

Report No. 13067-BO

Bolivia

Structural Reforms, Fiscal Impacts and Economic Growth

October 14, 1994

Latin America and the Caribbean Region
Country Department III
Country Operations Division I



Document of the World Bank

FISCAL YEAR

January 1 to December 31

CURRENCY EQUIVALENTS

Currency Unit: Boliviano (Bs)

Exchange Rate: July 1994

US\$1.00 = Bs 4.64

Bs 1.00 = US\$0.216

ABBREVIATIONS

AFPs	- <i>Administradoras de Fondos de Pensiones</i> (Pension Fund Administrators)
BAB	- <i>Banco Agrícola de Bolivia</i> (Bolivian Agricultural Bank)
BAMIN	- <i>Banco Minero</i> (Mining Bank)
BANEST	- <i>Banco del Estado</i> (State Bank)
CESSA	- <i>Cooperativa Eléctrica Sucre, S.A.</i> (Sucre Electrical Coop., A.S.)
COBEE	- <i>Corporación Boliviana de Electricidad</i> (Bolivian Electricity Corp.)
COFER	- <i>Corporación de Fomento Energético Rural</i> (Rural Development Energy Corp.)
COMIBOL	- <i>Corporación Minera de Bolivia</i> (Bolivian Mining Corp.)
COMTECO	- <i>Cooperativa de Teléfonos de Cochabamba</i> (Cochabamba Telephone Coop.)
COSERELEC	- <i>Cooperativa de Servicios Eléctricos de Trinidad</i> (Trinidad Telephone Services Coop.)
COTAS	- <i>Cooperativa de Teléfonos de Santa Cruz</i> (Santa Cruz Telephone Coop.)
COTEL	- <i>Cooperativa de Teléfonos de La Paz</i> (La Paz Telephone Coop.)
CRE	- <i>Cooperativa Rural de Electrificación Ltd.</i> (Rural Electricity Coop.)
CSEU	- Civil Service Executing Unit
CVs	- <i>Comités de Vigilancia</i>
DGA	- <i>Dirección General de Aduanas</i> (National Customs Directorate)
DGII	- <i>Dirección General de Impuestos Internos</i> (National Internal Revenue Directorate)
DINE	- <i>Dirección Nacional de Electricidad</i> (National Directorate of Electricity)
ELFEO	- <i>Empresa de Luz y Fuerza Eléctrica Oruro</i>
ELFECSAM	- <i>Empresa de Luz y Fuerza Eléctrica Cochabamba, S.A.M.</i>
ENAF/Vinto	- <i>Empresa Nacional de Fundiciones</i> (Bolivian Smelting Company)
ENDE	- <i>Empresa Nacional de Electricidad</i> (National Electricity Company)
ENFE	- <i>Empresa Nacional de Ferrocarriles</i> (National Railways Company)
ENTEL	- <i>Empresa Nacional de Telecomunicaciones</i> (National Telecommunications Company)
ETARE	- <i>Equipo Técnico de Apoyo a la Reforma Educativa</i> (Technical Group of Support and Educational Reform)
FCs	- <i>Fondos Complementarios</i> (Complementary Pension Funds)
FDC	- <i>Fondo de Desarrollo Campesino</i> (Fund for Rural Development)
FIS	- <i>Fondo de Inversión Social</i> (Social Investment Fund)
FNDR	- <i>Fondo Nacional de Desarrollo Regional</i> (National Fund for Regional Development)
FONEM	- <i>Fondo Nacional de Exploración Minera</i> (National Mining Exploration Fund)

Abbreviations (Cont.)

FOPEBA	- <i>Fondo de Pensiones Básico</i> (Basic Pension Funds)
GATT	- General Agreements on Tariffs and Trade
GEOBOL	- <i>Servicio Geológico de Bolivia</i> (Geology Services of Bolivia)
HDI	- Human Development Index
IBSS	- <i>Instituto Boliviano de Seguridad Social</i> (Bolivian Institute of Social Security)
ICE	- <i>Impuesto al Consumo Específico</i> (Specific Consumption Tax)
INE	- <i>Instituto Nacional de Estadística</i> (National Institute of Statistics)
INPEX	- <i>Instituto de Promoción para las Exportaciones</i> (National Exports Promotion Institute)
IRPE	- <i>Impuesto a la Renta Presunta</i> (Presumed Corporate Income Tax)
IT	- <i>Impuesto a las Transacciones</i> (Transactions Tax)
IVA	- <i>Impuesto al Valor Agregado</i> (Value Added Tax--VAT)
LAB	- <i>Lloyd Aéreo Boliviano</i> (Bolivian Airline)
LIBOR	- London Interbank Offering Rate
LPG	- Liquid Petroleum Gas
ONAMFA	- <i>Organismo Nacional del Menor, Mujer y Familia</i> (National Organization of Minors, Women and Family)
OTBs	- <i>Organizaciones Territoriales de Base</i> (Grass-roots Organizations)
PIDI	- <i>Proyecto Integral de Desarrollo Infantil</i> (Integrated Child Development Program)
RB	- Recognition Bonus
RDCs	- Regional Development Corporations
RSCs	- Regional Service Carriers (Telecommunications)
SENMA	- <i>Secretaría Nacional de Medio Ambiente</i> (National Environmental Secretariat)
SEPSA	- <i>Servicios Eléctricos Potosí, S.A.</i> (Potosi Electrical Services, S.A.)
SETAR	- <i>Servicios Eléctricos Tarija</i> (Tarija Electrical Services, S.A.)
SINARE	- <i>Sistema Nacional Regulador</i> (National Regulatory System)
SNE	- <i>Secretaría Nacional de Energía e Hidrocarburos</i> (National Energy and Hydrocarbons Secretariat)
SNE	- <i>Secretaría Nacional de Educación</i> (National Secretariat of Education)
SNC	- <i>Servicio Nacional de Carretera</i> (National Road Service)
SIN	- <i>Sistema Interconectado Nacional</i> (National Interconnected System: Electricity Sector)
UDAPE	- <i>Unidad de Análisis de Políticas Económicas</i> (Economic Policy Analysis Unit)
UDAPSO	- <i>Unidad de Análisis de Política Social</i> (Social Policy Analysis Unit)
UNDP	- United Nations Development Program
UPP	- <i>Unidad de Participación Popular</i> (Popular Participation Unit)
YPFB	- <i>Yacimientos Petrolíferos Fiscales Bolivianos</i> (Bolivian Petroleum Corporation)

This report was prepared and written by Vicente Fretes Cibils (Task Manager) and Deborah Bateman. It is based on a series of missions that visited Bolivia from May 1993 through July 1994 and reflects the joint efforts of The Bolivian Government and The World Bank. From the Bolivian Government, important contributions were made by the following officials and advisors: Mauro Brusa, Gaby Candia, Javier Cuevas, Freddy Gumiel, and Alfonso Revollo. From the Bank, important contributions were made by the following staff members and consultants: Marcelo Bisogno, Pablo Gottret, Abderrahmane Megateli, Marina Niforos and Martin Petri. At various stages, the report benefitted greatly from the comments and advice of Dennis de Tray, Norman Hicks, and Dan Morrow. The report was improved as a result of the comments of the peer reviewers, Michael Klein and Luis Serven. Among others, the report also benefitted from the inputs and comments of the following people: Gonzalo Afcha, Juan Carlos Aguilar, Victor Hugo Ayala, Tonci Bakovic, Constance Bernard, Rene Blattman, Patricia Brenner, Fernando Candia, Gonzalo Chavez, Javier Comboni, Constance Corbett, Madeline Devan, Mark Dorfman, Julio Escolano, Jean-Paul Faguet, Fernando Fernandez, Doyle Gallegos, Valeriano Garcia, Luis Carlos Gemio, Claude Ginet, Susan Goldmark, Carlos Gonzalez, Jorge Gorrio, Paul Gruenwald, Toma Gudac, Luis Gutierrez, Noriko Iwase, Ellis Juan, Chakib Khelil, Karen Lashman, Waleed Malik, Eleodoro Mayorga-Alba, Aurelio Menendez, Marcelo Mercado, Felipe Morris, Jamil Mubarak, Felix Remy, Salvador Rivera, Carlos Rodriguez, Oscar Soriano, Miguel Urquiola, Eloy Vidal, and Gotthard Walser.

In addition to providing technological assistance, Margarita Caro did an excellent job coordinating the production of the report. Marta Cervantes provided assistance in finalizing the report.

BOLIVIA - COUNTRY DATA SHEET

AREA: 1098.6
(thou. sq. km.)

POPULATION (1993): (millions) 7.1^{1/}
Rate of Growth: 2.0%

DENSITY: 6.46 pop./sq. km.

POPULATION CHARACTERISTICS

Crude birth rate (per 1000): 36.0
Crude death rate (per 1000): 9.7

HEALTH

Infant mortality (per 1000 live births): 89
Population per physician: 1534

ACCESS TO SAFE WATER

% of population - urban: 74
- rural: 33

NUTRITION

Daily calorie supply per person: 1916
Per capita protein intake (g/day): 53

EDUCATION

Primary school enrollment
Percent of relevant age group: 81%

GNP per capita (US\$ 1993) 758^{1/}

GROSS NATIONAL PRODUCT (1993)	US\$ Mn	%	ANNUAL RATE OF GROWTH			
			1985-89	1990-91	1992	1993
GDP at Market Prices	5382	100.0	1.0	4.5	2.8	4.1
Gross Domestic Investment	811	15.1	6.4	11.0	15.2	-1.5
Current Account Balance	-699	-12.8	..	..	..	..
Exports of Goods, NFS	895	16.6	7.1	7.9	1.3	9.3
Imports of Goods, NFS	1400	26.0	8.8	2.1	6.3	9.8

VALUE ADDED (1993)

	Value added in	
	1990 Bolivians	as % of GDP
Agriculture	3,057	17.3
Industry	5,260	29.9
Mining	1,063	6.0
Hydrocarbons	765	4.3
Manufacturing and Construction	3,432	19.5
Services ^{2/}	9,303	52.8
Total	17,619	100.0

GOVERNMENT FINANCE (1993)

	Consolidated Public Sector	
	(mil. Bs)	% of GDP
Current Receipts w/o Grants	5366	23.3
Current Expenditure	4975	21.6
Current Surplus	391	1.7
Capital Expenditure	2246	9.8

^{1/} These reflect the population figures based on the results of the 1992 census, as revised by the Population, Health and Nutrition Department, (August, 1994).

^{2/} Includes indirect taxes on imports.

BOLIVIA - COUNTRY DATA SHEET**MONEY, CREDIT & PRICES**

	1990	1991	1992	1993
	(Millions of Bs outstanding at end of period)			
Money Supply (M2) ^{1/}	3339	5171	7092	9675
Net Bank Credit to Public Sector	569	672	1911	2483
Net Bank Credit to Private Sector	3710	5484	7992	11129
	(Percentage or Index Numbers)			
Money as % of GDP ^{2/}	19.7	24.7	30.2	37.1
Net Bank Credit to Public Sector ^{2/}	3.4	3.2	8.1	9.5
Net Bank Credit to Private Sector ^{2/}	21.9	26.2	34.0	42.7
General Price Index (1980=1)	122518	148782	166753	180978
Annual percentage changes in:				
General Price Index ^{3/}	17.1	21.4	12.1	8.5

BALANCE OF PAYMENTS (US\$ Mn)

	1990(p)	1991(p)	1992(p)	1993(p)
Exports of Goods, (FOB)	831	760	643	710
Imports of Goods, (CIF)	963	994	1090	1206
Trade Balance	-132	-233	-447	-496
Net Factor Services	-241	-242	-193	-205
Net Private Transfers	22	23	23	21
Current Account Balance	-371	-475	-628	-688
Capital Account	470	565	665	835
Net Official Transfers	153	160	224	217
Private Capital Flow	35	50	86	122
Net LT Lending	107	150	239	235
Disbursements	300	287	391	414
Amortization	192	137	151	179
Other Flows	175	204	119	261
Exceptional Financing	76	118	116	227
Changes in Reserves	-99	-90	-37	-146
Gross Reserves Level ^{4/}	364	454	490	636

RATE OF EXCHANGE (selling)

	Annual Averages			
	1990	1991	1992	1993
US\$1.00=Bs	3.17	3.59	3.91	4.27
Bs1.00=US\$	0.32	0.28	0.26	0.23

MERCHANDISE EXPORTS, CIF (AVG. 1990-1993)

	US\$ Mn	%
Tin	99.2	12.2
Zinc	145.6	18.0
Gold	50.5	6.2
Natural Gas	67.7	20.7
Soybeans	59.5	7.3
Timber	51.4	6.3
Other	236.2	29.2
Total	810.1	100.0

EXTERNAL DEBT (DECEMBER 31, 1993) US\$ Mn

Public Debt, incl. Guar.	3985
Non-Guar. Priv. Debt	--
Total Outst. & Disb.	3985

DEBT SERVICE RATIO 1993^{6/}

	Percent
Public Debt, inc. Guar.	48.6
Non-Guar. Priv. Debt	--
Outstanding & Disb.	48.6

IBRD/IDA LENDING (06/30/93) US\$ Mn

	IBRD	IDA
Outstanding & Dis.	77	576
Undisbursed	--	390
Outs. incl. Undisb.	77	966

1/ Includes deposits denominated in foreign currency.

2/ Two period average over GDP.

3/ Percent change in end-year stocks.

4/ Period Average.

5/ Includes gold.

6/ Debt Service due, including interest on short-term debt.

BOLIVIA

STRUCTURAL REFORMS, FISCAL IMPACTS AND ECONOMIC GROWTH

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MAP (IBRD 16591)

EXECUTIVE SUMMARY

1. Faced with a severe economic crisis in the mid-1980s, Bolivia adopted a far-reaching economic program aimed at restoring price stability and restructuring the economy. The reform program combined comprehensive structural reforms with tight monetary policy and a program to reduce debt and debt service payments. Implementation of this program has succeeded in restoring price stability--inflation during the 12-month period ending September 1994 was about 7 percent. Furthermore, in recent years, **moderate economic growth has been regained**--real GDP growth has been about 4 percent.

2. Price stability and economic growth notwithstanding, Bolivia's **economy remains fragile**. Due in part to higher than programmed current expenditures during the first half of the year, the level of the 1993 fiscal deficit--6.4 percent of GDP--was significantly higher than the 1992 deficit. The external balance also remains weak--the 12-month current account deficit increased to about 13.0 percent of GDP (end-1993). Moreover, Bolivia **remains vulnerable to exogenous shocks**--most importantly, changes in external aid and in international prices of primary commodities.

3. The modest economic growth achieved in the past five years has not allowed for much reduction in poverty--**about 70 percent of the population remains poor and the poverty gap has widened**. The modest growth can be in part explained by a decade-long decline in the net accumulation of capital stock. While private investment has started to recover in recent years, it remains low--about 5.5 percent of GDP. Public investment has been relatively high--about 10 percent of GDP--yet to a large extent, resources have been misallocated and invested inefficiently, primarily by public enterprises.

4. The Government, which came to power in August 1993, is committed to both **macroeconomic stability and a set of reforms intended to accelerate growth and reduce poverty**. The Government has moved to correct the fiscal disequilibrium which emerged in 1993. The 1994 budget approved by Congress--which has a fiscal deficit of about 3 percent of GDP--is consistent with macroeconomic stability. However, mainly because of higher than budgeted severance payments, the 12-month fiscal deficit has been estimated at 4.5 percent of GDP as of September 1994 and is projected to be 3.3 percent of GDP at the end of the year. At the same time, the 12-month current account deficit--10.4 percent of GDP as of September 1994--has improved.

5. In addition to other programs, including decentralization through Popular Participation, the Government is moving forward to implement a set of reform programs that would:

- (a) **Unbind the productive and export potential of the hydrocarbons and mining sectors and develop key economic infrastructure in telecommunications and electricity, through sectoral reforms, including capitalization of the major public enterprises;**
- (b) **Strengthen essential public institutions and improve the efficiency of the social security system through civil service and pension reforms; and**
- (c) **Develop human capital through an education reform and address the needs of the most vulnerable poor through the Integrated Child Development Program.**

6. The results of the independent sectoral analysis are based on: (a) certain policy decisions that have been taken; and (b) assumptions and working hypotheses to simulate other policy decisions that are being analyzed—e.g., the size and timing of the salary increase under the civil service reform program. Based on these, the results indicate that there could be **large fiscal impacts associated with implementing each of the reform programs**--the estimated total direct costs average about 3.5 percent of GDP during the period 1994 to 1997. However, some features of the reform programs are being reexamined to bring the costs in line with feasible noninflationary financing.

7. The fiscal impacts of unbinding the productive and export potential are in general positive after the short-term costs have been incurred, the tax base expands, and the new tax systems are functioning efficiently. Due to the size and complexity of the hydrocarbons sector, the short-term costs of implementing the reforms are high. It will therefore take longer to fully realize the positive fiscal impacts. To successfully attract private investment, a stable tax regime must be maintained on upstream activities--particularly on income and production. In the other sectors--mining, telecommunications, and electricity--the positive fiscal impacts, although smaller than in hydrocarbons, will be realized over a relatively shorter period. This warrants accelerating implementation of the reforms in these sectors. Simultaneously, the implementation of the other programs--civil service, pension, education and PIDI--will be costly and require substantial public resources.

8. In view of the fiscal fragility and the large potential fiscal impacts associated with implementing the reforms, the **key challenge facing the Government is how to sequence and finance the reform programs, while at the same time maintaining a feasible fiscal path.** To achieve this and in view of limited grants and concessional financing, the Government must adopt fiscal measures to avoid excessive external borrowing and pressures on the domestic financial system that could be either inflationary or crowd out credit to the private sector. If excessive additional external debt is contracted, it may be difficult to service the increasing stock of debt on a sustainable basis without creating additional debt.

9. Specifically, the analysis indicates that, over the 1994-97 period, the Government can both implement its reform programs and maintain a feasible fiscal path, provided that:

- (a) The mining, electricity, telecommunications and hydrocarbons reforms are accelerated, including first capitalizing ENDE and ENTEL and then YPFB;
- (b) Corporate income taxation is introduced in 1995 and stable tax regimes are maintained;
- (c) The transactions tax rate is increased from 2 percent to 3 percent in 1995;
- (d) Excise taxes on gasoline and diesel are introduced in 1995;
- (e) Efficiency in tax collections is achieved and maintained;
- (f) There is **no real increase** in the general government wage bill--not including the education and civil service reforms--in the short term;
- (g) Public capital expenditures are reduced to 6.7 percent of GDP by 1997 and 80 percent are allocated to infrastructure and social sectors;
- (h) Transactions costs, a portion of seniority/severance obligations, and at least 75 percent of debt service obligations associated with capitalization are transferred to the shareholders--both domestic and foreign; and
- (i) The proceeds of certain real and financial assets in sectors to be reformed--such as, real estate holdings of COMIBOL and ENFE, and ENDE's shares in ELFEC--are used to finance one-time reform costs.

10. The results are **sensitive to certain key assumptions**. In the case of the reforms to unbind the export and productive potential, the fiscal results are most sensitive to: (a) prices; (b) output levels; and (c) costs. In most of the other reform programs--which involve mainly incremental costs--the fiscal results are most sensitive to salary increases. Finally, in the case of the pension reform, the results are sensitive to a number of the model's key parameters, including the number of transfers from the old to the new system, the retirement age and the coverage of the reform.

11. In the event that higher growth is realized sooner as a consequence of successfully accelerating implementation of the reforms, the Government may be able to limit the use of other fiscal measures to ensure fiscal feasibility. However, an accelerated implementation of the reforms would also imply that the one-time costs--primarily those associated with capitalization--would be incurred according to a different schedule. In addition, there is a

possibility that concessional external financing may be greater than that projected. These three factors would have to be considered together in revising the fiscal path to ensure that feasibility is maintained. If key assumptions of the fiscal projections are not realized or there are deviations, the Government may need to review and adopt other fiscal measures to maintain a feasible fiscal path. These instruments may also have to be used in the event that certain downside risks materialize--e.g., lower growth or lower international prices, especially for minerals and petroleum. Effective instruments include: (a) the value added tax; (b) excise taxes on petroleum products; and (c) current expenditure reductions.

The results of this study indicate that under a carefully chosen set of policy instruments, Bolivia can sustain long-term economic growth within a feasible fiscal path.

INTRODUCTION

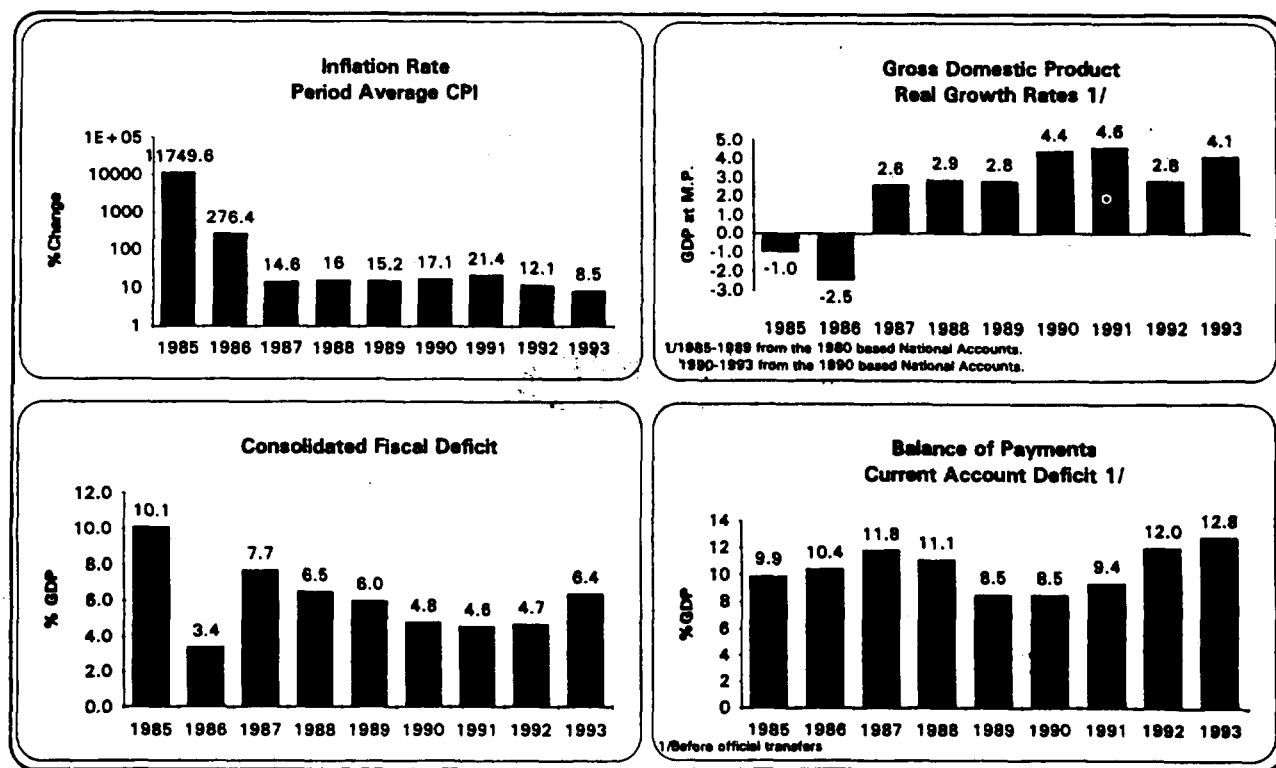
1. During the 1980s, Bolivia adopted a far-reaching economic program aimed at restoring price stability and restructuring the economy. It has reduced inflation and regained moderate real economic growth through tight monetary policy coupled with comprehensive structural reforms. This program was complemented by reduction of debt and debt service payments through concessional rescheduling with bilateral creditors (including Paris Club rescheduling) and a program to eliminate commercial debt.
2. Bolivia's economy, however, remains fragile--the fiscal and current account positions are not sustainable and it is vulnerable to exogenous shocks, including high dependency on external aid. Moreover, the modest economic growth achieved in the past five years has not afforded much reduction in poverty--about 70 percent of the population remains poor and the poverty gap has widened. Recognizing this, the Government, which came to power in August 1993, has adopted an ambitious and innovative economic reform program for the 1994-1997 period. The overall objective of this reform is to reduce poverty by accelerating economic growth, developing human capital and addressing the needs of the most vulnerable groups--women and children.
3. In light of the macroeconomic fragility and ambitiousness of the reform program, the objectives of this report are to: (a) analyze and quantify the net fiscal impacts of key reforms; and (b) suggest a fiscally feasible sequencing of the key reform programs to achieve sustainable real economic growth. Chapter I provides some background by summarizing the status of the implementation of past structural reforms and recent economic performance. In addition, it reviews the sources of long-term economic growth and identifies the challenges facing Bolivia's economy. Chapter II is devoted to independently measuring the expected costs and fiscal impacts of each reform. Chapter III analyzes the timing and sequencing of the reform package. In the context of the economic projections, it suggests a fiscally feasible sequencing of the reform program based on the overall resource constraint. It also includes alternatives for fiscal management in the event of resource constraint shifts. Annex A provides more background on recent economic performance. Annexes B through J contain details on each of the reform programs, including sectoral analysis and a discussion of the estimation of the corresponding net fiscal impacts. The general description of the economic projections and alternative economic growth scenarios are presented in Annexes K and L, respectively. The historical data are included in the Statistical Appendix.

