND DOMESTIC POLICIES**

##### **1. Savings Performance: HIPC, Public Savings, and Real Interest Rates**

The domestic savings constraint to investment has a special quality which establishes a high priority for addressing the issue of domestic savings mobilization in Bolivia. This is demonstrated by Figure 8 which gives an idea about the savings gap to be closed in order to finance a satisfactory level of investment in Bolivia. Taking the target rate introduced in Figure 4, i.e. 23.8 percent of GDP, as a starting point, a first observation is that the investment ratio in the high growth period would have to increase by nearly 40 percent. A second observation is that only 64 percent of actual (insufficient) investment was covered by domestic savings and that the rest has been 'overfinanced' by foreign direct investment. The difference between investment and domestic savings plus foreign direct investment (FDI) is explained by a net outflow of

**Figure 8 — Financing Investment in Bolivia, 1994–1998 (period average; percent of GDP)**



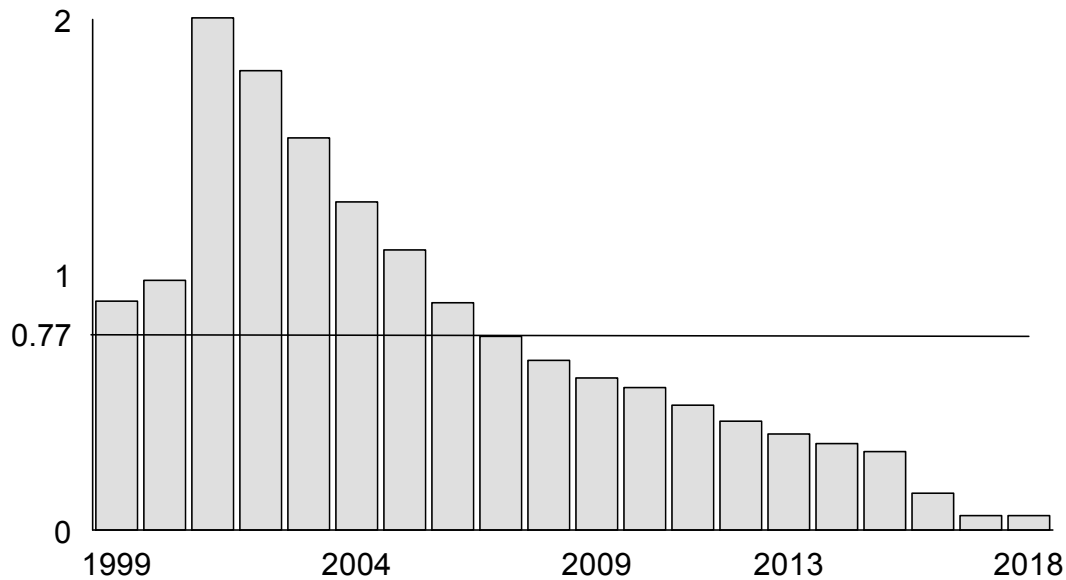
Source: Table A1; IMF (2000b); own calculations.

other financial funds, i.e. including debt service, grants, transfers, etc. A third observation is that the relief to be expected from the Highly-Indebted Poor Countries (HIPC) initiative will – on average – only have the effect to bring the flows of financial funds other than FDI to almost zero.

Figure 9 shows that little relief is to be expected from international institutions and official creditors and donors after 2005. The amount of relief provided by HIPC and enhanced HIPC initiatives is not insignificant especially between 2001 and 2005 but remains marginal on average and relative to the problem at hand.

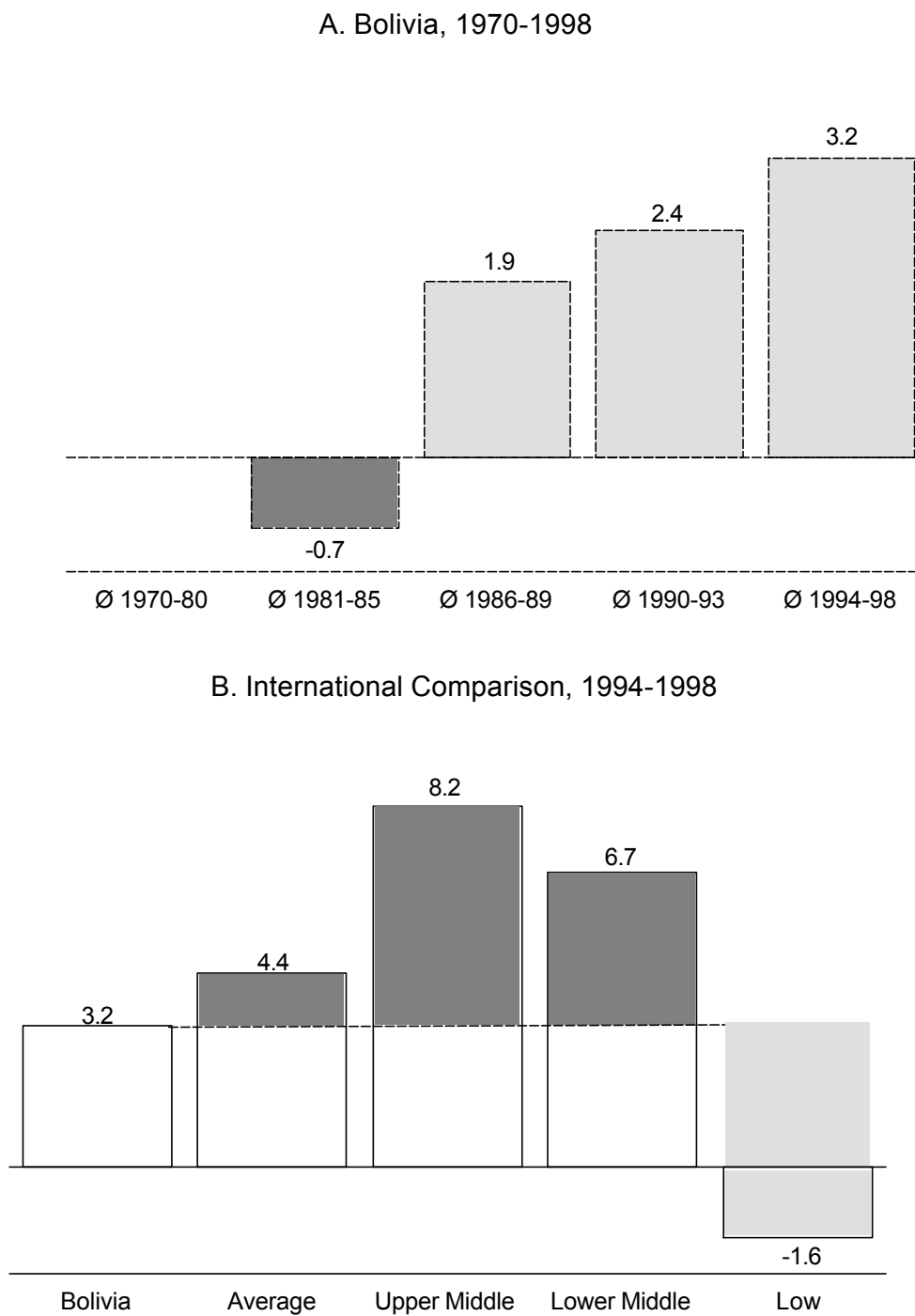
The consequence is that – if domestic savings remain at their low level – Bolivia will have to sustain at least the high level of foreign direct investment inflows of the structural adjustment period even after the recapitalization process will have come to an end. In order to reach a sufficient level of investment the alternatives would be (1) a further increase in FDI in the range of about 5 percent of GDP which would imply inflows of about 12 percent of GDP, (2) an increase of official credits of the same amount, or (3) a relaxation of the external credit constraint. All these scenarios seem not very likely and, additionally, it will be difficult to sustain the high level of FDI after the privatization of state-owned enterprises will be completed. The only viable alternative is to increase domestic savings to at least 15 to 20 percent of GDP.