CHAPTER I: WHERE IS THE BOLIVIAN ECONOMY TODAY AND HOW DID IT GET HERE?

I. Introduction

1.1. Faced with a severe economic crisis in the mid-1980s, the economic program launched by Bolivia has succeeded in **restoring price stability**--inflation during 1993 was 8.5 percent (12.1 percent in 1992) and about 7 percent during the 12-months ending September 1994. It has only recently been effective in regaining **moderate economic growth**--real GDP grew at about 4.1 percent in 1993 (2.8 percent in 1992) and at an annual rate of about 4 percent in the first nine months of 1994. However, the **fiscal position** remains fragile--the 12-month deficit increased to 6.4 percent of GDP (end-1993) from 4.7 percent of GDP (end-1992). Meanwhile, the **external balance** also remains fragile--the 12-month current account deficit increased to about 13 percent of GDP (end-1993) from 12 percent of GDP (end-1992). The Government, in office since August 1993, has recognized these disequilibria and has acted to correct them. However, higher than budgeted severance payments has resulted in a 12-month fiscal deficit estimated at 4.5 percent of GDP (September 1994) and is projected to be 3.3 percent of GDP at the end of the year. On the other hand, because of strong export performance in the first nine months of the year, the current account balance (10.4 percent of GDP as of September 1994) has improved. If macroeconomic stability is not sustained, both price stability and long-term economic growth may be jeopardized.

Figure 1.1: Key Economic Indicators



1.2. Within the overall context of the Bolivian economic reform program, the remainder of this chapter summarizes recent structural reforms and economic performance, including the reasons for these disequilibria and the moderate economic growth.

II. Past Economic Reforms and Performance

The Reforms

1.3. The Bolivian Government embarked on its long-term adjustment with a program first launched in 1985 and further deepened in 1989. In addition to focusing on a stabilization program, the structural reforms were intended to reduce state participation in the economy, improve public sector finances, foster private investment and enhance productivity and competitiveness. The reforms have included: (a) liberalization of most prices, including interest rates; (b) unification of the exchange rate and liberalization of capital flows; (c) simplification of the tax regime and improvements in tax administration; (d) reform of the financial sector; (e) privatization of small commercial public enterprises; and (f) liberalization of trade and reform of customs and registration procedures. This program has been complemented by reducing debt and the debt service burden through concessional rescheduling with bilateral creditors (including four Paris Club reschedulings) and a comprehensive program to eliminate public sector commercial debt. While most of the reforms have been completely implemented, the status of key on-going reforms--financial, public enterprise and trade/registration--is discussed below.^{1/}

1.4. **Financial sector reforms** have been designed to: (a) improve the ability of the Central Bank to conduct monetary policy; (b) increase the effectiveness of prudential regulation and supervision of financial intermediaries; and (c) improve the allocation of resources by eliminating the public sector's role in financial intermediation. The Government has recapitalized the Central Bank and eliminated its quasi-fiscal losses. It has also established an auction system for Central Bank certificates and introduced treasury notes. A Banking Law establishing a new framework for regulation and supervision of the banking system was approved by Congress in April 1993, and the implementing regulations were subsequently issued. By upgrading its information inter alia on the financial system, the Superintendency of Banks and Financial Entities has been strengthened to improve supervision. To improve resource allocation, the Government has closed four poorly-managed and financially weak public banks--*Banco Agrícola de Bolivia* (BAB), *Banco Minero* (BAMIN), *Fondo Nacional de Exploración Minera* (FONEM), and *Banco del Estado* (BANEST). The most recent--BANEST--was closed in December 1992; however, the liquidation process will not be completed for any of the institutions until the end of 1994.

^{1/} For more details on past economic reforms and performance, see *Bolivia: From Stabilization to Sustained Growth* (World Bank Report 9763-BQ, October 1991), *Bolivia: Updating Economic Memorandum* (World Bank Report 11123-BQ, October 1992) and *Bolivia: State of the Economy and the Reform Program* (The World Bank, November 1993).

1.5. **Public enterprise reforms** have been designed to improve the efficiency of monopolistic public enterprises and to eliminate the Government's role in the production of commercial goods and services.^{2/} To increase efficiency in some of the major public enterprises--including YPFB (hydrocarbons), ENTEL (telecommunications), ENFE (railway), ENDE (electricity)--performance contracts were used prior to 1992. The impact of these performance contracts was mixed and it was decided to explore other alternatives to increase efficiency. With the exception of ENDE which entered into a five-year performance contract in 1991, the use of this instrument was abandoned during 1992.

1.6. In two sectors--hydrocarbons and mining--in which the right to privately own natural resources is precluded by the Constitution, the Government has taken steps to promote private sector investment. Since the passage of a hydrocarbons law in early-1991, more than a dozen joint ventures have been signed between YPFB and the private sector in exploration and development. Despite this, overall progress has been limited. During 1993 in mining, the state mining company (COMIBOL) has started to be reorganized into a holding company and during the last 12-month period several joint ventures have been signed. Furthermore, unprofitable mines and metallurgical/industrial operations representing about 90 percent of the mines and industrial operations assessed to be operating at a loss, have been closed or have ceased operating.

1.7. There has been some progress towards privatizing small commercial public enterprises. In late April 1992, the Congress passed a Comprehensive Privatization Law which eliminated the legal constraints to privatizing most government-owned enterprises. The approximately 60 enterprises owned by the Regional Development Corporations (RDCs) were the first group targeted for privatization. By the end of May 1994, a total of 30 enterprises have been sold, and at least 10 other enterprises, including those found to be "non-existent", have been liquidated.

1.8. The final set of reforms was designed to **expand trade and reduce transactions costs associated with firm registration procedures**. In the area of trade policy, the removal of the sugar import licensing requirement (late 1992) resulted in the elimination of all quantitative restrictions on imports, except those maintained for public health and national safety reasons. In early 1993, Congress approved an Export Bill which eliminated taxes on almost all exports of goods and services and allowed exporters to reclaim value added taxes.

1.9. There has also been progress towards reforming the customs administration, and the private sector now operates six customs houses which handle approximately 90 percent of registered trade. In January 1993, Bolivia adhered to the GATT Customs Valuation Agreement, which will result in modifications of customs valuation procedures over time. Export procedures have been simplified with the introduction of a single office system, the *ventanilla única*. The

^{2/} In early 1992, there were approximately 160-170 non-financial public enterprises which could be divided into three groups: (a) the major monopolistic enterprises--hydrocarbons, mining, smelting, telecommunications, power, airlines, and railroads; (b) the small enterprises providing public services; and (c) the roughly 100 small productive enterprises.

system was first implemented in the administrative capital city, La Paz, in April 1992 and then extended to two other major cities, Cochabamba and Santa Cruz, in the second half of 1992. Furthermore, there has been progress towards simplifying firm registration and control procedures, which in the past have increased transactions costs for private sector firms and promoted rent seeking activities. Firms are now required to register with fewer public sector agencies and tax reporting requirements have been simplified.

1.10. Since taking office in August 1993, the Government has started to implement most of the reform programs discussed in subsequent chapters. Among the most important actions taken include: (a) a reorganization of the Executive Branch; (b) passage of the Capitalization Law; (c) passage of the Popular Participation Law; and (d) passage of the Education Law.

Performance^{3/}

1.11. During the implementation of the reforms, real GDP growth increased from 2.7 percent per year during 1987-89 to about 4 percent annually during 1990-93 (compared with a decline of 2.2 percent per year in 1983-86). In the context of this growth, in 1992 about 70 percent of the population were in households with incomes below the poverty line (compared with 85 percent in 1976). However, the incidence of poverty is higher in rural than in urban areas--94 percent compared with 51 percent. Notwithstanding the improvements over the last eight years, the social indicators point to widespread malnutrition, poor sanitation, low access to education and health services, and poor housing conditions.

1.12. Domestic savings remained fairly constant--an average of about 7.9 percent of GDP a year in 1983-1987 to about 7.2 percent of GDP in 1991-93, while domestic investment rose from an average of 9 percent of GDP in 1983-87 to almost 15 percent of GDP in 1991-93. The recent economic growth (1991-1993) has resulted from increases in private investment and in consumption--both public and private. The increase in private investment was a consequence of the opening of new investment opportunities, nevertheless, recorded private investment in 1993--amounting to around US\$285 million--still represents only 5.3 percent of GDP. The increase in public consumption was primarily due to the expansionary fiscal policy, whereas, the increase in private consumption resulted mainly from increases in real wages and expansion of credit for consumption purposes.

1.13. The overall deficit of the consolidated public sector declined from an annual average of 13.5 percent of GDP in 1983-87 to 4.7 percent of GDP in 1990-92, but widened to 6.4 percent of GDP in 1993. This resulted because of an increase in current expenditures in the run-up to the elections in June and a decrease in total revenues (primarily due to the decline in the export price of natural gas and grants).^{4/} The Government took actions to control expenditure

3/ For more details on recent economic performance see Annex A.

4/ The overall deficit includes the quasi-fiscal deficit, which is not significant. For a discussion of the current tax system and tax administration see Chapter IV and Annex I in Bolivia: Updating Economic Memorandum.

and strengthen tax collections, and by September 1994 the 12-month fiscal deficit was reduced to 4.5 percent of GDP. As shown in Table 1.1, there has been a high reliance on additional external indebtedness for deficit financing.

**Table 1.1: Consolidated Public Sector Accounts
(as percent of GDP)**

	1988	1989	1990	1991	1992	1993
Total Revenues and Grants	20.9	22.9	25.0	26.3	27.4	25.0
Current Revenues	19.9	21.2	22.9	24.0	24.2	23.3
Capital Revenues	0.1	0.1	0.2	0.4	0.3	0.1
Foreign Grants	0.8	1.6	2.0	1.8	2.9	1.6
Total Expenditures	27.3	28.9	29.8	30.8	32.1	31.4
Current Expenditures	19.2	20.0	20.5	21.3	21.1	21.6
Interest	3.7	3.8	3.5	3.6	3.0	3.3
Other Expenditures	15.5	16.2	17.0	17.7	18.1	18.3
Capital Expenditures	8.1	8.9	9.3	9.6	11.0	9.8
Current Surplus/Deficit (-)	0.7	1.2	2.3	2.8	3.1	1.7
Primary Surplus/Deficit (-)	-2.7	-2.2	-1.2	-1.0	-1.7	-3.2
Overall Surplus/Deficit (-)	-6.5	-6.0	-4.8	-4.6	-4.7	-6.4
Net External Financing	4.5	2.2	2.7	3.5	4.6	5.4
Net Internal Financing	1.9	3.9	2.1	1.1	0.1	1.1
Seigniorage ^{1/}	3.3	2.2	2.5	2.2	0.6	2.7
Note: Figures may not add due to rounding. 1/ Defined as $[H-H(-1)] \cdot 100$; H = Base Money.						

1.14. At the same time, the Central Bank has sought to restrict credit to commercial banks to help attain its targets for the growth of money and international reserves. Together with strong private sector demand for credit, this policy resulted in high real interest rates, which in turn attracted short term capital inflows. Broad money rose from 19 percent of GDP in 1989 to about 40 percent in 1993. Financial reintermediation continues to be mainly in foreign currency, with US dollar deposits at commercial banks equivalent to about 85 percent of deposits at the end of 1993 (compared to 77 percent of deposits in 1989).

1.15. The current account deficit (before official transfers) widened from about 8.5 percent of GDP in 1990 to about 13 percent of GDP in 1993. Exports were affected adversely by a sharp decline in international prices of metals and, in 1992, in the price of natural gas exports to Argentina. Mainly because of declines in export prices, Bolivia's terms of trade deteriorated by about 35 percent during 1989-92. Imports were buoyant, reflecting the availability of external financing and increases in investment. Nevertheless, the external debt servicing burden eased as a result of the Government's comprehensive debt management strategy. The external

debt of the public sector declined to about US\$4 billion (74 percent of GDP) at end-1993. Net international reserves rose from US\$36 million at end-1989 to US\$363 million at end-1993 (contributing to avoiding a real appreciation in the exchange rate) and gross official reserves were equivalent to about 4.9 months of imports at end-1993.^{5/}

Based on the performance described above, the key potentially destabilizing force is in the area of public finance. Despite the past and most recent efforts, the fiscal deficit remains high and the fiscal position is fragile. Recent domestic efforts to reduce the deficit--through revenue and expenditure measures to compensate primarily for shortfalls in revenues from the hydrocarbons sector--have not been sufficient, and the primary deficit has increased in recent years. This, and low seigniorage, imply a continued high dependency on foreign financing--not a desirable development given the debt experience of the past. Furthermore, a higher deficit financed through increasing seigniorage is not consistent with continued reduction of inflation. Therefore, Bolivia has to strengthen its fiscal accounts in a permanent way in order to sustain macroeconomic stability.

III. Why Modest Growth Persists

Sources of Growth

1.16. The modest economic growth achieved in the past five years has not allowed for much reduction in poverty. To gain an understanding of the challenges facing Bolivia in late-1994, it is necessary to briefly look at the longer term growth pattern, and more importantly, the sources of growth--capital, labor and technology. Based on the results of an empirical study analyzing growth during the period 1950 to 1990, it has been concluded that: (a) the major source of growth in Bolivia has been capital--accounting for about 65 percent of total growth^{6/}; (b) about 18 percent of growth can be explained by technological change; and (c) the returns

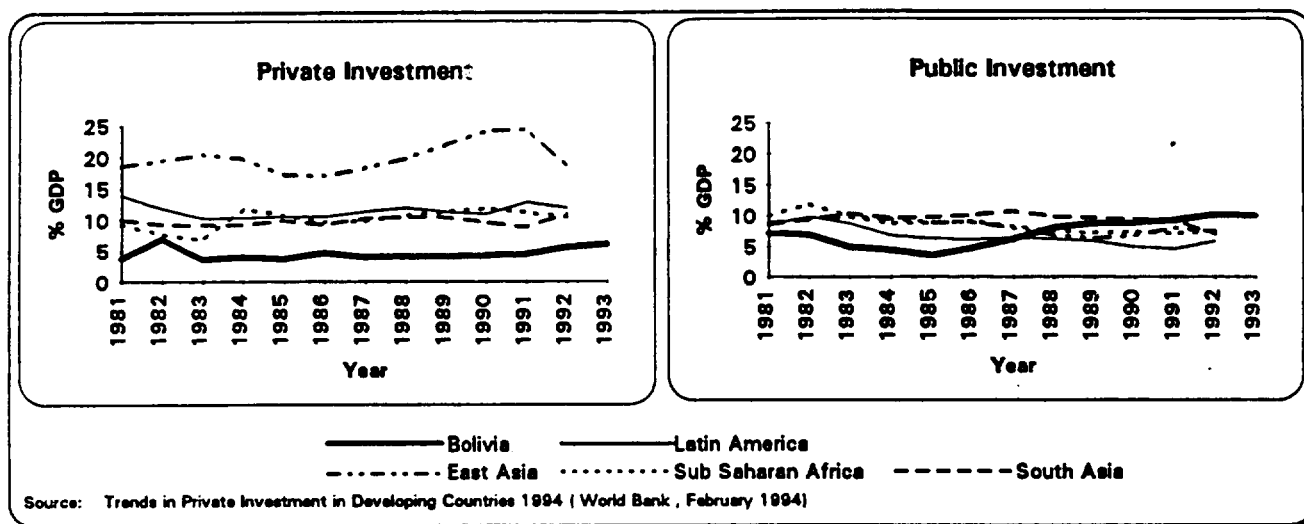
^{5/} The analysis of the combined effects of the fiscal, monetary and exchange rate policies pursued by the Government, indicates that a "perverse" mechanism may be at work. More specifically, the analysis suggests the following cycle: First, there are capital inflows--both private and public; Second, the Central Bank increases its foreign exchange holdings to avoid real exchange rate appreciation; Third, money supply increases; Fourth, the Central Bank restricts credit to the banking system to avoid inflationary pressures and fulfill monetary growth targets; Fifth, interest rates increase; and Sixth, additional capital inflows are attracted, starting the cycle again. This combination of policies, which increases interest rates, could affect the fiscal accounts directly if domestic borrowing is increased and indirectly by affecting economic growth. This warrants further analysis for potential correcting policy measures.

^{6/} This section draws on *Fuentes de Crecimiento Económico de Bolivia: Una Aproximación Econométrica* by Sergio Navajas Orellana (Universidad de Tucumán, December 1991). For the sources of growth analysis, the author fitted the following Cobb-Douglas production function for the period 1950 to 1990: $Y = A e^{\alpha} L^{\beta} K^{\gamma}$, where Y is real GDP, e^{α} is technological change, L is labor, and K is capital. For a comparative analysis, see *Sources of Growth: A Study of Seven Latin American Economies*, by Victor J. Elias (ICS Press, 1992).

to capital are about 25 percent. Therefore, it is anticipated that capital accumulation and technological change will continue to be the driving forces behind future economic growth in Bolivia.

1.17. Despite the long-term trends, during the mid-to late-1980s, in real terms there was a negative net accumulation of capital stock--i.e., investment in new capital assets did not keep pace with capital depreciation. Although investment has started to recover in recent years, Bolivia's capital base remains low as a result of a depleted capital stock and still relatively low levels of gross private investment (see Figure 1.2). While public investment has been relatively high--i.e., greater than public investment levels in other Latin American countries--for the most part, these public resources have been misallocated and invested inefficiently. These factors have lead to sluggish capital accumulation and hence, the moderate economic growth since the late-1980s. Unless investment levels and efficiency are improved, long-term economic growth cannot accelerate.

Figure 1.2: Private and Public Investment--An International Comparison



Investment

1.18. **Private investment.** Private sector investment has been and remains sluggish for the following reasons:^{7/}

- (a) The low domestic savings rate resulting from low and negative income growth and the limited financial market;

^{7/} For a more comprehensive discussion of these factors, see Interest Rates, Financial Structure, and Growth: Bolivia in a Comparative Perspective by Guillermo Calvo and Pablo Guidotti (IMF, May 1991), Understanding the Investment-Cycle in Adjustment Programs: Evidence from Reforming Economies by Andres Solimano (The World Bank, December 1991), and Bolivia: On the Road to Development by Felipe Larrain and Jeffrey Sachs (September 1993).

- (b) The high real interest rates which have increased the opportunity cost of capital and acted as a disincentive for private investment in physical assets;^{8/}
- (c) The deterioration in the terms of trade--mainly due to collapses in the prices of minerals, including tin and natural gas--has reduced the profitability of traditional export products. In turn, this has negatively affected the fiscal and balance of payments positions, contributing to high real interest rates;
- (d) Public sector dominance and the existing institutional framework--including legal, regulatory and pricing policies--has restricted private sector entry into key economic sectors--primarily mining, hydrocarbons, telecommunications and electricity;
- (e) The role of the state--as an actor in the productive sector, instead of as a provider of key public goods, especially infrastructure--has not complemented private investment; and
- (f) Political instability in the past.

1.19. **Public investment.** Public sector investment has been misallocated and inefficient. Although increasing in recent years, over the longer-term public investment in infrastructure and human capital has been negligible--at levels insufficient to complement private investment and sustain growth. Evidence from high-growth countries, including Korea, Taiwan, and Chile, indicates that investment in infrastructure and human capital is highly positively correlated with private investment and growth. A recent study has estimated that investing an additional 1 percent of GDP in basic infrastructure (transport and communications) on a sustained basis over a decade, is associated with incremental annual GDP growth of 0.6 percent during the same period.^{9/} Furthermore, a lesson to be learned from the experience of the "East Asian Miracles" is that the superior accumulation of human capital--including a well educated labor force--contributed significantly to the rapid growth.^{10/} This has been confirmed recently for a wider range of countries (83) over a longer period of time (1960-1987).^{11/} The findings of this study suggest that human capital accumulation is three to four times as important as raw labor in explaining output growth.

^{8/} Real interest rates remain high because: (a) the continuing uncertainty regarding fiscal management--i.e., dependence on external financing and occasional acceleration of Central Bank credit to the non-financial public sector; and (b) the exchange rate and monetary policies pursued to avoid appreciation of the exchange rate and inflationary pressures.

^{9/} See Fiscal Policy and Economic Growth: an Empirical Investigation by William Easterly (The World Bank) and Sergio Rebelo (National Bureau of Economic Research), paper presented at the Conference on How do National Policies Affect Long-run Growth? (Washington D.C., February 1993).

^{10/} See The East Asian Miracle: Economic Growth and Public Policy, The World Bank (Oxford University Press, 1993).

^{11/} See New Estimates of Total Factor Productivity Growth for Developing and Industrialized Countries by Vikram Nehru and Ashok Dhareeshwar (The World Bank, International Economics Department, June 1994).

1.20. Over the last decade in Bolivia, substantial public investment resources--equivalent to 4 percent of GDP--have been directed towards public sector enterprises, which for the most part have been inefficient. For example, public investment in YPFB has grown by 2 percent annually, accounting for an average of 25 percent of total public sector investment during the last 10 years. Based on the previously cited study about the sources of growth (see paragraph 1.16), such an increase in capital should have resulted in output growth greater than 3 percent per year. Instead, during this same period, output growth from the sector--of which, YPFB represents 95 percent--has remained low--1.2 percent annually.

IV. The Challenge

1.21. In light of the evolution of the Bolivian economy as discussed above, the key objectives of the Government's economic program for the 1994-1997 period are to: (a) maintain macroeconomic stability, including achieving and maintaining a feasible fiscal deficit; (b) attract private investment to sustain higher economic growth through the implementation of a second generation of structural reforms; (c) improve the efficiency of public sector management, including undertaking appropriate investments in infrastructure; (d) promote development of human capital and alleviate poverty through expanding and improving delivery of social services^{12/}; and (e) continue implementing the national policy for sustainable development, including prudent environmental management. To achieve these objectives, the Government must continue to pursue prudent fiscal and monetary policy while maintaining market determination of prices, including the exchange and interest rates. To complement the monetary stability, prudential supervision of the financial system should also continue.

Box 1.1: Key Reform Programs

On-Going Reform Programs

- Public Enterprise Reform, including privatization/liquidation of commercial public enterprises
- Mining Sector Reform, including restructuring of COMIBOL
- Financial Sector Reform
- Public Administration Reform, including restructuring the Executive Branch
- Public Sector Investment Reform
- Tax and Customs Administration Reform
- Trade and Registration Procedures Reform

New Reform Programs

- Hydrocarbons Sector Reform, including capitalization of YPFB
- Telecommunications Sector Reform, including capitalization of ENTEL
- Electricity Sector Reform, including capitalization of ENDE
- Transport Sector Reform, including capitalization of the national airline (LAB), national railway (ENFE), and restructuring of the national airport services (AASANA)
- Civil Service Reform
- Pension Reform
- Legal and Judiciary Reform
- Popular Participation Reform
- Education Reform
- Reforms to Ensure Sustainable Development Reform, including land administration, forestry, rural development and environmentally sustainable development

^{12/} A comprehensive reform of the health sector is also required to improve the delivery of services. However, such a reform has not yet been developed.