**Figure 9 — HIPC Debt Service Reduction for Bolivia, 1999–2018 (period average; percent of GDP)**



Source: IMF (2000b); own calculations.

Hence, it is up to domestic policies to fill the savings gap. Figure 10 shows that public savings have increased continuously since the crisis period and arrived at the average of all developing countries in the 1990s. However, the international comparison reveals that the overall average is biased downwards by negative public savings in low income, i.e. mostly African, countries. Public savings in the lower middle income group to which Bolivia belongs is more than double the Bolivian figure. Additionally, it has to be kept in mind that the period 1994–98 with relatively high growth and relatively low inflation rates (see Figures 2 and 3) was quite favorable for generating public revenues in Bolivia.

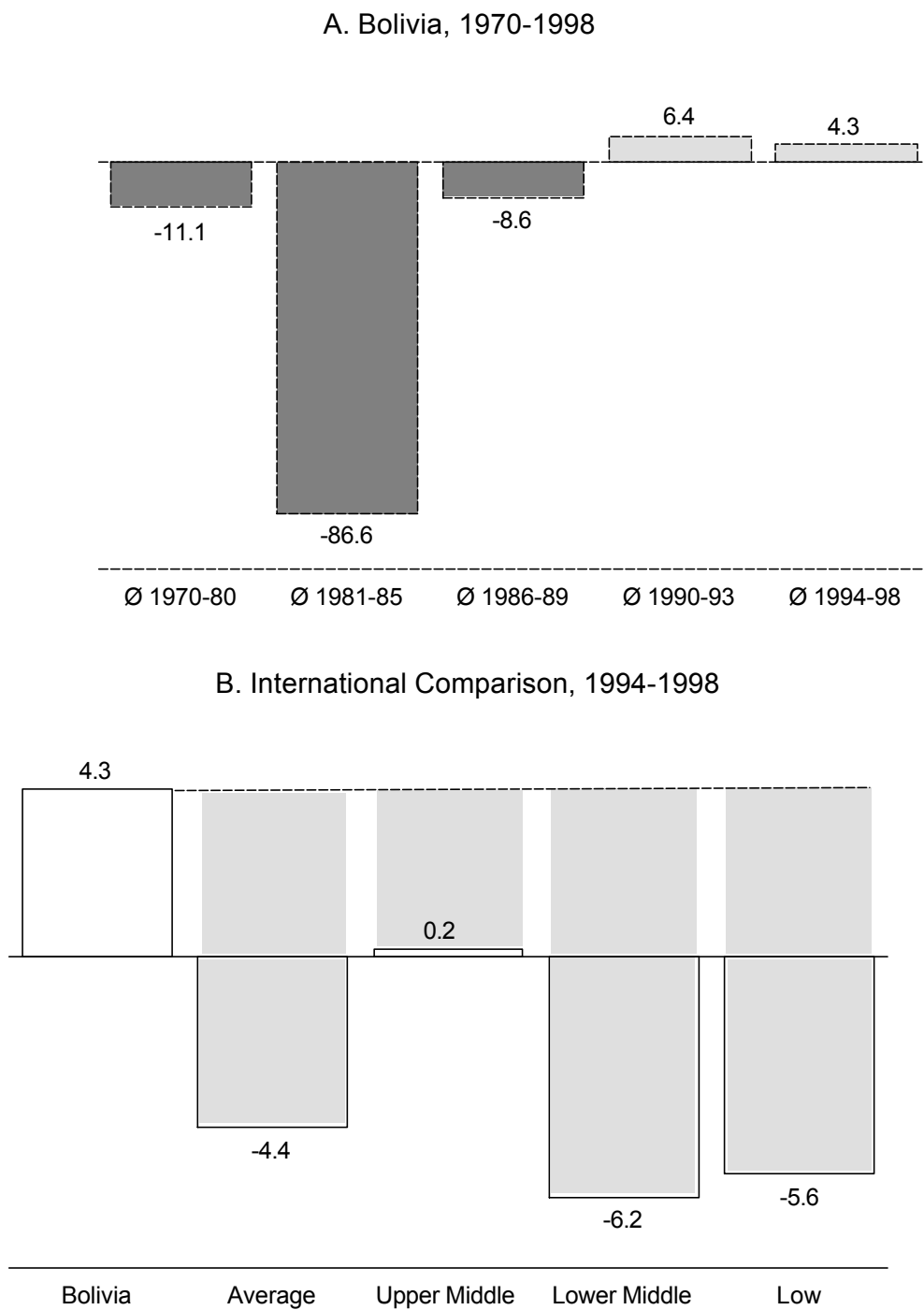
**Figure 10 — Public Savings (period averages; percent of GDP)**

Source: Tables A1 and A2.

It has already been mentioned that private savings have even been lower than in low income countries. This result is quite surprising when looking at real deposit rates in Bolivia (Figure 11). After financial liberalization in the mid-1980s, real deposit rates became highly positive in the stabilization period. As inflation pressures eased, real interest rates have been allowed to decline but, as shown by the international comparison, still remain above all developing country averages in the structural adjustment period.

It has to be noted, however, that the ratios shown are based on deposits in domestic currencies, i.e. in bolivianos, and that even official dollarization reached a very high level in Bolivia. Dollarization peaked in 1994 when it reached 85 percent according to the share of dollar deposits in total deposits. Afterwards, it stabilized slightly above 80 percent (Orellana and Mollinedo 1999), although real interest rates for boliviano deposits have been consistently higher than for dollar deposits. This relationship changed since September 1998 when real boliviano rates fell below real dollar rates (BCB a). In September 2000, the rates for time deposits were 6.48 and 10.32 for boliviano and dollar deposits respectively. Consequently, dollarization increased to 93 percent at the end of 2000. Independent of these structural changes, one can conclude that deposit rates in bolivianos and dollars fluctuated at a highly positive level.



**Figure 11 — Real Deposit Rates (period averages; percent)**

Source: Tables A1 and A2.

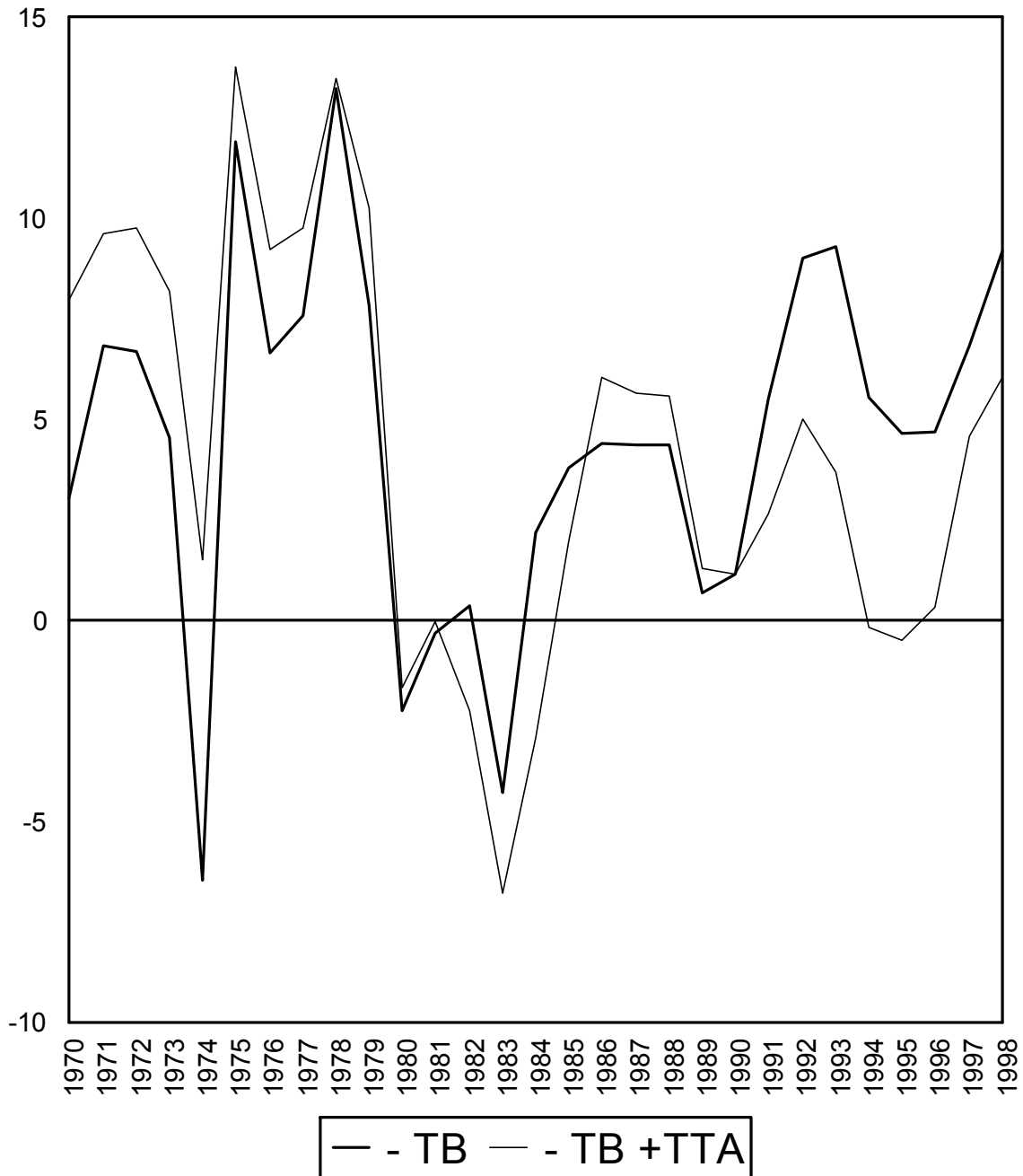
Different to deposit rates, lending rates in dollar have always been less than half the figure for lending rates in bolivianos. This clearly provides a disincentive for borrowing in bolivianos. In 1998, the average dollar lending rate was about 12 percent which is still above the averages of developing countries. However, the spread between lending and saving in dollar was just 7 percent which is even lower than the average of upper middle income countries.