1.22. Including the on-going reforms described, the Government's reform agenda is ambitious (see Box 1.1) and potentially costly. Taking into account priority social programs, the reform program must be evaluated and sequenced to create fiscal space for those reforms with the largest impact on economic growth. **Specifically, the overall objective is to maximize the economic impact of the reforms--mainly through the accumulation of physical capital--subject to the constraints imposed by fiscal adjustment and the need to develop human capital and implement key priority social programs.**

1.23. The following chapter discusses in more detail the key reforms--including the associated fiscal impacts--through which the Government intends to meet these challenges.

CHAPTER II: THE FISCAL IMPACTS OF KEY REFORMS

I. Introduction

2.1. Given the current fiscal position and the need to maintain macro stability, the impacts on growth could be jeopardized unless the reforms are properly fiscally evaluated and then sequentially implemented. A sub-set of reforms--**those expected to sustain income growth, improve the efficiency of the state, and develop human capital**--has been selected for the analysis of this chapter. These selected reforms will also have **the largest fiscal impacts** and include programs to:

- (a) Unbind the productive and export potential--hydrocarbons and mining--and develop key economic infrastructure--telecommunications and electricity;
- (b) Strengthen essential public institutions and improve the efficiency of the social security system--civil service and pension; and
- (c) Develop human capital--education reform--and address the needs of the most vulnerable poor--PIDI.

2.2. While each of these reform programs is discussed in detail in Annexes B through I, the remainder of this chapter is devoted to independently evaluating the expected fiscal impacts of each program. In the case of the reforms to unbind the productive and export potential, the discussion of the fiscal impact focuses on **net revenues, defined as gross revenues to the treasury less the costs associated with implementing the reform**. In the case of the other reforms, the discussion of the fiscal impacts focuses on **incremental costs resulting from implementing the reform**. Furthermore, the analysis is based on: (a) certain policy decisions which have already been taken; and (b) certain assumptions and working hypotheses for those policy decisions not yet taken--such as the size and timing of salary increases to be granted under the civil service reform. In Chapter III, the aggregate fiscal impacts of these reforms are analyzed and recommendations are presented on the fiscal feasibility of the package. Given the extent of the reform program, it is difficult to fully anticipate all the impacts and their likely consequences. The impacts described in this and the following chapter reflect our best judgement.

II. Reforms to Unbind the Productive and Export Potential^{1/}

2.3. These reforms target sectors which have been historically dominated by large monopolistic public enterprises. The reforms include: (a) introducing new legal and regulatory

^{1/} For discussion of the reform program, see Bolivia: Restructuring for Growth, (World Bank Report 11075-BO, September 1992).

frameworks to reduce barriers to entry; (b) establishing a regulatory system (SINARE); (c) restructuring the hydrocarbons, telecommunication and electricity sectors, including the capitalization of YPFB, ENTEL, and ENDE; and (d) completing the restructuring of the mining sector, including transforming COMIBOL into a holding company and capitalizing the smelting company ENAF/Vinto.^{2/}

2.4. The following sequence of events is required to implement each of the sectoral reform programs: (a) the regulatory system is in place for all sectors; and (b) the specific sectoral legislation has been enacted. Only then will the framework be in place to proceed with capitalizing the public enterprise.

2.5. A key characteristic of the capitalization program (see Box 2.1) is a change in the legal ownership of the enterprises. Bolivian law requires that certain liabilities--such as seniority/severance payments and unfunded pension obligations--be evaluated and settled. Specifically, Bolivian labor law establishes the minimum legal amount that must be paid in seniority/severance.^{3/} As a general principle, it is suggested to include these liabilities as part of the enterprise negotiation package. The success of actually transferring these liabilities to the shareholders, along with other liabilities--such as debt and debt service--to the new

Box 2.1: The Capitalization Program

The capitalization program--a key component of the Government's reform program--is aimed at attracting private sector management and capital to sectors now dominated by public enterprises. In broad terms, its objectives are to:

- Transfer to strategic investors the management control and up to 50% of the ownership of a number of major state enterprises, including YPFB (hydrocarbons); ENTEL (telecommunications); ENDE (electricity); ENFE (railways); LAB (airline); and ENAF (smelter). The investors will sign a management contract with the enterprise. After the expiration of this contract, the strategic investor may purchase additional shares and thereby own more than 50% of the company.
- Attract investment by requiring strategic partners to make investments into the company instead of buying existing assets. This process will increase the capital of the company, providing it with financial resources for new investments; and
- Transfer the state's present ownership of the existing assets through the new pension system. Each Bolivian adult will receive one share of each of the six companies to be capitalized in an individual pension account.

The Capitalization Law (approved in March 1994) provides a broad framework for the program. The specific details on the capitalization of each public enterprise will be determined on a sector-by-sector basis, according to the existing capital structure, the respective restructuring plans for the sector and estimates of investment needs in the short to medium-term.

^{2/} The analysis of this section does not include a discussion of the fiscal impacts of capitalizing other public enterprises--specifically, LAB and ENFE--and contracting out the services of AASANA. The major impacts of these capitalizations are the one-time costs associated with these processes--i.e., seniority/severance payments, transactions costs, and other unfunded obligations. For these three enterprises, the following costs (in US\$ Million) have been estimated:

<u>Enterprise</u>	<u>Severance Payments</u>	<u>Transactions Costs</u>	<u>Studies/Institutional Strengthening</u>
LAB	9.2	0.4	1.1
ENFE	27.3	1.0	1.6
AASANA	1.8	0.4	1.4

The potential revenue impacts are being captured through the domestic revenue projections presented in Chapter III.

^{3/} Legal seniority/severance payments are calculated on the basis of the last salary as follows: three months salary plus one month salary per year of service. This is not compensation for dismissal, but a benefit acquired by the workers through the passage of time. These benefits are due even if it is the worker who decides to leave the enterprise.

investors will depend upon the sector and enterprise. The Government will also identify contingency liabilities--especially environmental--associated with each enterprise. However, it has been decided that these liabilities will not be included in the capitalization packages, and as such, are potential long-term liabilities of the Government. These liabilities have been included as part of the estimated costs of the reform program.

2.6. The implementation of the reforms to unbind the productive and export potential will not only have far-reaching economic impacts, but also **will transform public finances in Bolivia**. Specifically,

- Direct transfers from the major public enterprises to the national treasury will be eliminated and replaced by taxes--most importantly, excise taxes and a corporate income tax. These systems, along with market determined pricing, should increase transparency and create the conditions required to attract private investment.
- Under the capitalization scheme, there will be no direct proceeds to the treasury as ownership of enterprise assets will be transferred to the Bolivian people. Simultaneously, the size of the non-financial public sector will be reduced as public expenditures--both current and capital--associated with these enterprises will be eliminated.

2.7. As a result of this transformation, in addition to the sector-specific effects analyzed below, there will be temporary and permanent fiscal effects common to all sectors. The main temporary fiscal impacts will be:

- Increased expenditures which may result from the treasury assuming the: (a) liabilities of enterprises to be capitalized; (b) transaction costs associated with the capitalization process; and (c) costs of establishing a regulatory system and strengthening of sectoral institutions.
- Possible decreased revenues if the Government is not efficient in collecting new taxes, especially the corporate income tax.

2.8. The main **permanent** fiscal impacts will be:

- A change in the composition of revenues. Revenues will: (a) decrease because the Government will no longer receive returns associated with enterprise ownership; and (b) increase as the tax base is expanded through the introduction of the income tax.
- **Decreased expenditures** as public resources--both current and capital--will no longer be allocated to the capitalized enterprises. A potential exception is expenditures on debt and debt service obligations, in the case that these liabilities were to be assumed by the treasury.

2.9. In addition to the direct fiscal effects, it is expected that in the longer-term the implementation of the reforms should result in increased private investment and increased efficiency. As a result, income growth will likely be accelerated in these sectors and consequently Government revenues should also increase.

The Hydrocarbons Sector

2.10. The Reform Program.

The main objectives of the hydrocarbons reforms are to increase oil and gas reserves and production to satisfy expected domestic demand and expected export demand from Argentina, Brazil and Chile, while limiting public resources allocated to the sector. In view of the existing structure of the sector (see Annex B), to achieve these objectives, substantial private investment will be required. To attract the necessary levels of investment, reforms (see Box 2.2) are needed at three levels: Governmental, sectoral, and enterprise (YPFB).

2.11. At the level of the Government, the reforms will strengthen the capacity to formulate policy and to regulate the sector. At the sectoral level, new legislation will be enacted allowing competition in the industry, thus, making the sector more attractive to private investors. In addition to liberalizing trade and prices, a new taxation system will be introduced. Such a new system must incorporate a stable tax regime for upstream activities with potential fiscal revenue adjustments made only on downstream activities--more specifically, on final consumption. Finally, YPFB will be capitalized. With the implementation of these reforms, in the short and medium-term it is expected that the hydrocarbons sector will contribute to sustaining GDP growth at levels realized in recent years and accelerating growth in the longer-term. If the reforms are not implemented, given the cost structure of YPFB and the permanent drop in the natural gas export price, **the current level of transfers from the sector to the treasury can not be sustained in the longer term.** This alone warrants a sectoral reform to avoid further fiscal deterioration.

Box 2.2: Key Characteristics of the Hydrocarbons Reform

New Hydrocarbons Law

- Eliminate YPFB monopoly
- Ensure right of free disposition, export and import of crude oil, natural gas and petroleum products.
- Introduce flexible and negotiable contractual agreements for exploration and production
- Introduce competitive and attractive fiscal regime for upstream activities

YPFB Capitalization

- Preparation of YPFB for capitalization
- Capitalization of YPFB

National Secretariat of Energy and Hydrocarbons to:

- Promote exploration investments
- Negotiate exploration and production contracts
- Exercise control over the operating companies

Within SINARE, establish regulatory superintendency to:

- Regulate pipeline and gas distribution tariffs
- Monitor for anti-competitive practices

Proposed Tax Structure

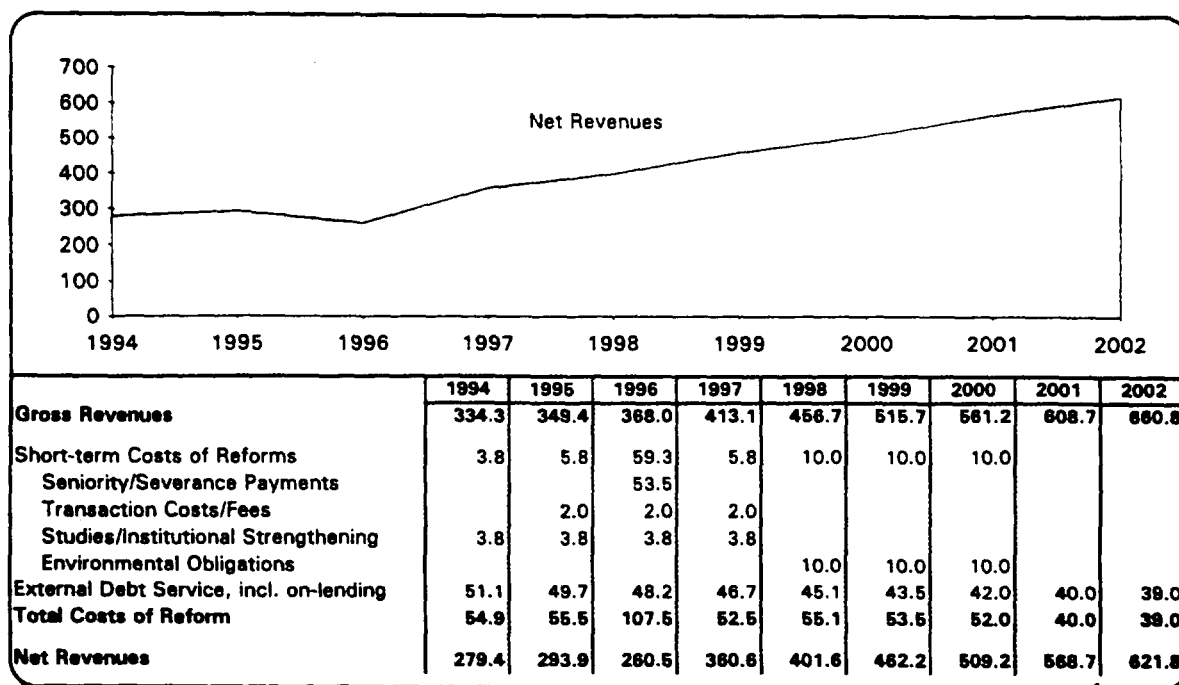
- | | |
|---|-------|
| • Value added tax | 13% |
| • Transactions tax | 3% |
| • Production tax on existing contracts | 19% |
| • Departmental tax/royalty | 12.5% |
| • Corporate income tax | 25% |
| • Diesel tax on the import parity price | 50% |
| • Gasoline tax on the import parity price | 125% |
| • Royalty on production of current YPFB fields | 50% |
| • YPFB share on existing contracts transferred to the treasury and revenue transfers eliminated | |

2.12. **The Fiscal Impacts.** A model of the hydrocarbons sector incorporating the reform scenario, was developed to simulate sectoral outputs, including revenues to the treasury (see Annex B). Based on the results of the model, in the short-term while the reforms are being implemented, net revenues--gross revenues less costs of implementing the reforms--from the hydrocarbons sector to the treasury will fall slightly (see Figure 2.1). Gross revenues will likely increase as the system of direct transfers is replaced by the new system of taxation, including a corporate income tax (25 percent), a royalty on production of current YPFB fields (50 percent), and excise taxes on gasoline and diesel (125 percent and 50 percent, respectively). However, net revenues to the treasury will fall because of the one-time costs associated with implementing the reforms. These costs include seniority/severance payments, unfunded pension obligations, debt service obligations, transactions costs, and costs of restructuring the sector.

2.13. In the longer term, net revenues from the sector to the treasury are expected to increase. Gross revenues will increase as the tax base expands and efficiency in tax collection improves. It is expected that efficiency gains will result from the increased private investment and new technology in the sector, leading to increased production and lower production costs. As a consequence, given expected petroleum prices, sales value and profits should increase. Simultaneously, overall domestic income growth should increase domestic demand for petroleum products, primarily for gasoline and diesel. Furthermore, exports of gas will accelerate in 1999 because of access to the Brazilian market with the opening of the pipeline. As a consequence of completing the capitalization of YPFB, public expenditures allocated to the hydrocarbons sector should be virtually eliminated. However, depending on whether or not the treasury retains debt and debt service obligations, some public resources may be required to service this obligation.

2.14. While the model developed is a useful analytical tool to project the fiscal impacts of the reform, the results are sensitive to key assumptions, specifically: (a) projected petroleum prices; (b) production costs; and (c) tax rates and the efficiency of tax collection. As such, there are risks that revenues to the treasury could be different and possibly lower than those projected. Specifically, if prices of diesel and gasoline are on average 10 percent lower than those incorporated in the model, on average revenues from the sector to the treasury would be about 12 percent lower per year. This results because the sales value--the base for the value added and transactions taxes--would be lower, as would be profits--the base for the corporate income tax. Production costs could adjust with longer lags, e.g., taking ten instead of eight years as assumed--a possibility due to the capital intensive nature of the sector. This would imply on average lower revenues of about 2 percent during the period 1995-2000, because of lower net profits--the base for the income tax. Finally, the tax structure and levels must be competitive internationally to attract private investors. However, such a tax system may generate lower revenues if the taxes are not collected efficiently. For example, if collections of the three most important taxes--value added, corporate income, and excise--are 50 percent lower than projected, total revenues would on average be about 11 percent lower per year during the period 1995-2000.

**Figure 2.1: Fiscal Impacts of the Hydrocarbons Reform
(in US\$ Million)**



Given the costs associated with implementing the reform program, in the short-term net revenues will slightly decline. While additional actions may be required to increase revenues from the sector, a stable tax regime must be maintained on upstream activities--particularly on income and production--to attract private investment.

The Mining Sector

2.15. **The Reform Program.** Given the characteristics of the mining sector (see Annex C), the objective of the reform is to maximize output while implementing economically feasible environmental protection measures. Intended to create an environment conducive to private investment, the reforms (see Box 2.3) include: (a) implementing a new regulatory and institutional framework; (b) strengthening and creating sectoral institutions; (c) transforming COMIBOL into a holding company; (d) transferring COMIBOL's mining operations to the private sector through joint ventures or leases and selling or liquidating all industrial operations^{4/}; and (e) capitalizing the smelting company--ENAF/Vinto.

^{4/}

The Bolivian Constitution specifies that none of COMIBOL's assets (including its mines) nationalized in 1952 can be transferred outside of COMIBOL. Consequently, COMIBOL cannot be included in the capitalization program.

2.16. **The Fiscal Impacts.** A model of the mining sector, incorporating the reform scenario, was developed to project sectoral revenues (see Annex C). Based on the model, in the short term as the reforms are implemented, net revenues from the sector are predicted to be negative (see Figure 2.2). This results from three major temporary impacts: (a) the costs of transforming COMIBOL into a holding company and the transaction costs associated with capitalizing ENAF/Vinto; (b) the costs of assuming the liabilities of COMIBOL and ENAF/Vinto--seniority/severance payments, unfunded pension obligations, and environmental obligations; and (c) the costs associated with strengthening and creating sectoral institutions--primarily the cost of establishing a modern geological infrastructure.

Box 2.3: Key Characteristics of the Mining Reform

1991 Mining Law: Allowed joint ventures, simplified licensing procedures and introduced improved tax system.

New Mining Law

- Permit leases for more than ten years
- Establish mining rights which ensure legal security for mining exploitation
- Eliminate existing contradictions and incompatibilities between previous legislation in the sector

COMIBOL Restructuring

- Transform into a holding company which will administer joint venture/leases with private sector
- Transfer operating responsibilities and mining assets to the private mining sector
- Transfer/liquidate all non-mining assets
- Close/lease unprofitable mines
- Rationalize personnel

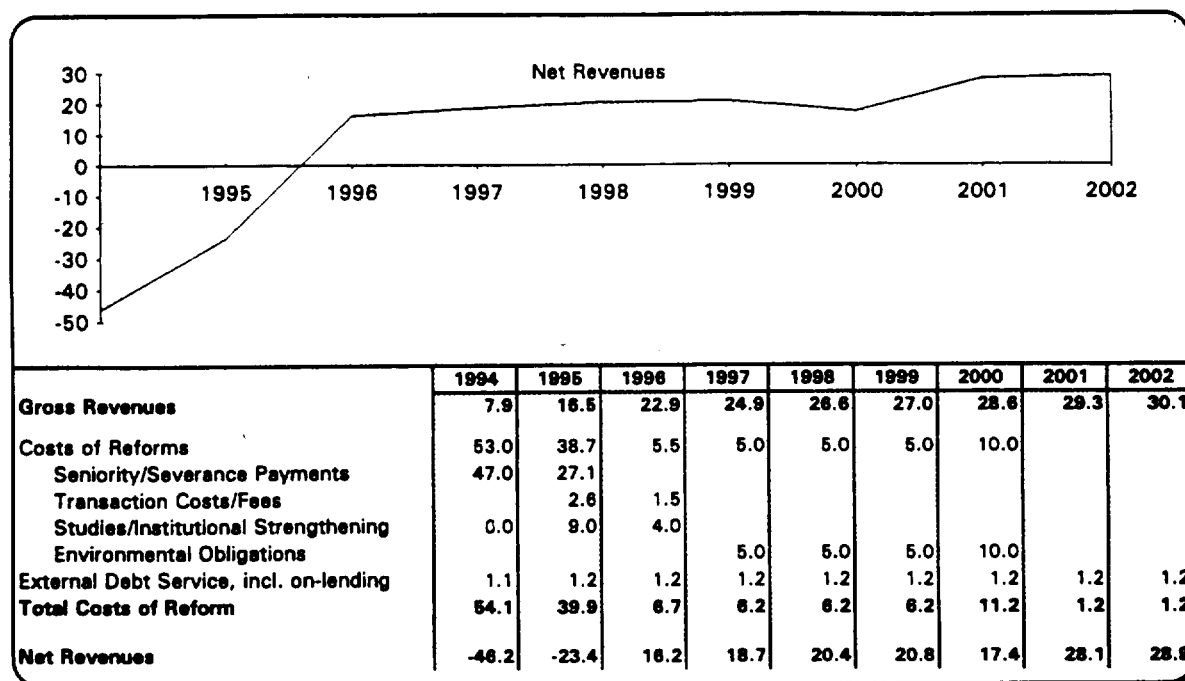
Capitalization of smelting company--ENAF/Vinto

- To be packaged with a long-term lease to one or two tin mines of COMIBOL to ensure a raw material source

2.17. In the longer term, net revenues from the sector to the treasury should increase as a result of the expansion of the tax base--i.e., increased value of production (the basis for royalties) and net profits (the basis for the income tax). By attracting private investment and new technology--primarily in gold and zinc mining--the output of the sector should expand and efficiency gains should result in lowered production costs. Moreover, it is anticipated that international mining prices will slightly recover--and remain stable through the end of the decade--increasing the value of output and the profitability of the sector.^{5/} In addition, as a consequence of transforming COMIBOL into a holding company and completing the capitalization of ENAF/Vinto, public expenditures allocated to the mining sector will be negligible. However, depending on whether the treasury retains debt and debt service obligations, some public resources may be allocated to fulfill these obligations.

^{5/} The international mining price recovery is expected to result from steady increases in demand for mining products--particularly zinc and gold--from key industrial countries--France, Belgium, Switzerland, Great Britain, and the US.

**Figure 2.2: Fiscal Impacts of the Mining Reform
(in US\$ Million)**



2.18. The results of the model are sensitive to: (a) production volumes; and (b) international prices of metals, mainly gold and zinc. The production levels have been projected assuming an annual inflow of investment of about US\$100 million during the 1995-2003 period. If this level of investment does not materialize, production levels and revenues to the treasury would be lower. For example, if investment is only US\$75 million per year during the period, production would be 20 percent lower and consequently, revenues would also be 20 percent lower. In addition, if international mineral prices do not recover, the value of output and the profitability of the sector would be lower. Specifically, if prices for gold and zinc were 10 percent lower than projected during the period, the model predicts that revenues to the treasury would be on average about 3 percent lower.

Despite the short-term costs, the Government should implement these reforms as quickly as possible to attract private investment, and hence, accelerate the expansion of the tax base--i.e., the value of production and net profits.