All in all, real deposit rates in Bolivia have been high since the crisis period thus providing strong incentives to save. Additionally, potential disincentives for investment stemming from high interest rates have been limited due to a low interest rate spread, at least for lending in dollar. This result is a strong indication of structural problems underlying savings mobilization in Bolivia.

## **2. Export Performance: Terms-of-Trade Shocks and Exchange Rate Policy**

It has already been argued that the export performance has been significantly determined by terms-of-trade shocks. Figure 12 shows the trade deficits from 1970 to 1998 and the hypothetical trade deficits if actual deficits are corrected by terms-of-trade adjustment. Although there is no doubt that external shocks have been significant in Bolivia, they had little impact on the overall

**Figure 12 — Trade Balance (TB) and Terms-of-Trade Adjustment (TTA), 1970–1998 (percent of GDP)**



Source: Table A1; own calculations.

development of the trade deficit until the 1990s. Without external shocks, debt accumulation in the 1970s would have been somewhat stronger and debt service payment in the early 1980s somewhat easier. In the 1990s, however, external shocks had a significant impact on the trend of the trade deficit. While the actual deficit showed a trend towards ever higher deficits, the shock adjusted deficits would have fluctuated around a level of 2 to 3 percent of GDP.

However, this diagnosis does not exclude the possibility that domestic policies also might have dampened export performance to some extent. Of course, the exchange rate policy is among the usual suspects. The reason is that exchange rate policy has two targets in high inflation countries – to help disinflation by breaking inflationary expectations and to preserve external competitiveness. The question in the Bolivian context is then whether the exchange rate policy helped disinflation without undermining competitiveness.

In order to evaluate the Bolivian exchange rate policy, the concept of the exchange rate gap has been utilized (IMF 2000a: Box 4.4). This approach is based on the hypothesis that the real exchange rate appreciates during the process of catching-up, i.e. it converges towards purchasing power parities for income increasing relative to the US income level. This implies that the exchange rate gap between the actual and the purchasing power parity rate narrows with growing income. As is described in some detail in Box 2, regression analysis confirms this

positive correlation. Using the estimated coefficients, it is possible to calculate an optimal exchange rate gap (corresponding to actual income) and, consequently, a purchasing power equilibrium rate which would produce this exchange rate gap.

### **Box 2 — Calculation of Purchasing Power Equilibrium Rate**

#### *OLS-Regression*

$$\log \text{ERG} = -2.303110 + 0.531929 \cdot \log \text{GDPPCP}$$

(-18.17036) (16.65267)

Adjusted R-squared 0.777660

S.E. of regression 0.092654

#### *Definition of Variables*

ERG = PCF/DER

PCF = Purchasing power parity conversion factor  
(local currency unit per international \$)

DER = Official Exchange Rate  
(local currency unit per US\$, period average)

GDPPCP = GDP per capita, PPP (current international \$)

#### *Country Sample*

80 middle and high income countries according to World Bank (2000) excl. Caribbean and Pacific countries.

#### *Purchasing Power Equilibrium Rate (PER)*

PER = [PCF/ ERG\*] ± 1.96 · (S.E. of regression)

ERG\* = optimum exchange rate gap based on estimated coefficients and actual income.