The Telecommunications Sector

2.19. **The Reform Program.** Given the existing characteristics of the telecommunications sector (see Annex D), the main objectives of the reform are to increase penetration levels and to improve the quality of services. To attract the required capital, private

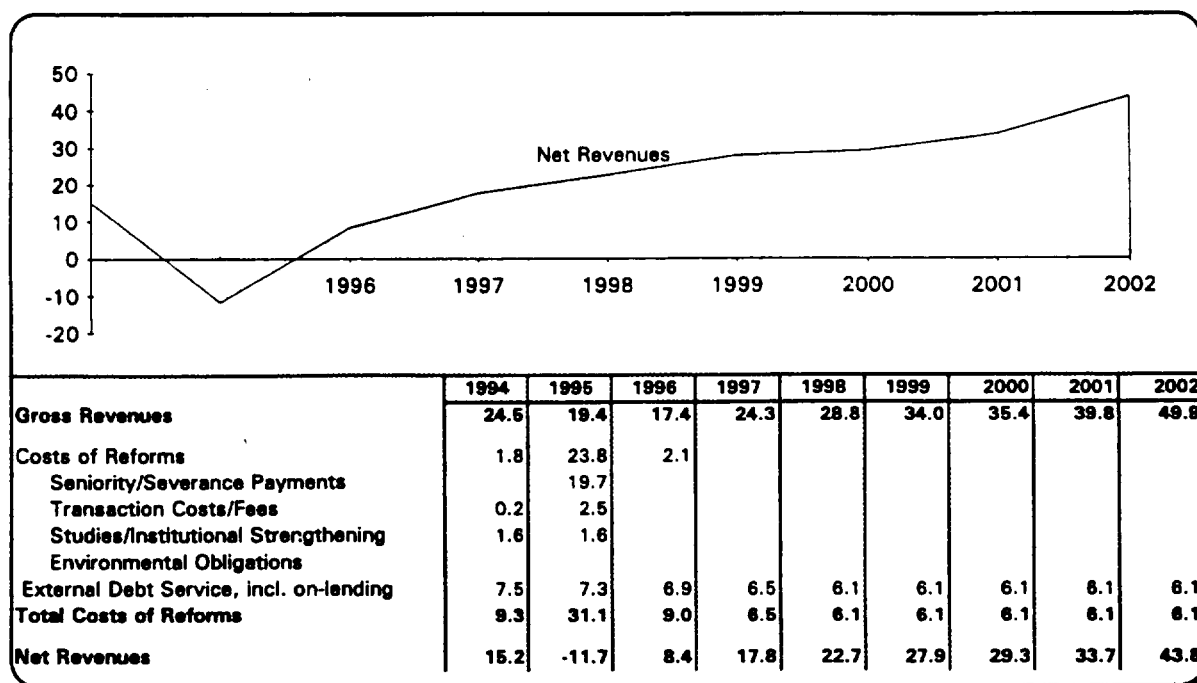
investors would play an important role only if reforms are implemented to restructure the sector (see Box 2.4). At the level of the Government, the reforms will strengthen the capacity to formulate policy, regulate and supervise the sector. At the sectoral level, new legislation should be enacted to promote competition by establishing new tariffs and network concessionary policies. At the firm level, there will be capitalization of the national long-distance company--ENTEL. Given the status of preparation and the interest demonstrated by potential investors, the implementation of the reform program could be accelerated.

2.20. **Fiscal Impacts.** A model of the telecommunications sector, incorporating the reform scenario, was developed to simulate sectoral outputs, including revenues to the treasury (see Annex D). In the short term, net revenues from the sector to the treasury will fall and likely be negative (see Figure 2.3). This results from three major temporary impacts: (a) the costs associated with capitalizing ENTEL, including assuming seniority/severance payments, unfunded obligations, and transactions costs; (b) the costs associated with establishing sectoral regulatory capacity; and (c) the replacement of the direct transfer by the taxation system. In the longer term, as the new tariff structure is fully implemented and costs of production are lowered, collections from the tax system--specifically, the value added and income taxes--should more than compensate for the shortfalls experienced in the early years. In addition, as a consequence of completing the capitalization process, public expenditures allocated to the sector should be minimal, except for possible treasury assumption of debt and debt service obligations.

2.21. Revenues to the treasury are most sensitive to variations in the rate of production expansion (as measured by line density). In light of the relatively elastic demand for telecommunication services, if the rate of production expansion were 10 percent lower than the rate currently incorporated in the model, revenues to the treasury would be about 8.5 percent lower.

Box 2.4: Key Characteristics of the Telecommunications Reform	
<i>New Telecommunications Law</i>	
• Define responsibilities of telecommunications superintendency • Define principles for tariff structure and interconnection charges • Introduce transition period for competition in all services	
<i>Proposed Tax Structure</i>	
• Value added tax	13%
• Corporate income tax	25%
• Transactions tax	3%
• ENTEL transfers eliminated	
<i>Proposed tariffs</i>	
• Installation charge	US\$300(R)/ US\$600(C) ^{a/}
• Basic monthly charge	
- Existing customers	US\$3.00(R)/US\$10.00(C)
- New customers	US\$10.00(R)/US\$39.00(C)
• Interconnection charge	about US\$0.12/min.
<i>Expected results</i>	
• Access line growth	9% per year
• Telephone density	6.8 lines per 100 inhabitants
• Increase in public phone density	more than 0.6%
• Revenues per access line	14% growth/year
^{a/} (R): Residential ^{b/} (C): Commercial	

**Figure 2.3: Fiscal Impacts of the Telecommunications Reform
(in US\$ Million)**



The period to cover the short-term costs and compensate for the decline in revenues resulting from introducing the new tax system could be shortened by accelerating the implementation of the reform program.

The Electricity Sector

2.22. **The Reform Program.** In view of the current structure of the sector (see Annex E), electricity output needs to grow at 7 percent annually to satisfy expected growth in demand. To achieve this rate of expansion, investments will be required in generation, transmission and distribution for the integrated system as well as for rural electrification.^{6/} Given that private capital will be essential towards achieving the required investment levels, the main objectives of the electricity sector reforms are to facilitate and encourage such private participation. The main elements of the reform (see Box 2.5) are to: (a) formalize--through a new legal framework--policies to stimulate competition, including removing barriers to entry and establishing rules for tariff setting; (b) strengthen regulatory capacity; and (c) capitalize ENDE, which will be split into separate entities for generation and transmission.

^{6/} Increasing generation capacity alone is expected to require an additional US\$200-300 million in new investments between 1995 and 2000.

2.23. **The Fiscal Impacts.** A model of the sector--incorporating the reform scenario--was developed to simulate sectoral outputs, including revenues to the treasury (Annex E). Net revenues from the sector to the treasury will initially be negative, due to the short term costs associated with capitalizing ENDE and implementing the reforms--including assuming seniority/severance payments, unfunded obligations, and transactions costs (see Figure 2.4). In the medium to long term, net revenues will increase as a result of an expansion in the tax base and improvements in the efficiency of tax collections. The tax base expands because: (a) all enterprises will be subject to the new income tax;^{7/} (b) tariffs increase in response to marginal cost pricing applied to a price inelastic demand (with an estimated elasticity in the range of -0.2 to -0.5); and (c) production increases to satisfy expected demand growth.

Box 2.5: Key Characteristics of the Electricity Reform

New Electricity Law

- Establish open access to the transmission network of the interconnected system
- Place limits on common ownership of generation and distribution facilities
- Unbundle ENDE into generation, transmission and isolated systems, and dispose of shareholdings in distribution companies
- Further unbundle generation assets into hydroelectric and thermoelectric packages

Capitalization and Restructuring Strategy

Generation: ENDE--To be capitalized and separated into three private companies

Transmission: ENDE--To be capitalized and replaced by one private company

Distribution: COBEE generation and distribution separated

Proposed Tax Structure

• Value added tax	13%
• Corporate Income tax	25%
• Transactions tax	3%

Expected Growth

Demand--about 7% per year plus 3 to 5% per year exports in outer years

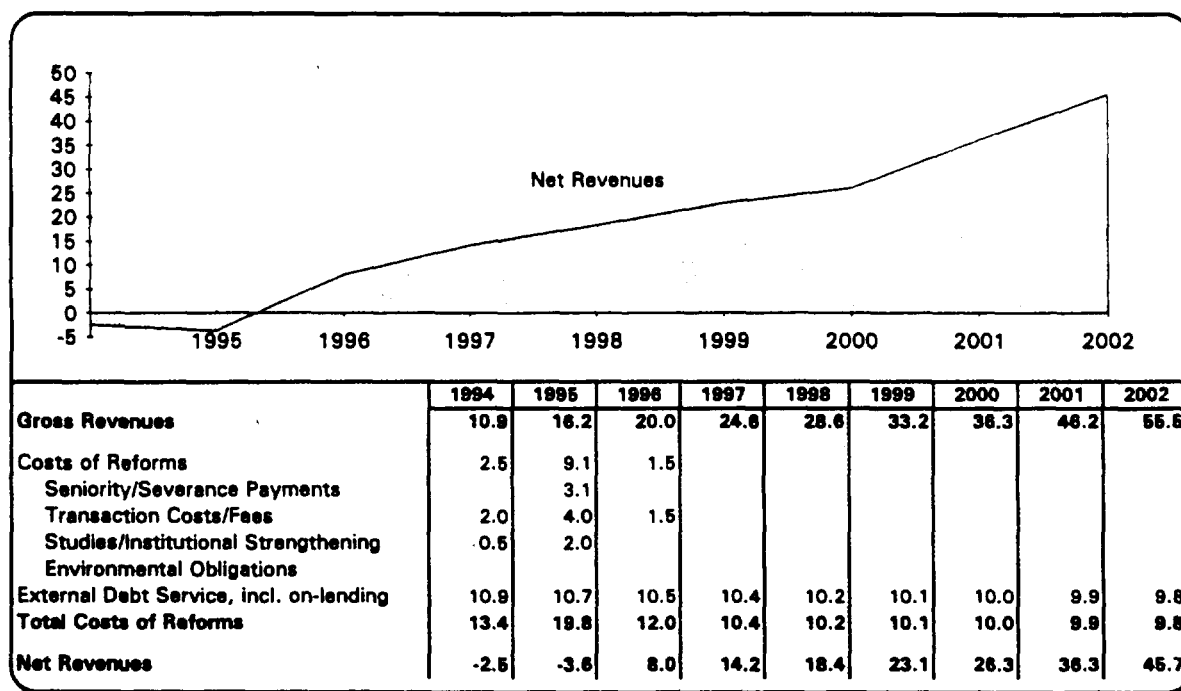
Electricity generation--6.5% per year to 1,200 MW by 2005

Extend coverage to additional 10% of rural households

2.24. The results of the model are most sensitive to the tariffs charged to the final consumers. Given the price inelastic demand, if tariffs to the final consumer were lower than those assumed in the model, revenues would be lower because of a smaller tax base. For example, if tariffs to the final consumer were reduced by 10 percent, revenues would be about 3 percent lower.

^{7/} Currently, ENDE is the only company in the sector which pays the presumed corporate income tax (IRPE).

**Figure 2.4: Fiscal Impacts of the Electricity Reform
(in US\$ Million)**



In light of the relatively low cost and high return—measured by increased revenues to the treasury—the implementation of these reforms should be accelerated.

III. Reforms to Strengthen Essential Public Institutions and Improve the Efficiency of the Social Security System

2.25. An efficient public sector is necessary to complement the private sector development envisioned by the reforms discussed in the previous section. To increase public sector efficiency, public institutions must be strengthened and the delivery of the social security system must be improved. The selected reforms—civil service and pension—are expected to address these issues. Implementation of the civil service program should directly improve public sector efficiency, while the efficiency gains from the pension reform should result from reducing the public sector's role in delivering pension services. At the same time, in light of the "forced" savings characteristics of the proposed system, the new pension system should contribute to increase domestic savings. Throughout the projection period, the direct fiscal impacts of these reforms will be to increase current expenditures.

The Civil Service Reform

2.26. The Reform Program.^{8/}

A limited pool of skilled human resources and high institutional turnover--partially caused by low real public sector wages and arbitrary salary policy--has resulted in weak public institutions. To partly address this problem, the Government has developed a civil service reform program (see Annex F). This reform aims to improve public sector efficiency and effectiveness by strengthening the capacity of key institutions to design and implement public policies (see Box 2.6). The program includes: (a) rationalizing the central public administration by adjusting staffing levels, skills mix and compensation; (b) "technifying" civil service procedures; and (c) strengthening personnel management. The reform will rationalize the number of central public administration employees from about 8,500 to 5,400 over ten years. Although the final decision on the salary scale has not been taken, it has been assumed that as civil servants are incorporated into the new system, they will receive a one-time salary

increase. After this increase, it has been assumed that the real salary level would be maintained. Given the need to maintain fiscal discipline and the changing role of the state, three key issues require further thought. These are: (a) the appropriate salary structure, especially levels; (b) the appropriate number of central public administration employees; and (c) the appropriate size of and salary structure for public employees not included in the reforms.

Box 2.6: Key Characteristics of the Civil Service Reform

Characteristics of new system

- Establishment of an optimal administrative structure
- "Professionalization" of public employment
- Implementation of transparent selection, hiring, and performance evaluation procedures
- Implementation of an appropriate uniform salary scale

Average salary increases from current treasury levels

• Managerial level	525%
• Professional level	345%
• Administrative level	155%

Program to be implemented in 10 years

Program to include central public administrative staff in the following institutions:

- All Ministries, except those dealing with national security and with political responsibilities*
- 8 Key Institutions; INE, UDAPE, DGH, UDAPSO, SNC, INPEX, ONAMFA, DGA

*Although teachers and health care workers are associated with some of the ministries, they will not be included in the reform program.

Basic indicators of system--year 10

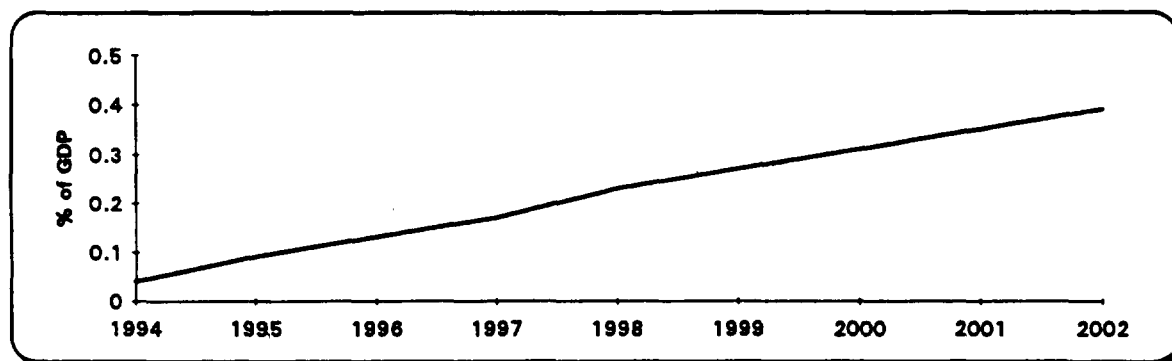
Total annual cost	US\$74.0 million
Number of employees	5,381 (reduction of 37%)

2.27. **The Fiscal Impacts.** A detailed model of the civil service reform was developed to sequence the reform and estimate the costs (see Annex F). Based on this model, the fiscal impacts of the reform will be a permanent increase in public expenditures on wages and salaries (see Figure 2.5). The savings from reducing the number of central public administration employees will not compensate for the increased costs resulting from higher salary levels.

^{8/} The program described in this section is based on preliminary information provided by the Civil Service Executing Unit and has not yet been analyzed by the World Bank.

Although current expenditures will gradually increase as employees are progressively incorporated into the program, the Government must provide additional annual financing.

Figure 2.5: Incremental Costs of the Civil Service Reform



2.28. The results of the model are sensitive to both the number of civil servants in the central public administration and the salary structure. However, given that the rationalization takes place primarily at lower skill and salary levels, the costs are most affected by the salary structure. For example, if initial salaries at all levels were reduced by 20 percent, the incremental cost of the program in the tenth year would be about 18 percent lower. Such a program could be more easily financed by Government resources.

2.29. The major conclusions of the fiscal analysis of the civil service reform, as currently proposed, are:

The salaries should be reviewed and set at levels which will allow the program to be financed by the treasury in the near future;

The rationalization should be deepened and accelerated so that the incremental costs could be lowered; and

Given that the central public administration accounts for less than 5 percent of total public employment, the civil service reform program must be complemented by other initiatives—including decentralization, sectoral reform programs and privatization—which rationalize overall public employment.

The Pension Reform

2.30. **The Reform Program.** The existing social security system for public sector employees is a two-tier system which combines a mandatory Basic Pension with Complementary Pension Funds. The characteristics (see Annex G) have resulted in a system that is: (a)

inefficient--contribution rates are high relative to wages, benefits are minimal, and administrative costs are high; (b) **unfunded**--current contributions are financing current pension obligations; and (c) **technically insolvent**--current and expected contributions are lower than current and expected obligations.

2.31. To address these problems, the existing pay-as-you-go system will be replaced by a system of individual capitalized accounts through a long-term comprehensive reform (see Box 2.7). The reforms include: (a) introduction of a new legal and institutional framework; (b) introduction of the new system, in which compulsory contributions will be deposited in individual capitalized accounts; (c) implementation of a new regulatory framework and administrative system--privately owned pension fund administrators (AFPs); and (d) implementation of measures to streamline and "clean-up" the existing Basic Pension Fund (FOPEBA).^{9/} It is expected that implementation of the reforms will result in a more efficient allocation of both public and private resources, including increasing domestic savings and stimulating capital market development in the longer term.

Box 2.7: Key Characteristics of the Pension Reform

Type of system

- Individual capitalized accounts managed by private pension fund administrators (AFPs).

Supervision responsibility

- Superintendency of Pension Fund Administrators.

Employee contribution rates (% of gross salary)

- 9% for Individual Capitalized Account
- 2% for *Fondo de Siniestralidad* (Loss Fund)

Administration fee set competitively--estimated at 2%

Retirement Age: 65 for both men and women.

Benefits

- retirement
- minimum guaranteed pension
- old age pension
- survivorship (*Fondo de Siniestralidad*)
- general disability (*Fondo de Siniestralidad*)
- funeral expenses
- worker selects AFP

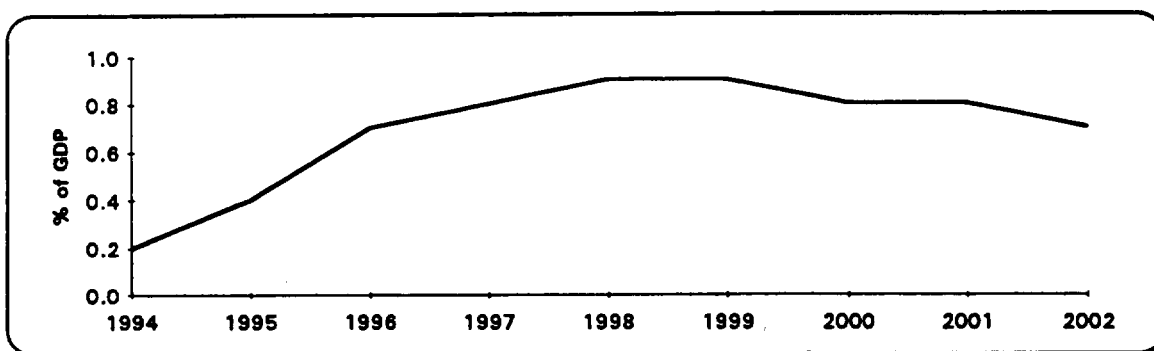
2.32. **The Fiscal Impacts.** A comprehensive model of the pension reform was developed to estimate the costs, including the fiscal impacts (see Annex G). The results of the model indicate that there will be increased costs in the short and medium term. This results because: (a) contributions decline as a significant number of current contributors switch to the new capitalized account system; and (b) the treasury assumes unfunded obligations of FOPEBA. This increased cost is partially compensated by an increase in the revenue base which results from extending the retirement age by ten years and increasing the contribution rate. Finally, there are also significant short term costs associated with implementing the reform, including the costs of setting up the new institutions, registering the population and streamlining the existing system.

2.33. In the short and medium term, the cost of the reform exceeds the cost of the no reform alternative--i.e., maintaining the current pension system (see Figure 2.6). The problems

^{9/} The reform program assumes that existing public pensioners and public employees nearing retirement age (45 and older) will likely remain in the existing system and receive pension benefits from the existing system. Therefore, this system will likely be maintained in parallel until these obligations are terminated.

inherent in the current system--particularly an increasing ratio of beneficiaries to contributors--implies that the current system is not sustainable in the longer term. Without the reform, the gap between pension payments and contributions will continue to widen, requiring increasing public transfers. As the new system becomes self-sufficient and the liabilities of the old system start declining, in the longer term--by the year 2003--the costs of the new system should not only be reduced, but should be lower than the costs of maintaining the current system. Overall, the net present value of the difference between the deficits of the reform case and the no reform case is estimated to be positive.

Figure 2.6: Incremental Costs of the Pension Reform



2.34. The results of the model depend upon: (a) the number of transfers from the old system to the new; (b) coverage of the reform; i.e., whether or not both the basic and complementary funds are included; (c) the assumed retirement age; and (d) the characteristics of the financial instrument used to compensate affiliates that transfer into the new system for contributions already made into the existing system. Given the assumptions for the above factors, the results are most sensitive to: (a) the combined influence of the inflation rate and indexation coefficient; (b) the mortality rate; (c) the real change in average salary; and (d) the real wage growth rate. The most important among these is the inflation rate together with the indexation coefficient. *Ceteris paribus*, if the inflation rate were 3 percent higher than the rate currently assumed in the model, the net fiscal cost would be on average 10 percent lower during the period 1995-2003. This results because real expenditures decrease--i.e., pension payments are indexed at 90 percent of adjustment to public wages sector--whereas real contributions remain constant--i.e., they are automatically adjusted with the change in prices.

In the medium to long term, the expected level of transfers from the treasury to the existing pension system cannot be sustained. Although in the short to medium term the costs of implementing the reform is large, in the longer term the costs of not implementing the reform is even larger.

IV. Reforms to Develop Human Capital and to Address the Needs of the Most Vulnerable Poor

2.35. In rapid growth economies, economic performance has been strongly linked to a high level of human capital.^{10/} To increase human capital, promote more equitable growth, and address a major cause of poverty, the Government's social sector agenda includes popular participation (see Box 2.8 and Annex J) and a comprehensive education reform. To further add to long-term human capital development, address the needs of the most vulnerable poor in urban and peri-urban areas, and prevent permanent damage caused by malnutrition, the Government's program also includes the Integrated Child Development Program--*Proyecto Integral de Desarrollo Infantil (PIDI)*.

2.36. While popular participation is a major reform, the fiscal impacts of this program are difficult to quantify at this stage. Nevertheless, the known fiscal impacts revolve around reallocation of public resources primarily from the regions to the municipalities. The direct fiscal impacts of implementing the other programs--education reform and PIDI--will be a permanent increase in both current and capital expenditures.

Box 2.8: The Popular Participation Law

The Popular Participation Law (*Ley de Participación Popular - LPP*), approved on April 20, 1994, provides a framework for the decentralization process in Bolivia. The principal objectives of the law are to: (a) promote the process of popular participation by incorporating indigenous, rural and urban communities into the political and economic life of the country; (b) improve the quality of life for the Bolivian people through more equitably distributed and better administrated public resources; and (c) facilitate citizen participation by strengthening political and economic instruments. The main components of the law are:

- (a) The recognition and integration of grass-roots groups (*Organizaciones Territoriales de Base, OTBs*) into the political process as collective "voice" mechanisms. *Comités de vigilancia* are created to bolster local accountability.
- (b) The transfer to municipalities of the responsibility to administer, maintain and renovate the physical infrastructure in education, health, sports, local roads, irrigation and micro-irrigation. New municipalities (198) are created out of provincial "sections". RDCs are given the responsibility for providing technical assistance to the municipalities for planning and carrying out regional investments.
- (c) The restructuring of the intergovernmental transfer system based on population criteria. The share of resources to be distributed--i.e., coparticipation funds--remains at 25 percent of national tax revenues, but the RDCs are excluded as beneficiaries from the new system. The Municipal Governments receive 20 percent and the public universities receive the remaining 5 percent. The coparticipation funds allocated to each municipality will be placed in individualized Popular Participation Accounts. Disbursement of the funds will be contingent upon an annually conducted municipal audit. RDCs with royalty resources below the national average will receive special transfers from the treasury.

The LPP imposes certain restrictions on the allocation of coparticipation and royalty resources: (a) Municipal Governments must allocate to public investments at least 90 percent of the coparticipation funds, while at most 10 percent may be used for operating expenses; and (b) the RDCs will not be able to assign more than 15 percent of their revenues to cover operating expenses.

^{10/}

See *The East Asian Miracle: Economic Growth and Public Policy*, The World Bank, (Oxford University Press, 1993).

The Education Reform

2.37. The Reform Program. Effective provision of basic education for the entire population is the over-riding objective of the education reform. Given the nature and depth of the problems (see Annex H), to achieve these objectives will require significant improvements in both the quality and the coverage at primary and secondary levels. These improvements will be achieved only if there are reforms in the structure and management of the sector (see Box 2.9). While full implementation is likely to require 10 to 20 years, the first phase reforms--to be implemented in about five years--include: (a) rationalizing the institutional framework, including establishing a new legal framework for the sector; (b) enhancing educational quality, by developing curriculum, materials, texts, and teacher training programs; and (c) improving access, equity and efficiency, including strengthening sector finances.