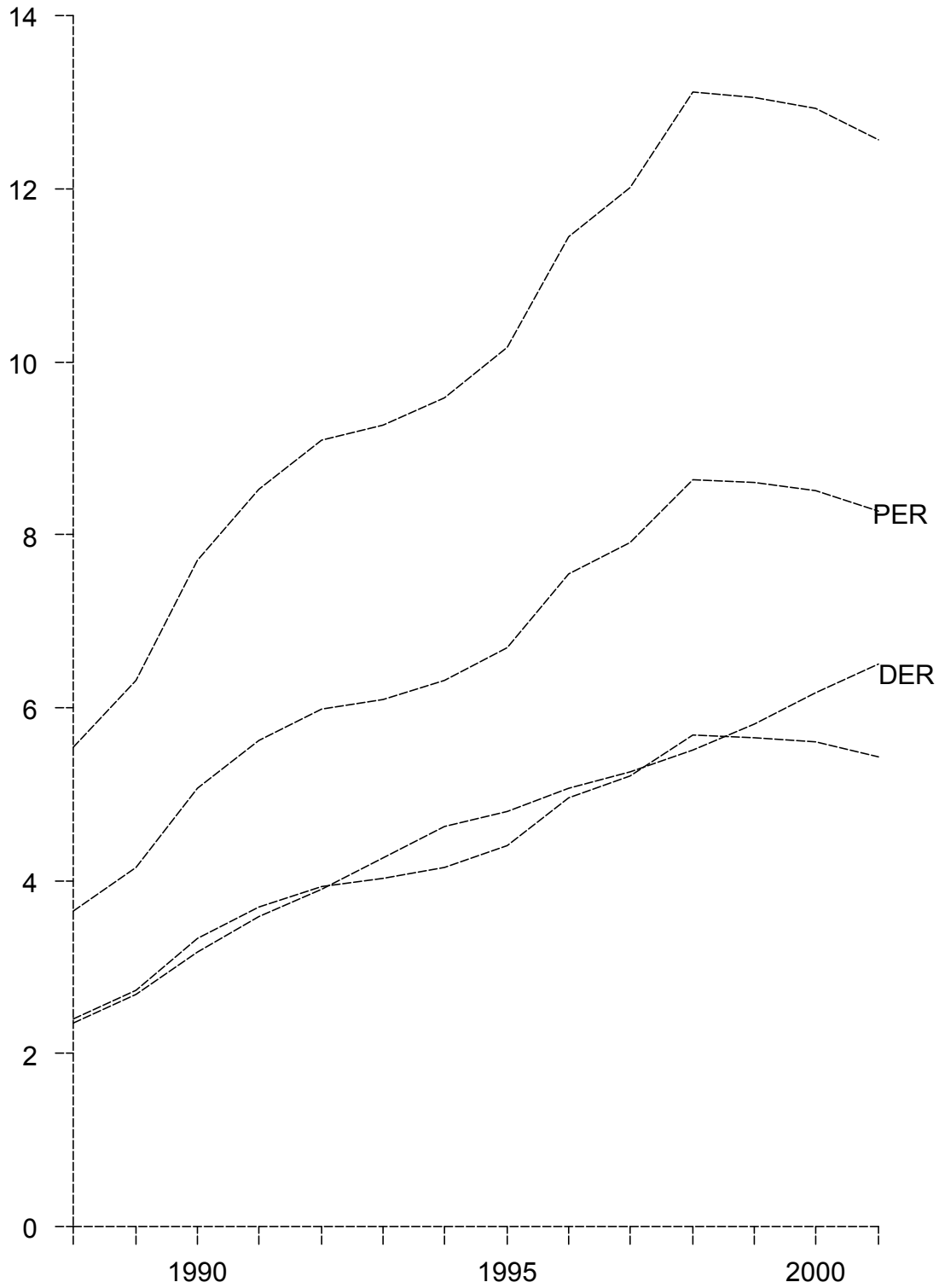
Figure 13 shows the results for Bolivia based on data from World Bank (2000) for the years up to 1998 and EIU (2001) for the years 1999 to 2001.<sup>4</sup> As can be seen, the Bolivian dollar exchange rate (DER) moved along the lower edge of a 95 percent confidence interval of the purchasing power parity equilibrium rate (PER) implying a relatively strong currency. After 1998, the fall of the inflation rate below the US level implies a stronger equilibrium rate. At the same time, the recession which increased the equilibrium exchange rate gap and a higher depreciation rate weakened the actual exchange rate. This implied a convergence of the actual and the equilibrium rate and the actual exchange rate moves into the confidence interval.

There are several conclusions to be drawn from this result. First, the Bolivian exchange rate has been strong compared with an income weighted average of middle and high income countries. Hence, a rather strong exchange rate helped disinflation but not export performance. This conclusion is in line with the fact that the high level of dollarization implies little maneuvering space for exchange rate policy (Morales 1999) and that the exchange rate has been an important

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<sup>4</sup> For the latter years, the purchasing power conversion rate has been approximated by the purchasing power parity exchange rate, i.e. assuming a constant real exchange rate.

**Figure 13 — Deviation of Bolivian Dollar Exchange Rate (DER) from Purchasing Power Equilibrium Rate (PER), 1998–2001**



Source: World Bank (2000); own calculations (see Box 2).

determinant of inflation performance (Orellana et al. 2000). It is also supported by the evidence provided by Figure 14 which shows Bolivian exports and value added of the manufacturing sector. As can be seen, manufacturing, i.e. non-traditional exports, lagged far behind the international averages in the period 1994-98 although value added was comparable to international standards. It is reasonable to assume that the strong currency had a significant impact on the inward orientation of manufacturing in Bolivia. Yet, most important for the future perspective of the Bolivian economy, the current crisis helped to bring the value of the currency closer to the average of competing countries. This suggests a positive impact on export performance in the near future. This is confirmed by empirical results for the Bolivian export elasticities (Loza 2000). Long run elasticities figure between 2.18 for manufactured exports and 2.48 for agricultural exports.

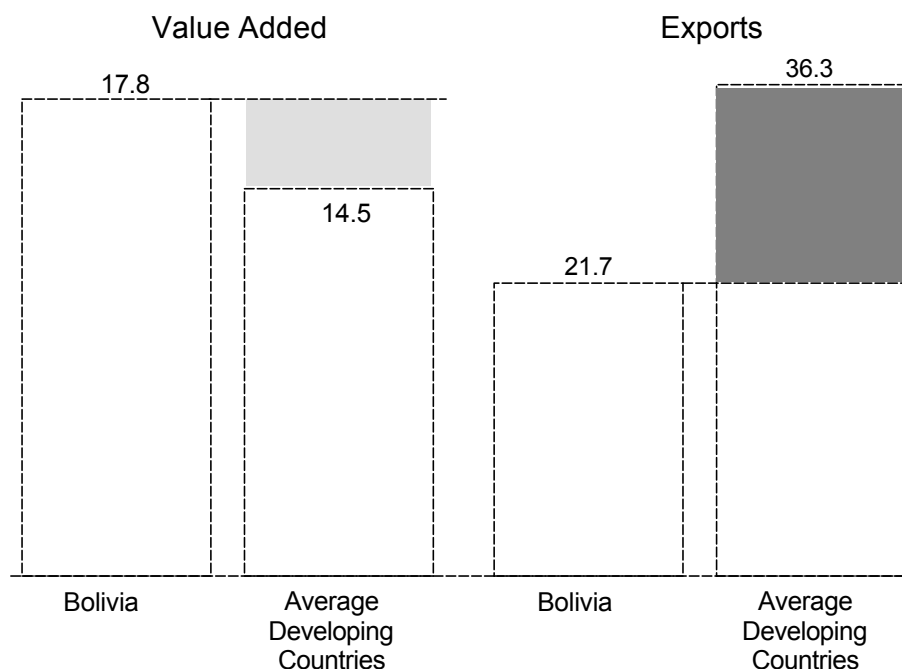
Second, a strong currency is not identical with an overvalued currency. For the 1990s, the estimations by Lora and Orellana (2000) showed no significant misalignment against an equilibrium level.<sup>5</sup> Their results that there have been

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<sup>5</sup> The equilibrium level is defined by permanent changes in fundamentals weighted by long run coefficients derived from an error correction model for Bolivia.



**Figure 14 — Share of Manufacturing in Value Added and Exports, 1994-1998 (period averages; percent of GDP)**



Source: Table A2.

a small undervaluation in 1994/96 and a small overvaluation in 1998/99 and that the real exchange rate path followed purchasing power parity is consistent with the results presented in Figure 13 if one accepts the lower edge of the confidence interval as a proxy for real exchange rate equilibrium in Bolivia in the 1990s. Arguably, however, to maintain the strong currency policy depended on the availability of FDI inflows and concessional credits which have been much more stable than other capital inflows on which most of the other countries had to rely in the 1990s. In this interpretation the strong currency reflects a dutch-disease

problem which can become even stronger if investment in the future cannot be financed by mobilizing domestic savings.

Third, the more general question is the target system for exchange rate policy in a highly dollarized economy like Bolivia. The problem is to allow for improvements in competitiveness after an external shock given the exports constraint and, at the same time, to contain inflation in order not to risk a deterioration of the savings and fiscal revenue constraints. Figure 13 seems to suggest that priority for the competitiveness target is justifiable given the excellent inflation performance and the current crisis.

## **V. CONCLUSIONS**

A first conclusion from the analysis of Bolivia's economic performance and macroeconomic constraints is that the Bolivian economy faced serious bottlenecks for investment, growth, and, consequently, poverty reduction:

- Savings have been low in spite of high real interest rates.
- Export expansion has been undermined by terms-of-trade shocks as well as a strong currency due to disinflation and privatization triggering strong inflows of foreign direct investment.

The second conclusion is that privatization allowed to borrow some time by financing investment and the imports of capital goods. The remaining time has to be used to close the gaps which will be opened at the end of the privatization process.

The third conclusion is that HIPC relief will be of little help in this respect. Only for the immediate future, debt relief will amount to more than a percent of GDP quickly drying up after 2005. Hence, HIPC could provide only a very small incentive to sustain a long term poverty reduction strategy.

The fourth conclusion is that the best thing macroeconomic policy can do is to keep course, i.e. to maintain low or at least moderate inflation rates, to stabilize real exchange rate adjustment, and, thereby, to provide a reliable framework for structural policies. The fact that the recession which started in 1999 allowed for a weaker currency without risking monetary credibility should help to loosen macroeconomic constraints.

All in all, these conclusions imply that persistent poverty in Bolivia is not the result of monetary stabilization but rather the consequence of still insufficient structural adjustment.

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**Table A1 — Macroeconomic Development in Bolivia, 1970–1998 (period averages; percent of GDP)<sup>a</sup>**

	1970- 1980	1981- 1985	1986- 1989	1990- 1993	1994- 1998
<b><i>Real Exchange Rates</i></b>					
Official Exchange Rate (US\$/Bs)	2533020	537091	19.84	11.94	8.74
Real US\$ Exchange Rate (Index)	106.55	125.43	84.73	78.16	77.53
Real Effective Exchange Rate Index <sup>b</sup>	34.55	58.73	27.57	21.88	21.45
Exchange Rate Gap (Index) <sup>c</sup>			1.22	1.21	1.19
<b><i>Savings &amp; Investment</i></b>					
Gross Domestic Savings	23.48	16.48	9.72	9.10	10.96
Private Savings		16.41	7.84	6.69	7.78
Public Savings		-0.74	1.88	2.41	3.18
Gross Domestic Investment	28.89	16.82	13.16	15.34	17.13
Private Investment			4.19	6.22	8.53
Public Investment			8.84	9.13	7.89
<b><i>External Balance</i></b>					
Current Account Balance (CAB)	-7.87	-8.61	-8.03	-6.88	-5.18
Trade Balance (TB)	-5.40	-0.34	-3.44	-6.24	-6.17
Exports of Goods and Services	30.19	24.69	20.56	20.85	21.74
Imports of Goods and Services	35.59	25.03	24.00	27.09	27.91
Terms-of-Trade Adjustment	32.29	-11.77	4.70	-12.45	-20.62
Foreign Direct Investment (FDI)	0.15	0.90	0.10	1.44	6.75
<b><i>External Debt</i></b>					
External Debt Flows	11.74	14.82	-2.79	0.84	4.94
Short-Term External Debt Flows	1.40	2.52	-2.06	-0.28	2.59
International Reserves	6.91	6.08	3.25	3.15	10.84
External Debt	77.45	137.76	117.31	78.97	73.41
Short-Term Debt (percent of international reserves)	200.10	235.92	443.09	104.57	66.87
<b><i>Internal Balance</i></b>					
Inflation (percent)	18.76	2692.45	80.52	14.79	8.58
Real GDP Growth (percent)	3.76	-1.96	1.65	3.96	4.58
Overall Budget Balance			-0.38	-1.58	-2.52
Current Revenue		9.83	12.85	14.93	16.82
Tax Revenue		9.20	8.68	9.63	13.35
Tax on Goods and Services		5.86	4.30	5.31	7.88
Tax on Income all Profits		0.26	0.47	0.77	0.92
Current Expenditure			12.17	15.63	18.02
Total Expenditure			13.73	19.38	22.22
Central Government Debt					51.49