2.38. The Fiscal Impacts. A model incorporating the proposed education reforms has been developed (see Annex H). An important objective of the reform is to achieve more efficient use of resources allocated to the sector, including an intra-sectoral reallocation. This implies that public expenditures for primary and secondary education will increase, the effects of which have been incorporated into the model.^{11/} The fiscal impact of the reform will be a permanent increase in public expenditures on education (see Figure 2.7). In the short term, expenditures increase most rapidly as additional texts and teaching materials are secured, teachers receive training, and the system is decentralized.

Box 2.9: Key Characteristics of the Education Reform

Specific Measures Included in Reform:

- Passage of new education law (July 1994) which includes:
 - decentralization of system
 - reorganization
 - budget/expenditure reallocations
- Curriculum development
- Teacher training

Requirements (1993-2002)

Levels of expenditures (% of GDP)

- Average annual primary 4.5
- Average annual secondary 1.4

Number of classrooms needed 67,000
of which, new: 44,500

Number of schools to be upgraded 3,598

Number of teachers needed 106,000
of which, new: 18,000

Salary increases

- The percentage increase in the teachers' wage bill will be 50 percent more than the increase in the general wage bill until the 1994 teachers' wage bill is doubled.

Expected student/teacher ratios

	1994	1995	2002
Elementary	18	19	26
Secondary	15	15	21

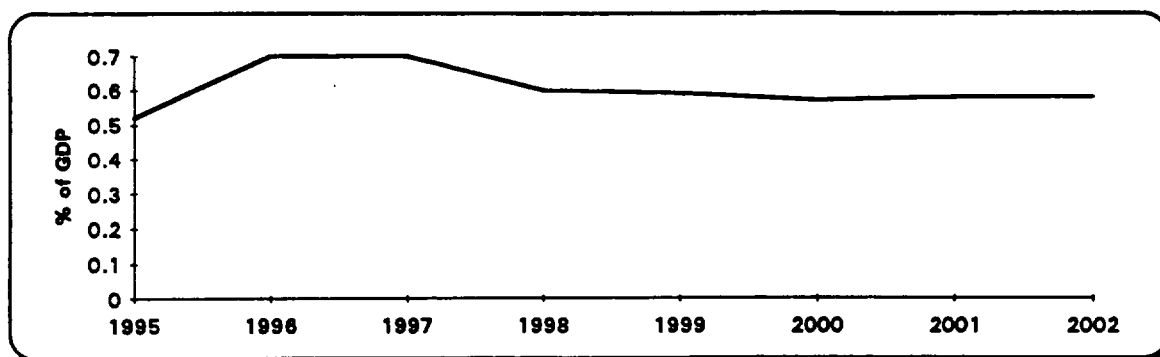
Elementary coverage rates (by 2002)

- Rural up to 90%
- Urban up to 93%

^{11/}

Only the costs associated with the first phase of the reforms have been incorporated into this analysis. The second phase of reforms will be launched after the first phase and will have additional costs.

Figure 2.7: Incremental Costs of the Education Reform



2.39. The results of the model are sensitive to the assumptions regarding both the allocation of resources to the sector and the allocation of resources within the sector--i.e., primary and secondary versus tertiary. For example, if the share of public resources allocated to tertiary education remains constant--at the 1993 level--the net fiscal impact of the education reform would increase by about 12 percent on average for the 1995-2003 period.

2.40. The results of the model are most sensitive to the size and timing of the teachers' salary increase. For example, if the 1994 teachers' wage bill is doubled over a period of five years--as compared to ten years in the current projections--the cumulative incremental costs of the reform would be about doubled during the period 1995-1998.

To implement the first phase of the reform as presently planned, an additional reallocation of domestic resources will be required. In addition, to double the 1994 teachers' wage bill in less than about 10 years would not only be fiscally infeasible in the short term, but would also be unsustainable in the longer term. The size and timing of the salary increase must therefore be determined within the framework of the overall fiscal program.

The Integrated Child Development Program

2.41. **The Program.** The *Integrated Child Development Program*--(PIDI)--has been developed to address the needs of the most vulnerable poor in urban and peri-urban areas and prevent permanent damage caused by malnutrition (see Box 2.10). To achieve these objectives, the program includes: (a) assistance for the delivery of integrated child development services in poor urban and peri-urban areas via non-formal, home-based day-care centers; (b) support for the development of national policies in the areas of early child development, food security and nutrition; and (c) support for strengthening institutional capacity and establishing monitoring systems. The full scale program--to be achieved in six years--attains to reach an installed capacity of 8,670 day-care centers providing non-formal, home-based, integrated child

development services to 130,050 children ages 6 months to 6 years. At full scale, it is estimated that training and employment would have been provided to approximately 21,000 caregivers.

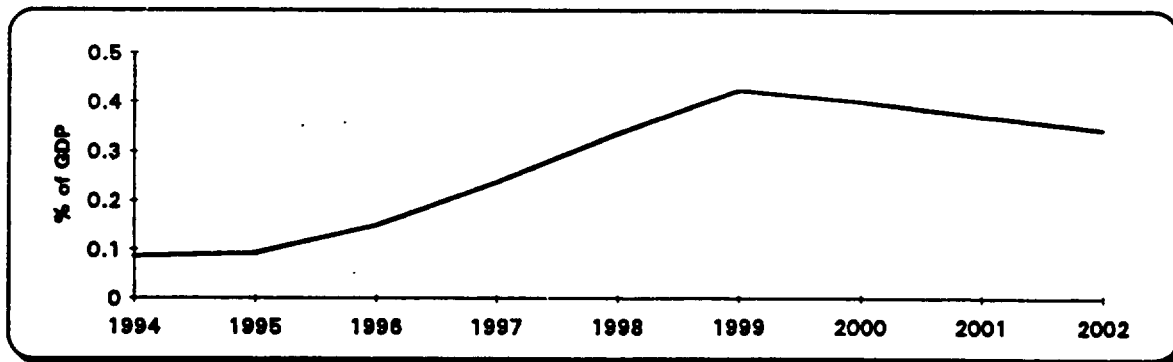
2.42. **The Fiscal Impacts.** A model incorporating key parameters of the PIDI has been developed (see Annex I). Based on this model, during the short term--i.e., the first three years of implementation--the fiscal impact of the program is not significant, given the conservative scale of proposed operations. As coverage increases rapidly in the medium to longer term, the cost will significantly increase. However, it is expected that the net fiscal impact will be lower, as approximately 50 percent of incremental recurrent costs are expected to be covered by food aid.

Box 2.10: Integrated Child Development Program (PIDI)

<i>Life expectancy at birth (1990)</i>	
• Overall	60
• Female	62
• Male	58
<i>Infant mortality rate (per 1,000 live births)</i>	96
<i>Maternal mortality rate</i>	
<i>(per 1,000,000 live births)</i>	480
<i>Under-5 mortality rate (per 1,000 live births)</i>	
• Female	109
• Male	127
<i>Daily caloric supply (per capita)</i>	1,916
<i>Children between 3 months and 3 years age group</i>	
• Underweight (%)	13
• Stunted (%)	38

The PIDI program would contribute to poverty alleviation and human capital development by expanding and improving coverage of child development programs in poor urban and peri-urban areas in the 34 largest Bolivian cities. Specific objectives include: (a) improving children's readiness to succeed in school by facilitating their physical, emotional, social and cognitive development; (b) enhancing the status of women by increasing their employment opportunities, and expanding their knowledge of education, health and nutrition; and (c) increasing community and private sector participation in the social development process.

Figure 2.8: Incremental Costs of the PIDI Program



2.43. The results of the model are most sensitive to the incremental recurrent component of the unit cost--specifically, costs for food and salaries of the caregivers. For example, if coverage were accelerated and the end targets were reached in four years (instead of six), the

net costs of this component would be approximately 10 percent higher per year, while other costs would be only 5 percent higher. Furthermore, there is a major risk associated with the financing of the program. In particular, if the food aid does not materialize, the fiscal impacts will be significantly higher--an average of approximately 50 percent.

To ensure sustainability of the program in the medium to longer term, the Government will need to find fiscal space by reallocating resources from other sectors and/or secure continued foreign financing, including food aid.

V. Summary and Conclusions

2.44. The independent sectoral analysis indicates that there are substantial fiscal impacts associated with implementing each of the reform programs. The fiscal impacts of unbinding the productive and export potential--hydrocarbons, mining, telecommunications and electricity--are in general positive after the short-term costs have been incurred, the tax base expands, and the new tax systems are functioning efficiently. In hydrocarbons, it will take longer to fully realize the positive fiscal impacts. In the short term, to compensate for the associated costs of implementing the reforms, additional measures may be required to enhance revenues. However, to successfully attract private investment, a stable tax regime must be maintained on upstream activities. In the other sectors--mining, telecommunications, and electricity--the positive fiscal impacts, although smaller than in hydrocarbons, will be realized over a relatively shorter period. This warrants accelerating implementation of the reforms in these sectors. Simultaneously, the implementation of the other programs--civil service, pension, education and PIDI--will be costly and require substantial public resources over the longer term. These resources will have to be generated from foreign and domestic sources--i.e., reallocating resources from other programs and potentially increasing revenues.

2.45. The sectoral analysis is useful to isolate the direct fiscal impacts of each of the reforms. The results are sensitive to key parameters and assumptions contained in each of the models. Thus, while not exact, the results are indicative of the anticipated fiscal effects. In the case of the reforms to unbind the export and productive potential, the fiscal results are most sensitive to: (a) prices; (b) output levels; and (c) costs. These parameters are the main determinants of the tax base in the proposed tax systems. In most of the other reform programs--which involve mainly incremental costs--the fiscal results are most sensitive to salary increases which must be determined within the overall fiscal framework. Finally, in the case of the pension reform, the results are sensitive to a number of the model's key parameters, including the number of transfers from the old to the new system, the retirement age and the coverage of the reform (i.e., inclusion or non-inclusion of the complementary funds).

2.46. The sectoral fiscal impacts must be placed within a feasible fiscal program--a condition necessary to ensure macro stability. This is not only necessary to determine the inter-relationships between the reforms--including a feasible sequencing--but also to find fiscal space for those programs which require additional resources. This analysis is the subject of Chapter III.

CHAPTER III: HOW CAN THE ECONOMY BE ON A STABLE LONG-RUN GROWTH PATH?

3.1. In view of the ambitious and costly nature of the program, the reforms need to be sequenced appropriately to ensure both growth and maintenance of a feasible fiscal program. In the first section of this chapter, the sequencing and timing of the reforms is analyzed. In the second section, a set of economic projections is presented that includes relatively conservative estimates of economic growth expected to result from implementing the reforms. Taking into account the effects of this economic growth on public finance, a feasible fiscal financing to ensure solvency is presented in the third section.^{1/} This section also presents a strategy for fiscal management. Based on the analysis of the entire report, the final section of the chapter presents an overall summary and conclusions.

I. The Sequencing and Timing of the Reforms

3.2. While taking into account the political economy, including the implicit "political benefits and costs" of each reform, the sequencing proposed here aims to optimize the following objectives:

- (a) maintaining fiscal stability, including spreading over time, the aggregate annual cost of the reforms;
- (b) accelerating capital accumulation, and encouraging the substitution of private for public capital; and
- (c) increasing investment in human capital and improving public sector management.

The attainment of these objectives will help to ensure the sustainability of economic growth.

3.3. The relative size and complexity of each sector are major determinants in the cost and timing of the reforms. The capitalization programs for certain enterprises--ENTEL and ENDE--are relatively inexpensive and simple, and therefore, these enterprises should be capitalized first. However, a longer time frame may be required to reform the hydrocarbons sector in that it is large and complex. In addition to the high cost of the reform, in hydrocarbons, a comprehensive system must be implemented to ensure that the Government captures its share of the economic rents, while attractiveness is still maintained for potential investors.

^{1/} Solvency is defined as the ability of the Government to service a given stock of debt without creating additional debt on an unsustainable basis.

3.4. By allowing private investors long-term management contracts and up to 50 percent equity in key public enterprises, the implementation of the capitalization program is expected to: (a) increase efficiency through new managerial and production technologies; and (b) attract large scale investments. This investment should not only free public resources for reallocation to basic infrastructure and social sectors, but should also accelerate physical capital accumulation. In addition, forced savings through mandatory pension contributions, including the initial distribution of shares from the capitalization program, may lead to increases in household savings. Hence, the pension reform may not only increase the efficiency in the delivery of pension services but may also contribute to accelerated capital accumulation through improved savings intermediation.

3.5. The low level and limited improvements towards developing human capital are principle causes of Bolivia's lingering structural poverty. To reduce income disparities, improve labor productivity, and create the basis to sustain economic growth in the longer term, Bolivia must implement programs to develop human capital. Although costly in absolute terms, the investment in the civil service reform, education reform and PIDI are expected to have high economic and social returns in the longer run. While it is recognized that they may take time to pay off, they should be started now to avoid further delays in the pay-offs. Furthermore, in the longer term, social sector reforms will need to be deepened as they will likely constitute the "pillar" for the success of the overall reform program.

3.6. In addition to popular participation, the political benefits associated with the reforms analyzed in this study may result from at least two other factors: (a) income redistribution through the distribution of shares of the capitalization program; and (b) improvements in the delivery of key public services, specifically pension services and education. On the other hand, the political costs associated with the reform package result from fact that the current Government does not hold an absolute majority in Congress. Therefore, they must build consensus on each reform to ensure passage of the required legislation. Also, to be able to proceed with the reforms, the Government needs to build consensus with other interest groups, including the labor unions. As such, the reforms that are fully prepared and have consensus should be implemented first, followed by those that are more complex and potentially more controversial.

3.7. Based on the above, a proposed timetable with a sequencing and timing of the reforms is presented in Figure 3.1. The total annual costs of implementing the reforms according to this timetable are presented in Tables 3.1 and 3.2. If the reforms are implemented faster--which is feasible if there are no legislative or other delays beyond the Governments' control--some of the costs projected for 1996 will be realized in 1995. At the same time, economic growth may be higher earlier. On the other hand, delays in implementing the reforms will increase the overall cost and may lower the rate of economic growth.

Figure 3.1: Sequencing and Timing of Reforms

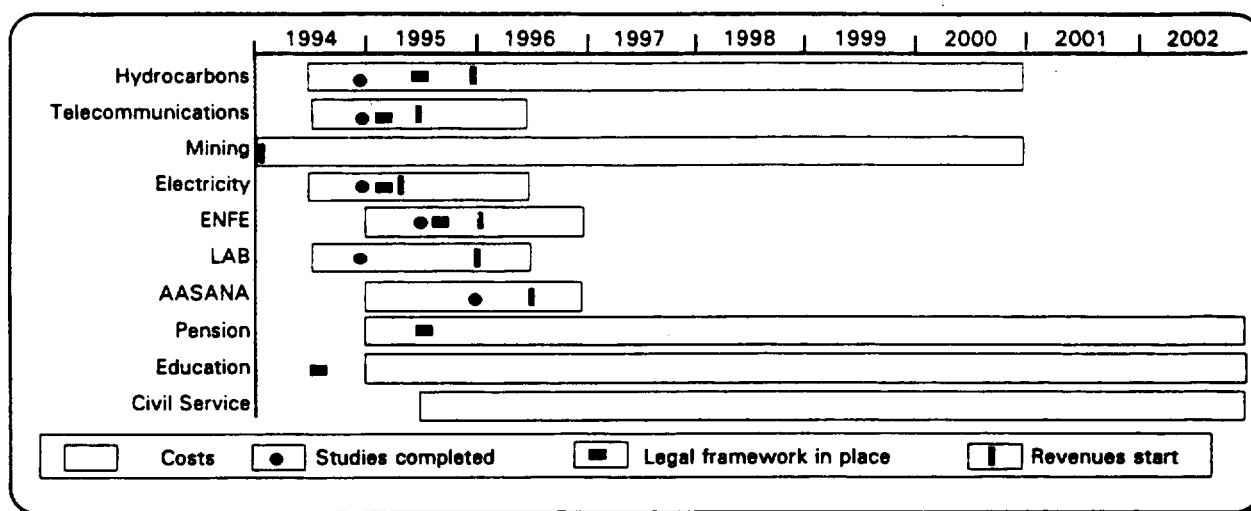


Table 3.1: Estimated Costs of Reforms by Type of Cost
(in US\$ Million)

	1994	1995	1996	1997	1998	1999
Public Enterprise Reforms	142.4	202.4	144.5	75.6	77.6	75.9
Short-term Costs of Reforms	63.8	125.7	70.2	10.8	25.0	25.0
Seniority/Severance Payments	47.0	88.2	53.5	0.0	0.0	0.0
Transaction Costs/Fees	2.2	12.9	5.0	2.0	0.0	0.0
Studies/Institutional Strengthening	14.6	24.6	11.7	3.8	0.0	0.0
Environmental Obligations				5.0	15.0	15.0
Total External Debt Service	78.6	76.7	74.3	64.8	62.6	60.9
Directly Contracted Debt	55.4	53.8	52.3	48.7	41.1	46.0
Amortization	30.4	30.4	30.4	28.9	28.9	28.9
Interest	25.0	23.4	21.9	19.8	18.2	17.1
On-Lending	23.2	22.9	22.0	16.1	15.5	14.9
Amortization	16.1	16.1	16.1	12.3	12.3	12.3
Interest	7.1	6.8	5.9	3.8	3.2	2.6
Other Reforms	19.2	60.9	92.0	110.7	131.0	157.1
Total All Reforms	161.6	263.3	236.5	186.3	208.6	233.0
(as percent of GDP)	2.9	4.6	3.8	2.8	2.9	3.1
Total All Reforms, excluding Amortization	115.1	216.8	190.0	145.1	167.4	191.8
(as percent of GDP)	2.1	3.7	3.1	2.2	2.4	2.5

**Table 3.2: Estimated Costs of Reforms by Reform Program
(as percent of GDP)**

	1994	1995	1996	1997	1998	1999
Public Enterprise Reforms	2.6	3.5	2.3	1.1	1.1	1.0
Hydrocarbons	1.0	1.0	1.7	0.8	0.8	0.7
Mining	1.0	0.7	0.1	0.1	0.1	0.1
Telecommunications	0.2	0.5	0.2	0.1	0.1	0.1
Electricity	0.2	0.3	0.2	0.2	0.1	0.1
Other Sectors ^{1/}	0.2	1.0	0.2	0.0	0.0	0.0
Other Reforms	0.4	1.1	1.5	1.7	1.8	2.1
Civil Service	0.1	0.1	0.1	0.2	0.2	0.3
Pension	0.0	0.4	0.4	0.4	0.5	0.6
Education	0.0	0.5	0.7	0.7	0.6	0.6
Others ^{2/}	0.3	0.2	0.2	0.4	0.5	0.6
Total All Reforms	2.9	4.6	3.8	2.8	2.9	3.1
Notes: Figures may not add due to rounding.						
1/ Includes short term costs associated with other public enterprises--LAB, ENFE, and AASANA--and costs associated with strengthening the Ministry of Capitalization and establishing the national regulatory system.						
2/ Includes some short term costs associated with the Popular Participation Program and PIDI.						

II. The Financing Framework

3.8. The purpose of this section is to focus on public finance projections. However, given the interactions, the section first briefly provides some background on the overall income projections. For a general description of the projections and more details on the projection scenarios, see Annexes K and L.^{2/}

Gross Domestic Product

3.9. The base case scenario projects average GDP growth of at least 4.5 percent during the period 1994-1997, and higher growth beyond 1997. Increased accumulation of physical capital and improved technology attracted through the capitalization program would be the driving forces behind the economic growth. As capitalization follows a decade of relative economic and political stability, and improvements are expected in real export prices, the

^{2/} To focus the analysis, this chapter discusses the fiscal framework surrounding one growth scenario which in our judgement is achievable and perhaps conservative. Obviously, higher or lower GDP growth will imply a different set of assumptions and result in a different set of conclusions. Alternative scenarios incorporating higher and lower GDP growth rates are summarized in Annex L.

probability of attracting private resources is high.^{3/} In addition to agriculture, attractive opportunities exist in the sectors under reform and services in general.

3.10. Factors expected to contribute to increased agricultural output include: (a) higher agricultural productivity resulting from the introduction of new production technologies; (b) greater access to credit through the clarification of property rights, including land tenure; and (c) higher prices resulting from neighboring countries' strong demand for agriculture products, especially soybeans and timber. Growth in hydrocarbons will primarily result from two factors: (a) increased productivity resulting from technological and managerial improvements; and (b) increased investment from the capitalization program and the construction and operation of natural gas pipelines to Brazil and Chile. In mining, above-average growth is expected through: (a) increased productivity following the injection of private capital in previously state-controlled properties; and (b) favorable price expectations leading to investment in non-traditional minerals, primarily zinc and gold. In telecommunications and electricity, elimination of barriers to entry and the capitalization programs should lead to expanding supply to meet increasing domestic and foreign demand. Other services--mainly financial services--are expected to grow as a consequence of the monetary and financial stability, increased domestic savings generated through the new pension system, and the development and increased liquidity of the secondary market for financial assets.

Investment, Savings and Consumption

3.11. To achieve the growth objectives, Bolivia must improve the efficiency of capital investment and increase gross fixed capital formation--i.e., gross investment--to more than 19 percent of GDP by the end of the decade. As a consequence of opening up key economic sectors and the capitalization program, it is anticipated that private sector investment would double during the period--increasing from about 6 percent of GDP in 1994 to about 13 percent of GDP in the year 2003.^{4/} This can be achieved if: (a) political and economic stability is maintained; (b) the business environment improves; (c) the program to capitalize the major enterprises is carried out; and (d) public investment is re-oriented towards basic infrastructure and social sectors. Simultaneously, investment efficiency should improve as new technologies are introduced and private investment is substituted for public investment in key sectors traditionally dominated by the state.

^{3/} Cross-country statistical analysis for the period 1960-1985 suggests that political instability in Bolivia has had the largest negative effect on growth, reducing growth by 1.5 percent per year relative to the average. See Economic Growth in a Cross Section of Countries by R. Barro, Quarterly Journal of Economics (Vol. 106, 1991) and Politics and Business Cycles in the Industrial Democracies by A. Alesina, Economic Policy (April 1989).

^{4/} This would imply average private investment growth of 19 percent for the period 1994-1997 and 7.7 percent for the period 1998-2003. These growth targets are achievable and have been achieved by other medium and small countries during the 1980s. For example, in Chile private investment increased from 5 percent to 15 percent of GDP in 7 years leading to average GDP growth of 6 percent. Similarly, in Mauritius private investment increased from about 14 percent of GDP in 1980 to 21 percent of GDP in 1990, while generating average GDP growth of 6 percent.

3.12. In the short term, foreign savings are needed to finance this level of investment. Given the extent of the reform program, Bolivia is expected to receive donor support and maintain concessional inflows (including grants) at levels at least similar to those received in the recent past. In addition, foreign savings--in the form of net direct foreign investment--would be attracted by the capitalization program. In the longer term, however, as foreign resources become scarcer, Bolivia would need to increasingly rely on its own private and public savings. The capitalization program is also expected to increase domestic savings. In addition, another factor expected to generate increased domestic savings and contribute to the expansion of the formal financial market is the forced savings feature of the new pension system. Other conditions necessary to encourage higher national savings include maintaining stability, modest rates of taxation on savings, and a business environment which reduces uncertainty for private investors--i.e., clear property rights and enforcement of contracts. Through prudent fiscal management and the new role of the state, the share of public consumption in GDP is projected to decline. The investment-led output expansion will likely increase real wages in the private sector, and hence, lead to higher disposable income and overall increased private consumption. However, in light of the increased savings efforts--including the forced savings through the new pension system--per capita consumption would grow at about 2 percent per year throughout the period.