**Table A1 continued**

	1970- 1980	1981- 1985	1986- 1989	1990- 1993	1994- 1998
<b><i>Capital Market</i></b>					
Real Lending (percent) <sup>d</sup>	-0.62	-54.27	23.54	28.71	37.88
Real Deposit Rate (percent) <sup>d</sup>	-11.12	-86.58	-8.63	6.38	4.28
Interest Rate Spread (percentage points)	14.36	75.59	40.24	40.23	44.88
Net Domestic Credit	19.59	27.53	15.44	40.26	54.01
Money and Quasi Money (M2)	16.91	13.53	13.77	27.99	42.61
Market Capitalization of Listed Companies					9.01
<b><i>Economic Structure</i></b>					
GDP per capita (US\$)	353.03	506.43	708.03	785.95	962.74
GDP per capita (PPP)			1775.75	1880.03	2198.16
GNP per capita (PPP)			1678.60	1803.10	2143.94
Agriculture, value added			23.09	15.45	16.36
Industry, value added			51.89	29.80	31.32
Manufacturing, value added				17.48	17.82
Services, etc., value added			19.65	54.75	52.32
<b><i>Export Structure</i></b>					
(percent of merchandise exports)					
Ores and Metals Exports	62.00	46.00	40.50	43.75	31.60
Agricultural Raw Materials Exports	3.00	1.40	6.00	8.00	9.20
Manufactures Exports	3.00	1.60	3.50	10.00	21.20
Service Exports	9.33	12.43	22.73	22.66	19.69
<sup>a</sup> If not otherwise indicated. – <sup>b</sup> As calculated by the IMF (1990 = 100). – <sup>c</sup> For calculation, see Box 2. – <sup>d</sup> Domestic currency; averages for 1981-86 and 1987-89 respectively.					

Source: World Bank (2000); own calculations.

**Table A2 — Bolivia's Macroeconomic Performance in International Comparison, 1994-98 (period averages; percent of GDP<sup>a)</sup><sup>b</sup>**

Income	East Asia & Pacific	Latin America & Caribbean	Severely indebted	Moderately indebted	Total
<i>GNP per capita (PPP)</i>					
Low	1915.5	1801.7	1057.7	1584.4	1340.1
Lower middle	3845.3	4034.5	3270.1	4290.4	4145.1
Upper middle	10727.9	7124.5	7688.6	6819.2	7835.4
Average	3860.4	5047.2	1964.8	3608.2	3716.7
Bolivia					2143.9
<i>Real GDP growth (percent)</i>					
Low	5.5	2.6	3.5	2.6	3.3
Lower middle	1.2	3.4	3.5	3.9	2.6
Upper middle	5.0	3.6	3.8	4.3	3.9
Average	3.3	3.4	3.5	3.4	3.2
Bolivia					4.6
<i>Gross Domestic Savings</i>					
Low	20.9	6.7	8.0	10.3	8.5
Lower middle	23.3	16.3	15.7	18.6	15.1
Upper middle	38.4	21.4	27.5	20.3	23.9
Average	24.3	17.5	10.8	15.3	14.3
Bolivia					11.0
<i>Private Savings</i>					
Low	23.3	-10.0	9.9	8.5	10.1
Lower middle	19.4	10.9	6.9	12.6	8.4
Upper middle	31.5	17.9	14.8	7.6	15.7
Average	23.4	13.8	9.5	9.8	11.3
Bolivia					7.8
<i>Public Savings<sup>c</sup></i>					
Low	-2.4	16.7	-1.9	1.8	-1.6
Lower middle	3.9	5.4	8.8	6.0	6.7
Upper middle	7.0	3.5	12.8	12.7	8.2
Average	2.8	8.5	6.6	6.8	4.4
Bolivia					3.2



Table A2 continued

Income	East Asia & Pacific	Latin America & Caribbean	Severely indebted	Moderately indebted	Total
<i>Gross Domestic Investment</i>					
Low	25.7	22.9	19.3	19.9	21.9
Lower middle	23.9	23.8	23.1	28.0	24.4
Upper middle	36.1	24.6	21.9	25.9	25.8
Average	26.8	24.0	20.1	24.0	23.6
Bolivia					17.1
<i>Private Investment</i>					
Low	17.2	15.4	9.8	10.9	10.7
Lower middle	21.4	14.1	12.2	16.4	14.1
Upper middle	28.6	15.0	16.7	17.9	17.6
Average	21.6	14.5	11.6	14.9	13.9
Bolivia					8.5
<i>Exports of Goods and Services</i>					
Low	28.4	30.2	25.7	30.1	28.4
Lower middle	51.4	39.0	42.6	40.4	39.1
Upper middle	65.6	39.9	25.6	38.7	46.8
Average	41.2	38.5	28.6	35.5	36.3
Bolivia					21.7
<i>Imports of Goods and Services</i>					
Low	33.4	46.4	36.9	39.8	41.8
Lower middle	52.0	46.5	49.9	49.8	48.4
Upper middle	63.3	43.0	20.0	44.3	48.7
Average	43.7	45.0	37.9	44.2	45.7
Bolivia					27.9
<i>Trade Balance</i>					
Low	-5.0	-16.2	-11.2	-9.6	-13.4
Lower middle	-0.6	-7.5	-7.4	-9.4	-9.3
Upper middle	2.3	-3.2	5.6	-5.6	-1.9
Average	-2.5	-6.5	-9.3	-8.7	-9.4
Bolivia					-6.2

Table A2 continued

Income	East Asia & Pacific	Latin America & Caribbean	Severely indebted	Moderately indebted	Total
<i>Foreign Direct Investment</i>					
Low	4.4	2.6	1.5	1.4	2.1
Lower middle	3.8	5.1	4.7	5.9	4.1
Upper middle	3.1	4.8	0.7	3.4	3.5
Average	4.0	4.7	2.0	3.4	3.1
Bolivia					6.7
<i>Trade Balance Not Financed by Foreign Direct Investment</i>					
Low	1.1	13.6	10.0	8.3	11.2
Lower middle	-1.9	2.4	2.7	2.8	4.2
Upper middle	-5.4	-1.3	-6.4	2.2	0.3
Average	-0.8	1.9	7.4	5.0	6.4
Bolivia					-0.6
<i>Consumer Price Inflation (percent)</i>					
Low	22.0	18.4	354.6	17.7	231.0
Lower middle	5.2	20.5	49.1	19.6	53.4
Upper middle	4.8	44.1	149.3	27.5	29.0
Average	12.5	30.2	280.1	20.3	121.3
Bolivia					8.6
<i>Current Fiscal Revenue</i>					
Low	14.5	24.3	14.8	21.9	18.1
Lower middle	21.0	18.7	22.3	21.5	23.7
Upper middle	22.2	23.6	20.4	24.4	27.8
Average	18.3	21.7	17.6	22.7	23.3
Bolivia					16.8
<i>Tax Revenue</i>					
Lower middle	18.4	16.2	17.7	18.9	19.4
Upper middle	18.4	19.4	16.4	19.9	21.6
Average	15.5	18.4	14.4	18.6	16.3
Bolivia					13.4

Table A2 continued

Income	East Asia & Pacific	Latin America & Caribbean	Severely indebted	Moderately indebted	Total
<i>Total Fiscal Expenditure</i>					
Low	16.1	32.7	20.4	26.1	23.4
Lower middle	23.7	21.5	25.4	24.8	26.6
Upper middle	19.4	25.1	24.6	28.0	30.5
Average	19.4	24.1	22.3	26.2	26.9
Bolivia					22.2
<i>Current Fiscal Expenditure</i>					
Low	12.8	23.0	14.9	22.8	18.6
Lower middle	19.5	17.1	14.2	20.2	20.9
Upper middle	15.5	22.3	14.3	24.1	26.7
Average	16.0	20.3	14.7	22.2	22.1
Bolivia					18.0
<i>Current Fiscal Deficit<sup>c</sup></i>					
Low	-4.2	-1.2	-0.3	0.9	0.5
Lower middle	-2.5	-1.6	-8.0	-1.3	-2.8
Upper middle	-6.7	-1.3	0.4	-0.3	-1.1
Average	-2.3	-1.4	-2.9	-0.5	-1.2
Bolivia					1.2
<i>Manufacturing Value Added</i>					
Low	18.0	13.8	10.2	13.7	12.6
Lower middle	10.9	15.9	17.7	16.3	16.3
Upper middle	30.0	12.6	15.6	19.4	15.3
Average	16.7	14.2	11.9	15.8	14.5
Bolivia					17.8
<i>Agriculture Value Added</i>					
Low	37.7	29.5	37.1	29.7	33.1
Lower middle	21.6	17.0	15.6	17.0	17.7
Upper middle	9.3	6.5	7.4	9.7	7.1
Average	25.8	13.7	31.7	21.2	21.9
Bolivia					16.4

**Table A2 continued**

Income	East Asia & Pacific	Latin America & Caribbean	Severely indebted	Moderately indebted	Total
	<i>Manufactures Exports (percent of merchandise exports)</i>				
Low	47.5	38.1	17.1	40.6	35.6
Lower middle	47.0	27.5	28.6	48.9	41.6
Upper middle	84.1	35.2	29.5	47.5	45.2
Average	55.4	31.8	22.4	45.2	40.9
Bolivia					21.2
	<i>Agricultural Raw Materials exports (percent of merchandise exports)</i>				
Low	11.7	2.4	13.9	6.1	9.0
Lower middle	4.6	4.1	4.4	2.4	4.7
Upper middle	3.0	2.7	5.4	4.1	2.8
Average	6.4	3.3	9.8	4.3	5.4
Bolivia					9.2
	<i>Short-Term External Debt/Int. Reserves (percent)</i>				
Low	78.0	322.0	3509.5	80.0	2140.5
Lower middle	42.3	111.8	69.2	1929.7	698.6
Upper middle	98.1	92.6	314.0	77.4	98.6
Average	65.7	125.6	2753.8	740.1	1214.1
Bolivia					66.9
	<i>Net Domestic Credit</i>				
Low	33.5	77.8	25.4	24.3	25.3
Lower middle	46.2	39.6	50.4	41.7	39.5
Upper middle	85.6	51.5	30.3	63.0	49.4
Average	44.8	48.3	30.1	38.5	35.7
Bolivia					54.0
	<i>Real Lending Rate (percent)</i>				
Low	9.0	7.2	2.7	15.9	5.7
Lower middle	6.4	9.6	12.6	14.7	7.3
Upper middle	3.9	10.6	11.6	11.2	8.6
Average	7.3	9.8	5.3	14.3	7.0
Bolivia					37.9

**Table A2 continued**

Income	East Asia & Pacific	Latin America & Caribbean	Severely indebted	Moderately indebted	Total
<i>Real Deposit Rate (percent)</i>					
Low	-4.4	-3.6	-9.6	0.1	-5.6
Lower middle	1.0	-2.7	-4.3	-1.6	-6.2
Upper middle	2.4	-0.4	2.9	-1.5	0.2
Average	-1.4	-1.9	-7.7	-0.9	-4.4
Bolivia					4.3
<i>Deposit Minus Lending Rate (percentage points)</i>					
Low	13.5	10.7	12.3	17.0	13.4
Lower middle	5.4	12.4	16.9	17.6	13.9
Upper middle	1.5	10.9	8.7	12.7	8.5
Average	8.7	11.6	13.1	16.1	12.3
Bolivia					33.6
<p><sup>a</sup> If not otherwise indicated. – <sup>b</sup> Calculations are based on all countries for which data on the variables are presented by World Development Indicators which implies that the number of observations varies according to data availability. – <sup>c</sup> Calculations based on the averages calculated for total and private savings in the case of public savings and current fiscal expenditure and revenue in the case of current fiscal deficit. Calculations based on actually reported data would imply an improvement of Bolivia's relative position with respect to the fiscal deficit and a deterioration of Bolivia's relative position with respect to public savings.</p>					

Source: World Bank (2000); own calculations.