External Sector

3.13. As the domestic market is limited in size, it is anticipated that much of the growth in the medium-term will be export led (real growth of about 6 percent per year).^{5/} This projection is feasible in light of: (a) the expected supply expansion of key exportables--minerals and agricultural products--resulting from implementation of the reform package; (b) expected higher international real prices for key commodities--zinc, gold and soybeans; and (c) increased natural gas exports resulting from the Bolivia-Brazil pipeline (starting in 1999). It is further assumed that the real exchange rate will continue to be determined through the Central Bank auction system, and therefore, maintain the competitiveness of Bolivian exports in world markets. Imports are projected to continue increasing during the period. More specifically: (a) imports of consumption goods and intermediates are projected to mirror increases in real GDP; and (b) imports of capital goods will increase as a result of the implementation of capitalization and construction of the gas pipeline. The current account balance (with official transfers) will initially deteriorate before starting to recover after 1997. Net official transfers--mainly in balance of payments support, technical assistance, and transfers in kind from the US and Japan--are projected to average approximately US\$200 million a year during the entire period.

3.14. The projected net direct foreign investment is driven by: (a) the capitalization program; (b) the prospects in the hydrocarbons sector, especially for the export of natural gas; and (c) the prospects in the mining sector.^{6/} Despite these levels, continued support from official donors at concessional terms is necessary to ensure the success of the economic program,

^{5/} This is conservative compared to past performance--real export growth averaged 12.7 percent in the period 1987-1990.

^{6/} Net direct foreign investment has been estimated based on an analysis of expected investment at the sectoral level for key economic sectors undergoing reform, specifically hydrocarbons, mining, telecommunications and electricity.

particularly in the short to medium term. It is projected that gross disbursements will remain fairly constant in nominal terms--roughly equal to US\$350 million a year. In addition, given its debt and debt services burden, it is projected that Bolivia will continue to reschedule debt with the Paris Club on terms similar to those contained in the Agreed Minute of January 1992. Furthermore, it is projected that net external borrowing levels will decline relative to GDP and debt indicators will improve (see Table 3.3).

**Table 3.3: External Financing Requirements
(as percent of GDP)**

	1994	1997	2003	1994-1997	1998-2003
Required Financing	15.9	14.1	6.8	14.3	10.6
Current Account Deficit	11.9	11.3	5.1	10.8	8.7
Amortization Due ^{1/}	2.9	2.2	1.4	2.7	1.7
Net Change in Reserves; (+) increase	1.1	0.6	0.2	0.7	0.2
Financing Source	15.9	14.1	6.8	14.3	10.6
Net Private Capital ^{2/}	2.9	5.6	2.2	4.1	4.0
Official Grants	4.4	3.2	2.1	3.6	2.6
Gross Disbursements ^{1/}	5.8	4.9	2.6	5.6	4.0
o/w: Capitalized Interest	0.5	0.6	0.4	0.6	0.5
Other ^{3/}	2.8	0.5	0.0	1.0	0.0
Memo: Debt to GDP^{4/}	73.0	69.0	58.0	71.0	63.0
^{1/} PPG only. ^{2/} Short-term and Foreign Direct Investment ^{3/} Includes changes in arrears, debt cancellations, errors and omissions, net relief to Brazil arrears, and other exceptional financing. ^{4/} The ratio includes the commercial debt reduction. It may also differ from those reported elsewhere due to definitional and other methodological differences.					

The Fiscal Projections

3.15. **The Consolidated Public Sector Accounts.** To facilitate the fiscal projections, the presentation of the accounts of the consolidated public sector have been divided into general government and public enterprises. This presentation has been used to better illustrate the changes in the fiscal system--i.e., a system of taxation versus transfers--that will be introduced with the reform program.

3.16. **The 1994 Fiscal Program.** In defining the fiscal program for 1994, it has been assumed that the revenue sources--including the taxation and transfer systems--will not be different from the recent past. More specifically, it has been assumed that the taxation systems to be introduced through the sectoral reform programs will not be operational until 1995. The fiscal program has a deficit target of about 3.3 percent of GDP. This target is to be achieved primarily through:

- (a) Maintaining transfers from YPFB at 1993 levels--approximately US\$335 million, not including direct transfers of US\$36 million to the departments;
- (b) Improving the efficiency of tax collection--it has assumed that efficiency improvements will increase revenues from domestic taxes by approximately 8 percent;
- (c) Maintaining the 5 percent import duty on capital goods--given projected increases in imports of capital goods and a reversal of the plan to eliminate this import duty, revenues from this source will increase;
- (d) Limiting the increase in the public sector wage bill to 3 percent in nominal terms--to be realized by restricting the increase in the weighted-average public sector wage to 8 percent in nominal terms and reducing public sector employment;
- (e) Reducing other current expenditures (in sectors other than health and education) by 7 percent in nominal terms; and
- (f) Limiting capital expenditures to 8.8 percent of GDP--through reducing investment in enterprises which are to be capitalized.

3.17. The fiscal projections for 1994 are consistent with the program described above, whereas the projections for the period 1995 to 2003 are described in more detail below.

3.18. **Revenue of the Consolidated Public Sector.** Total revenue has been calculated as the sum of domestic tax revenues, trade tax revenues, other non-tax revenues (grants, donations and capital) and the net operating surplus of public enterprises (see Table 3.4). Revenues from domestic taxes have been calculated as the sum of revenues from two sources: (a) revenues from domestic taxes on sectors undergoing reform; and (b) revenues from domestic taxes on other sectors. Total revenues from domestic taxes on sectors undergoing reform have been calculated as the sum of revenues estimated in the different sectoral models. The major taxes include: (a) a corporate income tax on profits--25 percent on all sectors replacing the presumed corporate income tax (IRPE); (b) a value added tax--the rate is assumed to remain at 13 percent; (c) a transactions tax--the rate is assumed to remain at 2 percent^{2/}; (d) excise taxes on petroleum products--specifically, 125 percent on gasoline and 50 on diesel applied to the corresponding import parity prices; and (e) a 50 percent royalty on production from YPFB's current fields and YPFB's share in current contracts. The value added tax is the most important source of revenues from domestic taxes on other sectors, which have been estimated as a function of real income.

^{2/} The Government is considering increasing the transactions tax rate from 2 percent to 3 percent. The impact of this policy decision is considered as an additional domestic measure to finance the reform program and is discussed in paragraph 3.28.

**Table 3.4: Projected Revenue of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Current Revenue--General Government	21.2	20.4	20.1	20.3	21.2
Domestic Taxes--Sectors with Reforms	7.6	7.0	6.6	7.0	7.9
Domestic Taxes--Rest of the Economy	9.2	9.2	9.3	9.4	9.9
Trade Taxes	1.5	1.5	1.6	1.6	1.6
Other Current Revenues	2.9	2.7	2.6	2.3	1.8
Capital Revenue--General Government	2.7	1.9	1.5	1.4	1.3
Grants, Donations and Other Capital Revenue	2.7	1.9	1.5	1.4	1.3
Net Operating Surplus--Public Enterprises	1.9	0.1	-0.8	-0.2	-0.2
Total Revenue Consolidated Public Sector	25.8	22.4	20.8	21.5	22.3

3.19. Trade tax revenues have been estimated by applying a weighted-average customs duty to the total value of merchandise imports. Based on historical trends, other non-tax revenues have been assumed to remain constant in nominal terms. Excluding the extraordinary payments in 1994 and 1995, capital revenues--consisting primarily of grants and donations--have been assumed to remain constant in real terms. Finally, the net operating surplus/deficit of public enterprises has been estimated on the basis of projected sales and expenditure. This is most relevant for the transitional period before the capitalization is completed and consists of Government servicing of public enterprise debt liabilities afterwards.

3.20. Starting in 1995, the level and composition of revenue will change as a result of implementing the public enterprise reform program. It has been assumed that during 1995 and 1996, Government efforts will shift towards implementing the new tax regime in all sectors, including income taxation. It is expected that tax revenue as a percent of GDP would slightly decline through 1996 and would start to increase afterwards.

3.21. **Expenditure of the Consolidated Public Sector.^{8/}** Total expenditures have been calculated as the sum of current and capital expenditures (see Table 3.5). Total current expenditures have been calculated as the sum of labor services (wages and salaries, seniority/severance payments, and veterans pensions), goods and services, transfers, interest payments, and other current expenditures. Combining historical trends with the Government's stated policy, the projections have assumed no real increase in the wage bill (before

^{8/} For the reason provided in paragraph 3.15, current expenditures of the consolidated public sector includes only the current expenditures of the general government.

adjustments for the civil service and education reforms) during 1995 and 1996.^{9/} For the period 1997-2000, the wage bill has been assumed to increase by 3 percent per year in real terms and 3.5 percent thereafter (both below expected real income growth). To this estimated amount, the assumed incremental salaries resulting from the civil service and education reforms have been added. The seniority/severance payments included in labor services are projected labor liabilities resulting from the expected reduction of civil servants, in particular personnel from the Regional Development Corporations. This estimated amount does not include seniority/severance payments expected to be incurred as part of the capitalization program. They have been included in the public enterprise accounts, and hence, are reflected in the net operating surplus/deficit.

**Table 3.5: Projected Expenditure of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Current Expenditure—General Government	20.6	21.9	21.0	19.9	18.9
Labor Services	9.7	9.9	9.7	9.3	9.2
of which: Wages and Salaries	8.8	8.6	8.3	8.0	7.7
of which: Reforms	0.0	0.2	0.3	0.4	0.7
Goods and Services	2.4	2.4	2.4	2.4	2.4
Transfers	2.6	2.6	2.6	2.5	2.0
Interest	2.8	2.8	2.4	2.3	2.2
External	2.1	2.1	2.0	1.9	1.9
Internal	0.8	0.8	0.5	0.4	0.3
Other Current Expenditures	3.1	4.2	3.9	3.4	3.1
of which: Capitalization/Mining	0.3	0.6	0.4	0.1	0.1
of which: Pension Reform	0.0	0.4	0.4	0.4	0.5
of which: Education Reform	0.0	0.4	0.4	0.4	0.2
Central Bank Surplus (-)/Deficit (+)	-0.3	-0.4	-0.4	-0.4	-0.3
Capital Expenditures	8.8	7.6	6.7	6.7	6.0
General Government	5.8	6.6	6.5	6.5	6.0
Public Enterprises	3.0	1.0	0.2	0.2	0.0
Total Expenditures Consolidated Public Sector	29.1	29.1	27.3	26.2	24.6

3.22. Expenditures on goods and services, transfers and other current expenditures (excluding incremental reform costs) are fiscal policy variables. For the purposes of the projections, they have been estimated as functions of GDP growth and are assumed to remain

^{9/} During the period 1988-1993, the public sector wage bill in real terms increased by an average of 8 percent per year. In contrast, in the 1994 budget there is only a slight nominal increase in the public sector wage bill and the announced policy of the Government is to continue controlling the expansion of the public sector wage bill.

constant as shares of GDP through 1997. In the case of other current expenditures, the incremental costs of implementing the reforms--including capitalization expenditures, pension, and education--have been added. Interest payments--both domestic and foreign--have been estimated based on projected debt stocks and interest rates. It is expected that interest expenditures will decline, resulting from external debt and debt service restructuring. The surplus/deficit of Central Bank operations has been estimated to remain constant as a share of GDP.

3.23. As a result of the reform program, capital expenditures are projected to decline. With the implementation of the capitalization program, capital expenditures by public enterprises are projected to rapidly decline and disappear by the year 1999. At the same time, capital expenditures of the general government are projected to increase--reflecting increased public investment in infrastructure and social sectors--and then remain constant as a share of GDP through 1997.

3.24. The level and composition of public expenditure will also change as a result of the implementation of the reform programs. In the short term, labor services and other current expenditures will increase due to the incremental costs associated with implementing the reforms, primarily the capitalization program and education. However, in the longer term, labor services and other current expenditures decline relative to GDP.

3.25. **Deficit and Financing.** Under these projections, the overall deficit of the consolidated public sector would decline from 6.4 percent of GDP in 1993 to 3.3 percent of GDP in 1994. As a result of the implementation of the reform program, without additional domestic fiscal measures, there would be a substantial increase in the deficit in the period 1995-1997 (see Table 3.6).

**Table 3.6: Projected Deficit and Financing of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Primary Surplus/Deficit (-)	-0.1	-3.5	-3.8	-2.1	0.2
Overall Surplus/Deficit (-)	-3.3	-6.7	-6.5	-4.7	-2.3
Debt Financing	3.3	4.1	3.5	3.0	1.8
Net External Debt Financing	3.4	4.1	3.5	3.0	1.8
Net Domestic Debt Financing	-0.1	0.0	0.0	0.0	0.0
Additional Domestic Financing	0.0	2.6	3.0	1.7	0.5
"Implicit" Revenues from Transferring to Shareholders:					
Severance Payments and Transactions Costs	0.0	1.2	1.1	0.1	0.0
Debt Service	0.0	0.2	0.8	0.7	0.5
Additional Revenues Generated from:					
Increasing the Transactions Tax to 3%	0.0	0.9	0.9	0.9	0.0
Sales of Enterprise Assets	0.0	0.3	0.2	0.0	0.0

3.26. These deficit levels are not consistent with macroeconomic stability for the following reasons:

- If these deficits were to be financed by additional external borrowing, the analysis indicates that it would not be possible to service the increasing stock of debt on a sustainable basis without creating additional debt. Furthermore, with increased external borrowings, it is likely that interest rates will be higher interest rates because of the additional risks associated with the macro instability; and
- If these deficits were to be financed domestically through the financial system, it would be either inflationary or crowd out credit to the private sector.

3.27. Given limited concessional resources and the need to ensure solvency, levels of net external financing have been projected to be about 3.5 percent of GDP during the period 1995-1997--a slight increase over the average of the past few years. For the rest of the period, levels of net external financing have been projected to be about 2 percent of GDP. This is consistent with expected commitments on concessional financing from international donors. Furthermore, the projections do not envision additional domestic borrowing. As a percentage of GDP, the existing stock of public domestic debt will continue to decline from its current level of about 3 percent.

3.28. In light of the constraints on public sector borrowing, the Government should implement additional domestic measures to finance the overall expenditure program, including the costs of implementing the reform package. Possible additional measures include:

- "Implicit revenues" generated from: (a) transferring at least 80 percent of seniority/severance payments to the shareholders (both domestic and foreign) of the enterprises to be capitalized; (b) transferring debt service obligations of YPFB, ENDE, and ENTEL (representing approximately 75 percent of the debt service obligations of enterprises to be capitalized) to the new shareholders; and (c) paying the transactions costs out of the proceeds of the capitalization;^{10/} and
- Additional revenues generated from: (a) increasing the transactions tax rate from 2 percent to 3 percent; and (b) selling certain real and financial public sector assets in sectors to be reformed--such as auxiliary facilities of YPFB, real estate holdings of ENFE and COMIBOL, and ENDE's shares in ELFEC--generating a total of least US\$30 million during 1995 and 1996.

^{10/} With regard to the impact on the balance of payments, in the event that the Government does not succeed in transferring some of the enterprise liabilities to the new shareholders, the level of net direct foreign flows associated with the capitalization process is not expected to change. As a consequence of not directly "taxing" the investors, the overall net value of imports may or may not be higher. However, the composition of imports is expected to change as a higher level of imports of capital goods would occur.

3.29. With the implementation of the above measures, although the deficit will increase to about 4 percent in 1995 because of one-time costs associated with implementing the reforms, a feasible fiscal program is ensured (see Table 3.7). Limiting public sector borrowing--from both foreign and domestic sources--would minimize borrowing costs and crowding out of private investment. It would also lead to a sustainable pattern of debt stock and debt services. In the event that additional external concessional financing materializes--which is a possibility given current negotiations and commitments from donors--the fiscal deficit could be slightly different than projected.

**Table 3.7: Projected Feasible Deficit and Financing of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Primary Surplus/Deficit (-)	-0.1	-1.1	-0.8	-0.2	0.7
Overall Surplus/Deficit (-)	-3.3	-4.1	-3.5	-3.0	-1.8
Debt Financing	3.3	4.1	3.5	3.0	1.8
Net External Debt Financing	3.4	4.1	3.5	3.0	1.8
Net Domestic Debt Financing	-0.1	0.0	0.0	0.0	0.0

3.30. Implementation of the reform program could be accelerated if there are no legislative or other delays beyond the Government's control. In such a scenario, the deficits may be different than projected as the one-time costs--primarily those associated with capitalization--would be incurred according to a different schedule. In this scenario, higher revenues would likely result from higher economic growth.

A Strategy for Fiscal Management

3.31. The above fiscal projections that sequence the reforms, can only be achieved if certain key parameters are implemented. Specifically, these key parameters are that:

- (a) The mining, electricity, telecommunications and hydrocarbons reforms are successfully implemented;
- (b) ENDE and ENTEL are capitalized first, followed by YPFB;
- (c) Corporate income taxation of 25 percent in all sectors is introduced in 1995;
- (d) Stable tax regimes--particularly on upstream activities in the hydrocarbons sector--are maintained;
- (e) The transactions tax rate is increased from 2 percent to 3 percent in 1995;

- (f) Excise taxes on gasoline (125 percent) and diesel (50 percent) are introduced in 1995;
- (g) Efficiency in tax collections is achieved and maintained;
- (h) There is no real increase in the general government wage bill--excluding the education and civil service reforms--in the short term, and in subsequent years, the increase is below the projected rate of real income growth;
- (i) Public capital expenditures are reduced to 6.7 percent of GDP by 1997 and about 80 percent are allocated to infrastructure and social sectors;
- (j) At least 80 percent of seniority/severance liabilities associated with capitalization are transferred to the shareholders--both domestic and foreign;
- (k) Transaction costs associated with capitalization are paid out of the capitalization proceeds;
- (l) Debt service obligations of ENDE, ENTEL and YPFB--representing approximately 75 percent of the total debt service of enterprises to be capitalized--are transferred to the new shareholders; and
- (m) Certain real and financial assets in sectors to be reformed are sold--more such as auxiliary facilities of YPFB, real estate holdings of ENFE and COMIBOL and ENDE's shares in ELFEC.^{11/}

3.32. Sound management of public finances dictates that current expenditures should not be financed through borrowing on a permanent basis. Even more so, increases in current expenditures should not be financed through increases in borrowing. Furthermore, one-time costs should be financed as much as possible with one-time revenues.

3.33. Other fiscal policy instruments are at the disposal of the Government to maintain the projected fiscal path. In the event that higher growth is realized sooner, the higher resulting revenue would limit the need to use other policy instruments to ensure fiscal feasibility. On the other hand, the Government may need to adopt other measures in the event that the key parameters are not implemented and/or downside risks associated with other variables materialize--e.g., lower international prices for petroleum and minerals. Within the set of instruments, the most effective would be: (a) the value added tax; (b) excise taxes on petroleum products; and (c) current expenditure reductions.

3.34. Increasing the value added tax rate would be the most effective alternative for several reasons. More specifically, the value added tax: (a) has a broad base; (b) is applied

^{11/} Although the value of these assets is difficult to quantify at this stage, there are merits with this approach. These are that: (a) revenues can be collected immediately; and (b) the degree to which other revenue raising measures would have to be used would be diminished.

primarily on consumption of goods and services in the domestic market; and (c) is the least distortionary in terms of its effects on relative prices and resource allocation. Furthermore, the current level is not high compared to neighboring countries.^{12/} However, the main drawbacks with increasing the value added tax rate are: (a) a potential long fiscal lag resulting from the need to secure congressional approval; and (b) revenues may be administratively more difficult to collect than revenues from other specific taxes--e.g., excise taxes.

3.35. Compared to increasing the value added tax rate, increasing excise taxes on petroleum products would probably be more effective in raising revenues. This is because excise taxes are easier to collect and could have a shorter revenue time-lag as securing congressional approval may be less controversial. They are also justified as proxies for road user charges and endogenizing negative externalities. However, the main drawbacks include: (a) this form of taxation is more distortionary in affecting relative prices and resource allocation; and (b) smuggling may result if increasing the tax causes the domestic price to be higher than the price in neighboring countries, including the cost of transportation.

3.36. Finally, it is possible for the Government to further reduce current expenditures. More specifically, the Government could lower the wage bill by granting lower salary increases under the civil service reform. In addition, it may be possible to lower other current expenditures below the projected levels. However, given the extent of the expenditure reduction to bring the 1994 program back on track and the need to improve the provision of key public services, there may be limited room for further reductions.

III. Summary and Conclusions

3.37. The implementation of the successive economic reform programs over the last years has **restored price stability** and **Bolivia has regained moderate economic growth**. Nevertheless, the economy remains fragile as both the **fiscal position** and **external balance remain vulnerable to exogenous shocks**. In addition, the modest economic growth achieved in the past five years has not allowed for much reduction in poverty--**about 70 percent of the population remains poor and the poverty gap has widened**.

3.38. Bolivia's most serious challenge is to ensure long-term economic growth while sustaining macroeconomic stability. Recognizing this challenge, the Government has adopted an ambitious and innovative reform program for the 1994-1997 period. The program's objectives are to reduce poverty by: (a) accelerating economic growth through capital accumulation; (b) improving the efficiency of the state; (c) developing human capital; and (d) addressing the needs of the most vulnerable poor. In the recent past, the Government has made progress towards restoring fiscal discipline by: (a) implementing fiscal measures--including improving the efficiency of tax collection; and (b) adopting a 1994 fiscal program with a deficit target equivalent to about 3.3 percent of GDP.

^{12/} For example, the value added tax rate in a number of neighboring countries--Argentina, Chile and Peru--is 18 percent.

3.39. In light of the ambitious nature of the reform program, the results of this study indicate that there will be a high cost associated with its implementation. To achieve economic growth and maintain stability, the Government must sequentially implement and finance the reforms in a manner consistent with feasible fiscal programs. Incorporating these objectives, the results of this study recommend the following sequencing for the sub-set of key reforms analyzed:

- (a) Among the reforms to unbind the productive and export potential and develop key economic infrastructure, the Government should implement: (i) the mining, electricity, telecommunications and hydrocarbons sector reforms; capitalizing ENDE and ENTEL first and then YPFB; and (ii) next, the remaining sector and enterprises reforms;
- (b) Among the reforms to develop human capital and improve the efficiency of the state, the Government should implement the education reform. Implementation of the pension and civil service reforms should follow starting in mid-1995; and
- (c) Given the extent of poverty, in parallel, the Government should address the needs of the most vulnerable poor through special programs, including PIDI.

3.40. In addition to this sequencing, the results of the study indicate that there are key policies which should be maintained to ensure feasible fiscal programs. Most importantly, the Government should:

- (a) be efficient in its collection of both existing and new--corporate income and excise--taxes, while maintaining regimes attractive to new investors;
- (b) to the extent possible, transfer the costs of the capitalization program--including seniority/severance payments, transactions costs and debt obligations--to the shareholders; and
- (c) control both current and capital expenditures.

3.41. Furthermore, certain real and financial assets of the sectors to be reformed--such as auxiliary facilities of YPFB, real estate holdings of COMIBOL and ENFE, and ENDE's shares in ELFEC--will need to be sold. This would reduce the need to implement other revenue enhancing measures. If the key fiscal parameters are implemented, the results also show that the projected fiscal deficits will be consistent with maintaining sustainable debt and debt service levels, thus ensuring solvency. In the event that additional external concessional financing materializes--which is a possibility given current negotiations and commitments from donors--the deficit path could be slightly different than projected.

3.42. Finally, if the above is accelerated, higher economic growth may result. As a consequence, the Government may be able to limit the use of other fiscal measures to ensure fiscal feasibility. Conversely, if the above is delayed and/or certain downside risks materialize--e.g., lower economic growth or lower international prices for hydrocarbons or minerals--the

Government will need to adopt other fiscal measures to maintain a feasible fiscal path. Among the instruments available to the Government, the study recommends the use of: (a) the value added tax; (b) excise taxes on petroleum products--specifically, on gasoline and diesel; and (c) the reduction of current expenditures--specifically, the wage bill.

Annex A

Recent Economic Performance and Social Indicators

Gross Domestic Product^{1/}

1. Real GDP grew at about 4.1 percent in 1993 (2.8 percent in 1992), allowing for real increases in per capita income (see Table 1). Furthermore, real GDP is projected to grow by approximately 4.2 percent during 1994 based on economic expansion realized in the first nine months and expectations for the rest of the year. Recent economic growth has resulted from increases in consumption--both public and private--and private investment.

Table 1: Gross Domestic Product^{1/}

	1985-1989	1990	1991	1992	1993
GDP at Market Prices in 1980 Bolivianos in million US\$ Growth (percent per year)	111,775 1.0	124,342 4487.0 4.4	130,062 4990.0 4.6	133,704 5253.0 2.8	139,185 5382.0 4.1
As Percent of GDP					
Consumption	93.3	90.1	91.2	93.0	94.3
Total Investment	10.7	13.3	13.9	15.7	15.1
Public Sector	6.3	9.0	9.3	10.8	9.8
Private Sector	4.1	4.3	4.6	5.0	5.3
Exports of Goods and NFS	16.4	21.8	18.4	15.6	16.6
Imports of Goods and NFS	20.4	25.2	23.5	24.3	26.0
Average Annual Percent Growth					
Memorandum Items					
Population	2.0	2.0	2.0	2.0	2.0
Per capita GDP	-0.3	2.4	2.6	0.8	2.1
Per capita private consumption	-2.8	-2.6	3.0	0.4	2.1
1/ 1985-1989 are from the 1980 based National Accounts, while 1990-1993 are from the 1990 based National Accounts as revised by UDAPE and the IMF. Source: <i>Instituto Nacional de Estadística (INE)</i> and Statistical Appendix Tables.					

1/ For the period 1985-1989, the national accounts based on 1980 prices and structure are used. For the period 1990-1994, the national accounts based on 1990 prices and structure are used.

2. The increase in public consumption was primarily due to the expansionary fiscal policy, whereas, the increase in private consumption resulted mainly from increases in real wages and expansion of credit for consumption purposes. The increase in private investment was a consequence of the opening of new investment opportunities and an improved legal environment (including changes in taxation of the mining sector). Nevertheless, recorded private investment in 1993--amounting to around US\$285 million--still represents only 5.3 percent of GDP. Due to improvements in the international prices of key commodities, primarily in agriculture and mining, exports recovered during 1993. Meanwhile, imports continued to expand, although at a lower rate than the expansion in 1992, mainly reflecting higher external financial flows to the public sector, a large increase in credit to the private sector, and a continuing response to earlier import liberalization.

Sectoral Origins of Gross Domestic Product

3. The relatively poor performance of the hydrocarbons sector in 1993 was more than compensated by the strong performance of mining, construction, manufacturing, and certain services (see Table 2). In the mining sector, the increase in production was a result of the expansion of the mining production frontier (mainly gold), and the introduction of new production technologies resulting in lower production cost. In addition, a recovery in international demand led to improvements in key international prices--especially gold and zinc--facing Bolivian mineral producers. The expansion in construction and manufacturing was driven by the growth in income and from improved access to credit. In services, above average growth was recorded in electricity, gas and water, transportation and storage, and banking financial services. While the income effect has influenced all services, the supply of electricity services expanded as a result of new capital investment in the sector, and the introduction of new technology in financial and banking services contributed to increase the supply of these services. In agriculture, a supply response resulted from improved international prices of key commercial crops.

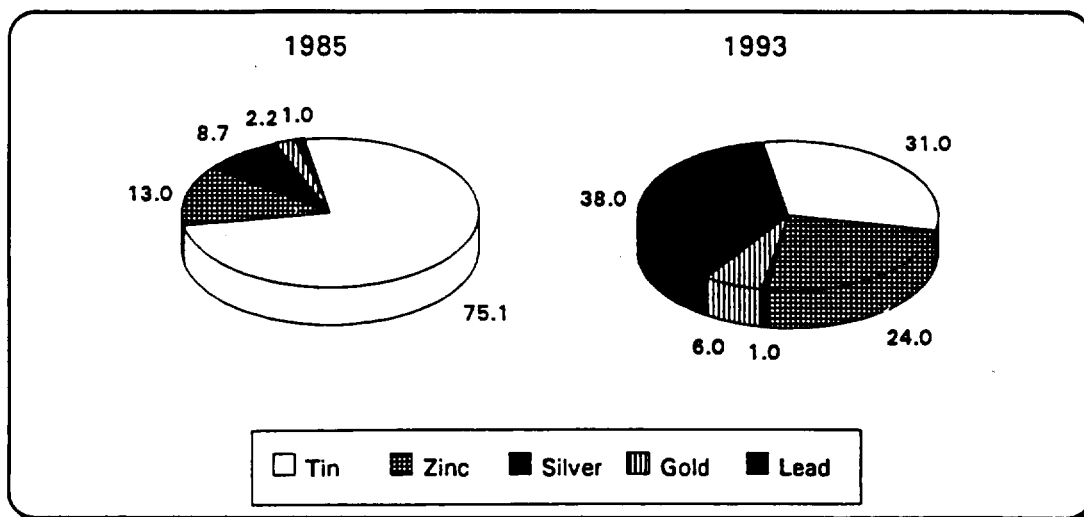
4. **Agriculture, Forestry, Hunting and Fishing.** In contrast to 1991 when agricultural yields were relatively high, weather conditions in 1992 negatively affected crop yields (especially in the Eastern Lowlands) and the overall production of the sector declined. In 1993, however, as a result of good weather conditions and improved agricultural prices--mainly for soybeans and timber--crop yields improved and the overall production of the sector increased. In 1993, about 70 percent of agricultural production was food crops (potatoes, rice, maize and wheat), about 20 percent was commercial crops (cotton, soya, sugar cane and coffee), and approximately 10 percent was recorded coca production. While commercial crops--especially cotton and soya--have increased, the expanded food market conditions also benefitted subsistence farming, which employs approximately 60 percent of the agricultural labor force. As a result of the continuing growth in domestic demand due to the income effect, fishing also continued to expand during 1993. Furthermore, as a result of the income effect and the increasing domestic production, however, imports of food--particularly grains--increased, as did exports of commercial crops and livestock. Although it is difficult to quantify the aggregate effects of the coca sub-sector, in spite of declining prices, coca production remains very profitable and the sector continues to be significant.

Table 2: Sectoral Origins of Gross Domestic Product^{1/}

	Growth					Composition	
	1985-89	1990	1991	1992	1993	1985	1993
	Average Annual Percent Growth					As percent of GDP	
Gross Domestic Product	1.0	4.4	4.6	2.8	4.1	100.0	100.0
Agriculture and others	-0.2	4.6	10.1	-4.4	3.6	23.0	17.3
Minerals	7.8	16.2	1.7	2.6	10.7	6.6	6.0
Hydrocarbons	2.2	3.2	2.0	0.4	1.7	6.3	4.3
Construction	-0.5	3.6	2.8	12.4	4.0	3.1	4.2
Manufacturing	3.8	7.1	3.9	4.2	4.4	12.2	15.3
Services	1.1	2.7	3.7	5.1	4.1	48.8	52.8
Electrical, Gas & Water	3.4	6.2	9.6	8.8	8.2	0.9	1.8
Commerce	3.2	4.9	5.7	5.2	4.6	12.1	11.7
Transport, Storage	3.1	4.0	3.9	7.2	6.1	8.0	12.1
Financial Services (Banking)	-2.3	1.9	-0.1	21.0	14.0	4.6	3.3
General Government	-2.1	0.0	4.6	3.6	2.0	10.9	9.7
Other Services	1.1	1.6	1.7	1.1	0.9	12.3	14.2
^{1/} 1985-1989 are from the 1980 based National Accounts, while 1990-1993 are from the 1990 based National Accounts as revised by UDAPE and the IMF. Source: <i>Instituto Nacional de Estadística (INE)</i> and Statistical Appendix.							

5. **Mineral Mining.** The mining sector--which consists of COMIBOL, small and medium mines, and cooperatives--grew by about 11 percent during 1993. This can be explained by: (a) a shift in the production frontier for key minerals--gold and zinc; (b) lower production costs resulting from recent investments, including investment in new production technology; and (c) growth in demand for minerals resulting from the stronger global economy--mainly the U.S.A. and Germany. The small and medium mines which were responsible for 60 percent of total production in 1993, are primarily privately owned and attracted more than US\$100 million in investment. This increase in investment partly resulted from the enactment of more liberal investment regulations, including improved fiscal arrangements (i.e., allowing taxes to be calculated on profits instead of production). In 1993, four products--tin, zinc, silver and gold--accounted for most of total production (see Figure 1) though tin still contributes significantly to the sector, in light of price expectations, private investment has been concentrated in gold, lead, and zinc. More specifically, this investment resulted in increased gold production of about 350 percent during 1993.

**Figure 1: Composition of Mining Production
(as a Share of Mining Sector Output)**



6. **Hydrocarbons.** YPFB continues to dominate the sector--in 1993, it accounted for about 90 percent of crude production and about 60 percent of natural gas production. Overall, output of the sector expanded by only 1.7 percent during 1993; the slight decline in production of crude petroleum was offset by the increase in the production of natural gas. During 1993, domestic demand for diesel at the fixed price set by the Government outstripped domestic production and led to a small volume of imports. Natural gas exports to Argentina continued at the volume determined in the original contract signed 20 years ago. However, in 1992 upon expiration of the contract and given the deregulation of the Argentine gas market, the price of these exports was realigned to more closely reflect world market prices for energy. This implied a drop from US\$2.40 per million BTU to US\$1.0 per million BTU; the latter was also the price for the gas exports to Argentina during 1993.

7. **Construction and Manufacturing.** During 1993, construction continued to grow. The expansion was a result of income growth and improved terms on credit available for housing finance. Simultaneously, the liberal import regime contributed to the construction expansion by augmenting the supply of lower priced, better quality, intermediate inputs. Also as a result of the income growth, the manufacturing sector expanded during 1993. Production of non-durable consumer goods--accounting for approximately 60 percent of manufacturing activity--increased. Simultaneously, however, imports of non-durables continued to grow. The growth in intermediate goods--especially cement, tiles and other construction materials--continued into 1993.

8. **Service Sector.** The growth of the service sector during 1993 was primarily due to the overall growth in income. The above average growth recorded by electricity, water and gas was primarily due to the expansion of these services resulting from capital investment and introductions of new technology. The liberal import regime and low tariffs, coupled with the increase in income, led to growth in commerce. The positive influences of the construction boom and the impact on demand resulting from the expansion of agriculture contributed to the

expansion in transport and storage services. The supply of communications services expanded due to technological advances, as did the supply of banking financial services. Continued high real interest rates and liberal foreign exchange policy attracted substantial foreign exchange deposits, which along with expansionary credit policy, contributed even more to the acceleration of financial services.

Public Finance

9. In the recent past, total revenues continuously increased due to improved tax administration and collection (see Table 3).^{2/} Revenues from domestic sources--primarily the value added tax--increased by about 2 percent of GDP during the 1988-1993 period. However, between 1992 and 1993 total revenues declined because of the lower gas export price contracted with Argentina (a drop of about 50 percent), which was not compensated by additional collections through improved tax administration and foreign grants. Foreign grants declined primarily due to delayed disbursements of the compensating Argentinean grant. Despite the drop in price, in 1993 hydrocarbons accounted for approximately 35 percent of total current revenues and revenues from other public enterprises--including direct transfers from ENTEL--amounted to an additional 8 percent.

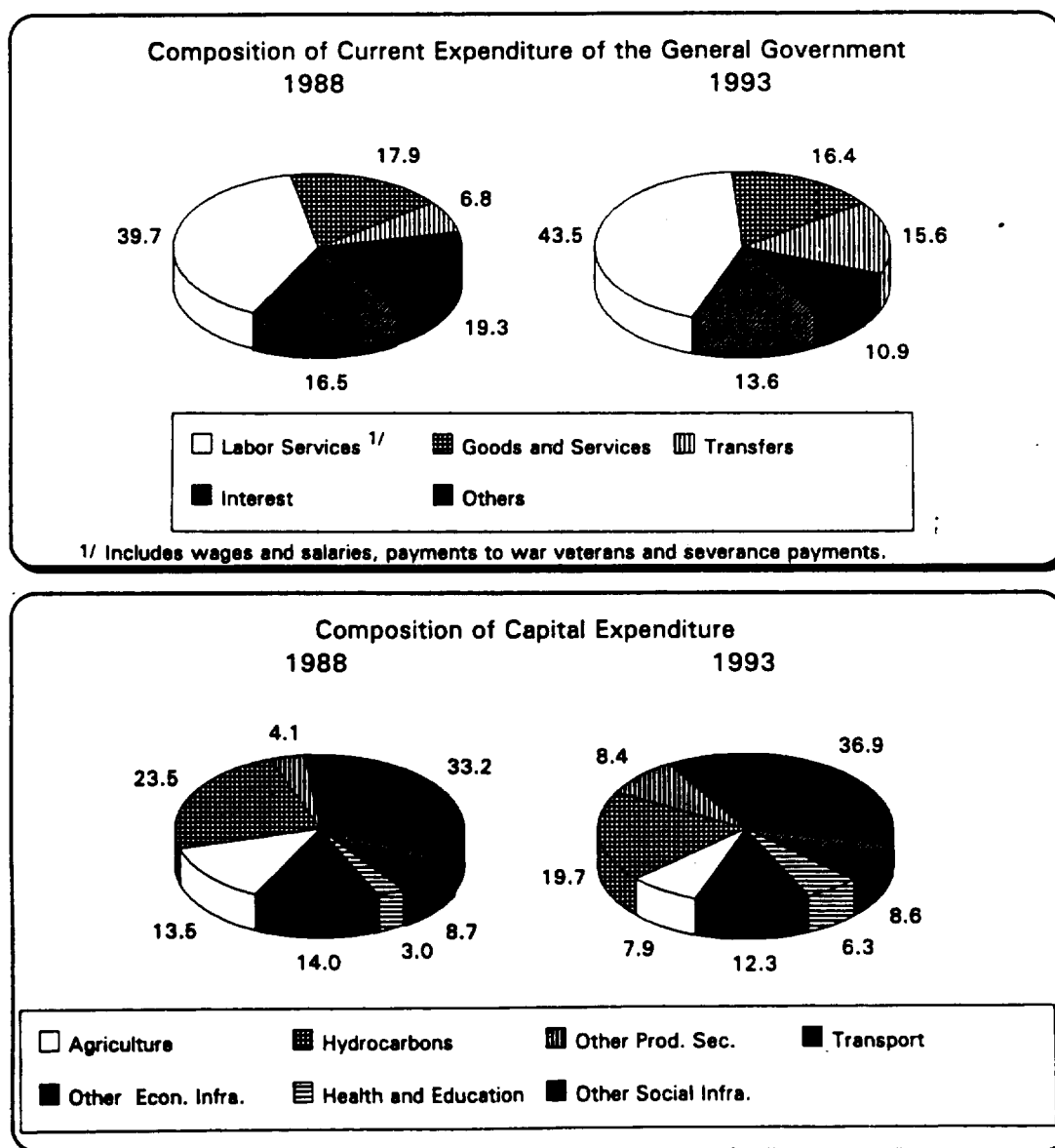
Table 3: Consolidated Public Sector Accounts
(as percent of GDP)

	1988	1989	1990	1991	1992	1993
Total Revenues and Grants	20.9	22.9	25.0	26.3	27.4	25.0
Current Revenues	19.9	21.2	22.9	24.0	24.2	23.3
Capital Revenues	0.1	0.1	0.2	0.4	0.3	0.1
Foreign Grants	0.8	1.6	2.0	1.8	2.9	1.6
Total Expenditures	27.3	28.9	29.8	30.8	32.1	31.4
Current Expenditures	19.2	20.0	20.5	21.3	21.1	21.6
Interest	3.7	3.8	3.5	3.6	3.0	3.3
Other Expenditures	15.5	16.2	17.0	17.7	18.1	18.3
Capital Expenditures	8.1	8.9	9.3	9.6	11.0	9.8
Current Surplus/Deficit (-)	0.7	1.2	2.3	2.8	3.1	1.7
Primary Surplus/Deficit (-)	-2.7	-2.2	-1.2	-1.0	-1.7	-3.2
Overall Surplus/Deficit (-)	-6.5	-6.0	-4.8	-4.6	-4.7	-6.4
Net External Financing	4.5	2.2	2.7	3.5	4.6	5.4
Net Internal Financing	1.9	3.9	2.1	1.1	0.1	1.1
Seigniorage ^{1/}	3.3	2.2	2.5	2.2	0.6	2.7
Note: Figures may not add due to rounding. 1/ Defined as $[H-H(-1)]*100$; H = Base Money.						

^{2/} For an additional discussion of the Bolivian tax system, see Bolivia: Updating Economic Memorandum (Report No. 11123-BO, October 1992).

10. Total expenditures have continuously increased since 1988, with the exception of 1993. Current expenditures increased from about 19 percent of GDP (1988) to about 21.5 percent (1993), while capital expenditures increased from about 8 percent to 10 percent during the same period. Labor services, which account for about 44 percent of current expenditures (see Figure 2), have increased the most. Furthermore, the recent increases in wages and salaries--exceeding 15 percent and resulting from union bargaining power and electoral pressures--were a major cause of the acceleration in current expenditures in 1993. Despite the increase in current expenditures, during 1993, total expenditures declined by 0.7 percent of GDP due to a contraction in capital expenditures (1.2 percent of GDP). The share of public investment in productive sectors in 1993--primarily hydrocarbons--however, remained large (see Figure 2). Investment in health and education, as in the previous year, absorbed about 6 percent of capital expenditures. At the same time, investment in economic infrastructure represented about 45 percent of total public investment in 1993.

Figure 2: Expenditures of the Consolidated Public Sector



11. Although the consolidated fiscal deficit has declined from 6 percent of GDP (1989) to 4.7 percent of GDP (1992), it has been high.^{3/} In 1993, the fiscal posture deteriorated--to a deficit of 6.4 of GDP--due to a reduction in total revenues (2.4 percent of GDP) and an increase in current expenditures (0.5 percent of GDP). The high fiscal deficit has been financed through increasing external borrowing--net external financing increased from 2.2 percent of GDP (1989) to 4.6 percent of GDP (1992). In 1993, the deficit was financed again through additional external borrowing (5.4 percent of GDP) and an acceleration of Central Bank credit to the public sector. The domestic debt of the consolidated public sector increased during 1993 and the stock is estimated at about 3 percent of GDP at the end of 1993.

12. The recent deficit levels are not sustainable and may jeopardize macroeconomic stability. If the deficit remains high and is financed through contracting additional external debt, it would not be possible to service the increasing stock of debt on a sustainable basis without creating additional debt. Furthermore, if high deficits are financed through the domestic financial system, it would be either inflationary or crowd out the private sector. Recognizing this, the 1994 budget approved by Congress includes a 3 percent deficit target. However, because of higher than budgeted severance payments the deficit in the 12 months ending September 1994 is estimated at 4.5 percent of GDP and is projected to decline to 3.3 percent of GDP by the end of the year.

Money, Prices, Interest Rates and Exchange Rate

13. The broad monetary policy objectives--to expand money at a rate to keep inflation under control, while at the same time providing the necessary liquidity to remonetize the economy--continued into 1992. However, as a consequence of the expansionary fiscal policy in 1993, credit to the public sector expanded strongly in the first half of the year. For the whole year, the total 1993 net credit expansion to the non-financial public sector was Bs.222.4 million. During the first six months of 1994, monetary policy--including net credit expansion--has been consistent with controlling inflation. However, monetary management continues to be complicated by the high degree of dollarization of the economy; more than 85 percent of total deposits are denominated in foreign exchange. While inflation remained under control, during 1992, 1993 and into 1994, real wages in the public sector increased by about 10 percent in the same period. Simultaneously, real interest rates have increased in response to the accelerated demand for credit, both public and private. In addition, to conduct more efficient monetary policy through open market operations, the Government issued treasury notes for the first time in January 1994. Furthermore, the Central Bank has maintained the policy of permitting the exchange rate to be market determined through the foreign exchange auctions. The real exchange rate depreciated slightly during 1992, 1993 and into 1994.

14. **Money Supply and Credit.** The end-year stock of broad money (M2) grew by 36 percent in nominal terms during 1993, reflecting the financial re-intermediation of the economy and the impact of the high real interest rates (see Table 4). Currency in circulation grew by 17 percent in nominal terms, indicating a moderate increase in the demand for domestic currency. Demand deposits, most of which are foreign currency denominated, continued to

^{3/} The overall fiscal deficit includes the quasi-fiscal deficit, which is negligible.

increase substantially. Although representing a relatively small share, deposits in domestic currency have increased by about 30 percent since May 1994. This has resulted from recent measures taken by the Central Bank. More specifically, these actions include: (a) decreasing reserve requirements on domestic currency deposits; and (b) placing limits on foreign exchange exposure. At the same time, credit to the public sector has expanded strongly, contributing to financing the fiscal deficit. In addition, the credit extended to the private sector was short to medium-term and financed mainly consumption and working capital. This credit expansion has been mainly financed through an increase in commercial banks' dollar deposits, despite Central Bank short-term actions--increased interest rates on US dollar denominated certificates of deposit--intended to slow the growth of such credit.

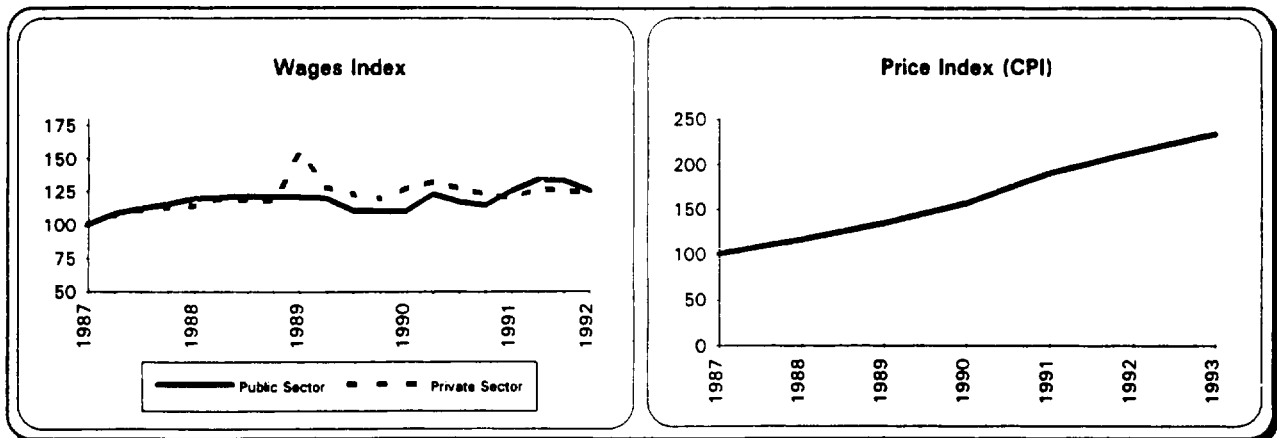
Table 4: Money Supply and Credit

	1988	1989	1990	1991	1992	1993
End of year stocks -- in millions Bs						
Destinations of Liquidity						
Broadly Defined Money (M2)	1682.7	2244.6	3338.5	5171.0	7092.1	9675.2
Narrowly Defined Money (M1)	684.8	706.3	988.4	1446.8	1924.0	2499.5
Currency in Circulation	526.1	500.3	638.8	753.7	887.0	1033.6
Sight Deposits	158.7	206.0	349.5	693.1	1037.0	1465.9
Quasi-Money	997.9	1538.3	2350.2	3724.3	5168.2	7175.7
Average Annual Growth Rate -- Nominal						
Broadly Defined Money (M2)	43.3%	33.4%	48.7%	54.9%	37.2%	36.4%
Narrowly Defined Money (M1)	34.7%	3.1%	39.9%	46.4%	33.0%	29.9%
Quasi-Money	49.8%	54.2%	52.8%	58.5%	38.8%	38.8%
End of year stocks -- in millions Bs						
Origins of Liquidity						
Total (=Stock of Monetary Base)	874.0	1143.0	1495.1	1891.5	2024.5	2639.4
Net International Reserves	397.5	55.3	448.5	749.2	954.8	1657.8
Net Credit	697.0	1717.1	2080.7	2294.8	3480.3	3984.0
Net Credit to Public Sector	-130.1	421.0	583.7	684.5	1936.3	2500.7
Net Credit to Commercial Banks	827.1	1296.0	1497.0	1610.3	1544.0	1483.5
Net Other	-219.6	-629.4	-1034.1	-1152.6	-2410.6	-3002.6

Source: Central Bank of Bolivia and Statistical Appendix Tables.

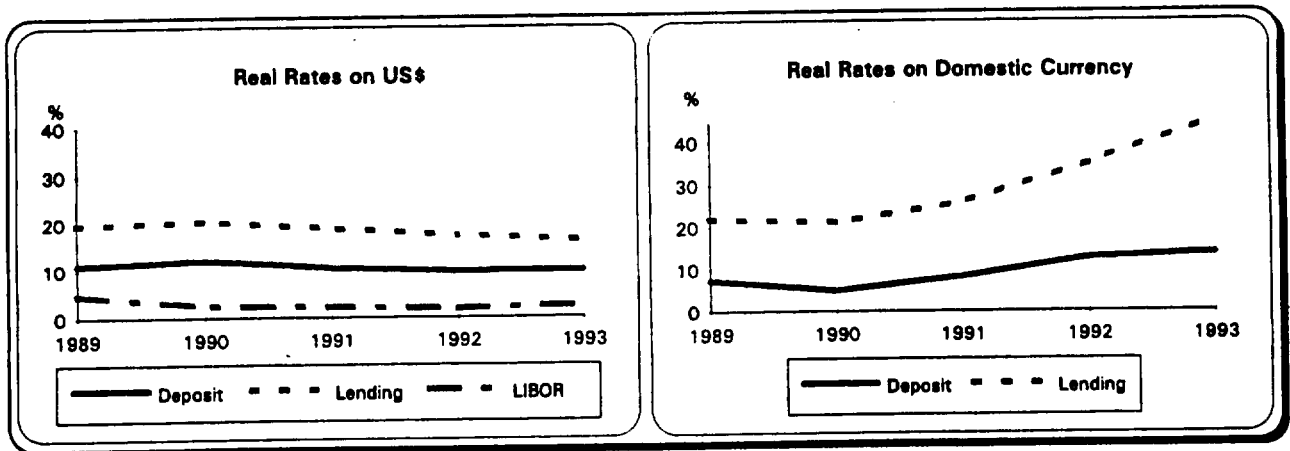
15. **Prices and Wages.** Inflation declined to about 7 percent by September 1994 from 8.5 percent at the end of 1993 and 12.1 percent at the end of 1992. This trend resulted from a deceleration in the rate of expansion of domestic money, as measured by currency in circulation and local currency deposits. This was possible because of large capital inflows which financed the external account deficit and thus sustained the level of consumption. In reversing a trend observed prior to 1992, real salaries in the public sector increased, with the largest increases given to teachers and health care workers (see Figure 3). As a result of increased demand for labor in certain sectors, overall private sector real wages also increased--especially in some services requiring highly qualified labor--although at a lower rate than in the public sector.

Figure 3: Wage and Price Indices
(Base Year 1987=100)



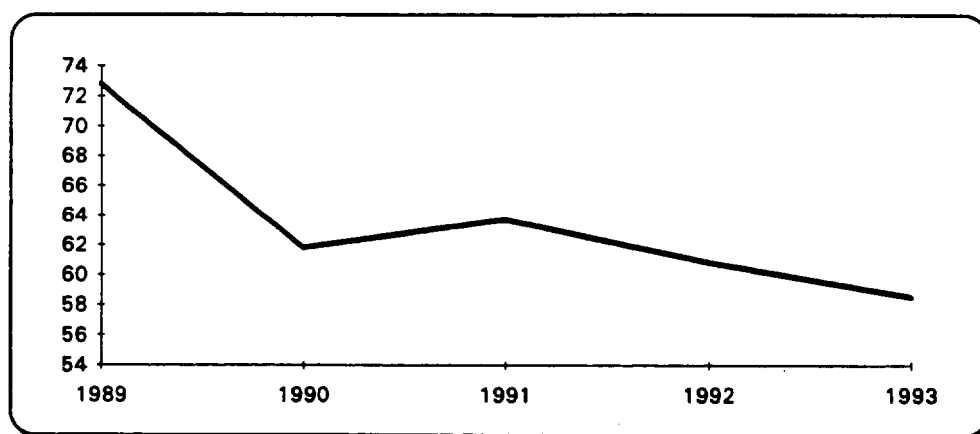
16. **Interest Rates.** During 1992 and into 1993, real interest rates in domestic currency have increased from already high levels, and the spread continues to be large (see Figure 4). Furthermore, real domestic currency rates have been affected as a consequence of the entry of an institution with market power into the small retail banking service sector. Although during this same period real interest rates in foreign currency have slightly decreased, the spread between these rates and LIBOR have slightly increased. However, by mid-1994, real interest rates--particularly in domestic currency--started to decline reflecting partially measures to restrain the fiscal deficit and actions taken by the monetary authorities. Nevertheless, real rates remain high primarily due to two factors: (a) the fragile fiscal stance which leads to uncertainty about future inflation and perceived risks of increased taxation on financial assets; and (b) risks associated with the Bolivian financial sector which historically has had a large share of non-performing loans. The spread between deposit and lending rates continues to be large due to: (a) weak portfolios; (b) administrative inefficiencies; and (c) limited competition in the banking sector.

Figure 4: Real Interest Rates



17. **Exchange Rate.** During 1992, 1993 and into 1994, the exchange rate continued to be mainly determined by unrestricted auctions at the Central Bank. Using the IMF methodology, in real effective terms, the Boliviano depreciated by about 2.5 percent in 1992 and continued to depreciate in 1993 (by about 3 percent), partly in response to the deterioration in the terms of trade (see Figure 5). Through the present exchange rate system the Central Bank has sought to maintain: (a) stability in the foreign exchange market, including short term credibility; and (b) competitiveness of the external sector. Elements facilitating this exchange rate policy include the use of tight monetary policy--high real interest rates, which maintained external capital inflows at high levels, notwithstanding the weak fiscal performance.

**Figure 5: Real Effective Exchange Rate
(Base Year 1980=100)**



External Sector

18. In 1992, the current account position was weak as a result of both reduced exports and increased imports (see Table 5). The poor performance of non-traditional exports--primarily agricultural based products--contributed to the fall in the value of exports, as did a sharp decline in real export prices--primarily caused by the permanent 50 percent reduction in the price of natural gas (Bolivia's most important export). The decline in the terms of trade was partially offset by a depreciation of the real exchange rate, which increased the incentives to expand non-traditional exports. The increase in imports resulted from the overall increase in income, including the expansionary fiscal program and a delayed response to earlier import liberalization, which lowered prices of imported goods. With net factor services--mainly interest on external debt--remaining more or less constant, the current account deficit widened. The deficits have been financed largely by concessional loan disbursements from multilateral and bilateral creditors, Paris Club rescheduling, and by larger than anticipated inflows of private capital. While levels of net foreign reserves were erratic during 1992, by the end of the year gross reserves had increased, representing approximately 4.5 months worth of imports.

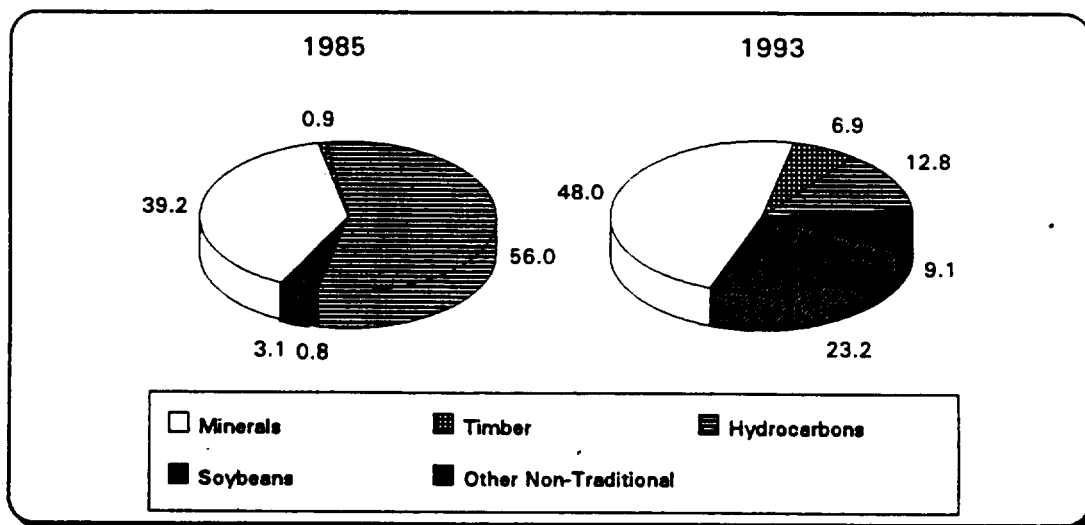
19. In 1993, the current account position deteriorated further. Although exports--led by non-traditional products--have slightly increased, the import expansion was greater. As a consequence of the depreciation of the real exchange rate and of the increase in the international prices of metals--especially gold--exports of these products have increased. Furthermore, as a consequence of increasing prices and exportable surplus, exports of agricultural products--soybeans, and timber--have also expanded. While imports expanded rapidly during the first half of 1993, they slowed during the second half of the year due to the more restrictive fiscal policy. The deficit in the current account has been financed by inflows, including disbursements from multilateral and bilateral organizations, exceptional payments from Argentina and Paris Club reschedulings. These flows have been complemented by large private capital inflows. As a consequence, during 1993 net international reserves increased, notwithstanding an external current account deficit (net of official transfers) of about US\$500 million. Due to strong export performance (i.e., export volume growth of about 20 percent for the 12-months ending September 1994), the current account balance has improved in the first nine months of 1994.

Table 5: Balance of Payments
(in US\$ Million)

	1990	1991	1992(p)	1993 (p)
Balance of Goods and NFS	-151.9	-254.7	-457.4	-504.6
Trade Balance	-132.0	-233.3	-447.1	-495.9
Exports (FOB)	830.7	760.3	643.1	709.9
Imports (CIF)	962.7	993.6	1090.2	1205.8
Balance of NFS	-19.9	-21.4	-10.1	-8.7
Receipts	147.7	159.3	176.8	184.4
Payments	167.6	180.7	186.9	193.1
Factor Services (Net)	-241.1	-242.5	-193.0	-204.6
Net Private Transfers	21.6	22.5	22.7	21.4
Current Account Balance	-371.4	-474.7	-627.7	-688.1
Capital Account	470.3	564.6	664.8	834.5
Net Official Transfers	153.4	160.0	220.5	216.6
Direct Foreign Investment	35.0	50.0	86.0	121.6
Net LT Borrowing	107.3	150.3	239.3	235.2
Disbursements	299.7	286.8	390.6	413.9
Amortizations	192.4	136.6	151.3	178.7
Other Net Flows	174.6	204.3	119.0	261.1
Exceptional Financing	75.8	118.4	116.4	226.5
Change in Reserves	-98.9	-89.9	-37.1	-146.4
Memo:				
Exports of G&NFS as %GDP	21.9	18.4	15.6	16.6
Imports of G&NFS as %GDP	25.3	23.5	24.3	26.0
Current Account as %GDP	-8.5	-9.4	-12.0	-12.8
Note: These figures--which are still preliminary--differ from other sources due to definitional and methodological differences. More specifically, they may differ from the latest revised figures of the Central Bank. Source: The Central Bank of Bolivia and Statistical Appendix.				

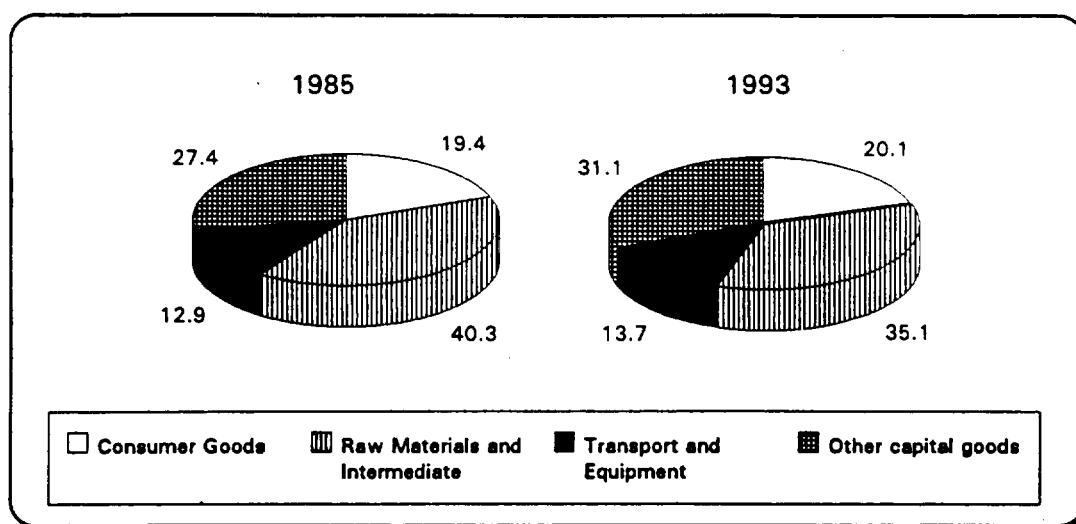
20. **Exports.** Over the last eight years, the composition of merchandise exports has substantially changed (see Figure 6). During 1993 and into 1994, the combined impact of the slight recovery in world mineral prices and increased export volumes resulted in an increased value of mining exports--primarily zinc, lead and gold. The value of hydrocarbons exports declined--by about 23 percent--mainly as a consequence of a fall in hydrocarbons prices--particularly natural gas. Furthermore, in terms of both volume and value, non-traditional exports increased significantly. These exports--mainly agricultural products (soybeans and timber)--expanded as a result of favorable price and weather conditions which increased domestic supply more than domestic demand, and hence, increased the surplus available for exports. Since the beginning of 1993, an important development has been the emergence of jewelry exports, which has contributed significantly to export expansion.

Figure 6: Composition of Merchandise Exports
(as percent of Total Merchandise Exports)



21. **Imports.** Over the last eight years, the composition of merchandise imports (broadly defined) has not significantly changed (see Figure 7). During 1993, as a result of the overall income expansion, imports of raw materials, intermediate goods--primarily non-electrical machinery and equipment--and capital goods increased but at a rate lower than income growth. More specifically during the first half of 1993, imports of intermediates and capital goods expanded as a result of the acceleration in public expenditures. Based on preliminary data, however, during the second half of 1993 and into 1994, the rate of import expansion decelerated as a result of a contractionary fiscal policy and a real depreciation of the exchange rate. During this period, imports of intermediates fell dramatically, while imports of capital goods continued to grow.

**Figure 7: Composition of Merchandise Imports
(as percent of Total Merchandise Imports)**



22. **Debt and Debt Service.** With regards to debt, the most notable development was the virtual elimination of public commercial debt in May 1993. With financial support from IDA and several bilateral donors, US\$170 million out of the remaining US\$180 million of commercial bank debt was repurchased, exchanged for long-term bonds or extinguished through debt-for-development swaps. Nevertheless, Bolivia's external public and publicly guaranteed debt remain substantial—a stock of about US\$4 billion as of end-1993 or 74 percent of GDP—of which approximately 18 percent has been incurred by the major public enterprises—most notably, YPFB and ENDE (see Table 6).^{4/} The resulting debt service is equivalent to about 58 percent of exports of goods and services. Despite the progress in reducing its stock of debt, Bolivia continues to: (a) need concessional restructuring of its Paris Club debt; and (b) rely on highly concessional borrowings.

^{4/} Private sector external debt is not registered in Bolivia and no precise information is available. As a result, this discussion considers only debt which is public and publicly guaranteed.

Table 6: External Debt Indicators^{1/}
(in US\$ Million)

	1988	1989	1990	1991	1992	1993 ^{2/}
Total DOD	4901.4	4120.7	4269.2	4085.3	4241.1	4191.8
Multilateral	1291.4	1439.9	1592.4	1718.1	1849.1	2043.6
Bilateral ^{3/}	2318.6	1638.4	1763.9	1511.9	1574.6	1610.8
Private	1291.4	1042.3	912.9	855.3	817.4	537.3
Debt Service	491.6	419.2	573.8	504.9	464.2	496.8
Interest (%)	192.5	195.3	231.2	210.7	184.8	237.2
As a Percent						
DOD/GDP	110.8	91.4	94.9	81.4	80.5	79.0
Debt Service/GDP	11.1	9.3	12.8	10.1	8.8	9.4
Debt Service/XGS^{4/}	71.4	47.1	57.6	53.6	55.6	57.5
Interest/XGS^{4/}	27.9	21.9	23.2	22.4	22.1	27.4
Note: The debt stock estimates differ from those reported from other sources due to definitional and methodological differences. This figures do not include the commercial debt reduction and other bilateral reduction agreements. 1/ Refers to Public and Publicly Guaranteed debt only. 2/ The total stock of debt including the commercial and other bilateral reduction agreements is estimated at US\$4 billion (about 74 percent of GDP). 3/ Includes capitalized interest. 4/ Exports of Goods and Services. Source: The World Bank						

Human Capital: Social Indicators and Poverty^{5/}

23. Despite its achievements in economic management and recent economic growth, Bolivia remains one of the poorest countries in Latin America and the Caribbean, with a per capita income of US\$758 in 1993. Based on the "Human Development Index" (HDI) as estimated by UNDP,^{6/} in the 1993 sample of more 160 developing and developed countries, Bolivia is ranked 122 and is classified as having a "low" level of human development. Within Latin America and the Caribbean, Haiti is the only country with a lower level of human development than Bolivia (see Table 7).

^{5/} The most recent Bank report on this subject is *Bolivia: Poverty Report* (World Bank Report 8643-BO, October 1990). The purpose of this section is to provide a brief update on the status of human capital indicators, including poverty.

^{6/} The Human Development Index (HDI) focuses on three essential elements of human life: (a) longevity, as measured by life expectancy at birth, (b) knowledge, as measured by literacy, and (c) decent living standards, as measured by purchasing-power adjusted real GDP per capita. Based on the HDI, countries are classified as having either a high, medium, or low level of human development. An HDI below 0.5, corresponds to "low," while an HDI between 0.5 and 0.8 fits into the "medium" category. Source: *Human Development Report*, United Nations Development Programme (Oxford University Press, 1993).

Table 7: Comparative Indices of Human Development

	Bolivia	Paraguay	Peru	Costa Rica	Haiti
HDI Classification (out of 160)	122	90	95	42	137
Per Capita GNP (1990) - US\$	630	1,090	1,100	1,900	370
Life Expectancy at Birth					
1960	42.7	63.8	47.7	61.6	42.2
1990	54.5	67.1	63.0	74.9	55.7
Adult Literacy Rate	77.5	90.1	85.1	92.8	53.0
Years of Schooling	4.0	4.9	6.4	5.7	1.7
Public Expenditure in Education as a % of GDP (1988-1990)	2.4	1.0	3.5	4.6	1.8
Infant Mortality Rate (per thousand born alive)					
1960	167	66	142	85	182
1991	89	48	80	15	89
Caloric Supply per person as a % of needs	84	116	87	121	89
Total Population with Access to Water (%)	46	33	58	94	42
Rural Population with Access to Water (%)	15	...	22	84	36
Pregnant Women with Prenatal Care	38	57	60	91	43
Cultivable Land as % of Total Land Surface	3.0	5.3	2.7	5.6	3.0
Official Development Assistance per Person (1991 disbursements in US\$)	74	25	15	62	30
Source: UNDP - 1993 Human Development Report.					

24. **Social Indicators.** Most available data indicate that social indicators improved during the 1980s and have continued to improve into the 1990s (see Table 8). These improvements, particularly in recent years, have resulted primarily from three sources: (a) the overall effect of real income growth; (b) the recovery of social sector public expenditures; and (c) some improvements in the delivery/efficiency of social services. However, despite the improved trends in all social indicators, most still remain low compared to the regional average and are much closer to the indicators from Sub-Saharan Africa.

Table 8: Social Sector Indicators

	Bolivia				Latin America	Sub-Saharan Africa
	1988	1990	1992		1990 Country Avgs.	
			Urban	Rural		
Health						
Infant Mortality (per 1,000)	102	92	62	94	49	103
Under 5 Mortality (per 1,000) ^{1/}	172	160	4.7		63	165
Global Fertility Rate (per woman) ^{2/}	5.0	4.8	4.2	6.3		
Life Expectancy (years)	57	60	64	54	67	52
1-yr. old immunization rate (%) ^{1/}	38	48			79	61
Population w/access to safe water (%) ^{1/}	44	47	74	33	81	41
Population w/access to sanitation (%) ^{1/}	21	35	36	16	72	26
Education						
Adult Illiteracy Rate ^{2/}						
Overall	26	23	9	37	15	53
Female	35	23	15	50	17	64
Primary Enrollment Rate ^{3/}						
Overall	91	81	71	44	86	46
Female	85	77				42
1/ 1987 not 1988. 2/ 1985 not 1988, 1989 not 1990. 3/ The primary enrollment rates are influenced by high repetition rates, and the decline in enrollment reflects declining repetition rates. Source: World Bank and UNDP.						

25. **Social Sector Expenditures^{7/}**. For the post-crisis period (1986-1989), social sector expenditures increased by about 8 percent per year. Between 1990 and 1993, social sector expenditures increased by about 10 percent per year, led primarily by increases in education. During this same period, however, public expenditures in non-social sectors increased by more than 13 percent, indicating that efforts to increase the share of resources devoted to the social sectors have not been successful. In addition, inefficiencies and intra-sectoral misallocations of resources persist. As an example, in 1993 education received the largest share of total public expenditures (27 percent), followed by health (11 percent). Although there has been some improvement in education indicators, higher education--which has relatively low returns--continued to absorb 30 percent in 1993 of total resources allocated to the sector. Furthermore, high primary school repetition rates add approximately 40 percent to the cost--i.e., the cost of educating each primary school completer would be 40 percent less if there was no repetition.

^{7/} This discussion is based on current expenditures expressed in current US Dollars. These are estimates provided by UDAPSO and may differ from current expenditures presented in Table 3 and Figure 2.

26. **Poverty and Income Distribution.** Using the Unsatisfied Basic Needs Methodology,^{8/} in 1992 about 70 percent of total Bolivian households and approximately 94 of rural households were classified as poor. This is an improvement with respect to 1976 when 85 percent of total Bolivian households were classified as poor. In terms of rural poverty, there has been only slight progress since 1976, when rural poverty was estimated at 98 percent of rural households. At the same time and based on view of poverty as income insufficiency, approximately 50 percent of urban households are poor.^{9/} More importantly, based on an estimated growth-poverty elasticity, absolute poverty reached the highest point in 1986--the last year of negative real income growth and the first year of the structural adjustment program. Since then, absolute poverty has been declining as real income has expanded. In addition, three Foster-Greer-Thorbecke poverty measures were estimated using data from the 1989, 1990 and 1992 Integrated Urban Household Surveys. The results indicate that the incidence of urban poverty--as measured by the Headcount Index (H)--declined during the 1990-1992 period.^{10/} However, the other two measures (P1 and P2) indicate that the poverty gap in urban areas has increased over the last few years. These results together indicate that, while income growth has had a positive impact on reducing poverty, there has been negative effects on income distribution. In addition, to capture the impact of human capital on poverty reduction and income distribution, several sub-groups have been analyzed from the same urban survey. The results indicate that income growth reduced poverty and provided higher benefits/returns to those groups with higher human capital. This, therefore, emphasizes the importance of developing human capital to reduce poverty and close the poverty gap.

^{8/} This methodology has as its basis the selection of a limited number of indicators that reflect the basic needs of the population. For each one, a minimum norm is established below which the need is considered unsatisfied. A poverty criterion is established based on the presence of one (or a combination of) unsatisfied basic needs. In the most recent application, needs relating to housing (quality of building materials, crowding), basic services (potable water, electricity), education (years of education, assistance, literacy) and health (type of coverage) were considered (See UDAPSO, INE, UPP, UDAPE, *Mapa de Pobreza*, 1994).

^{9/} In this case, a consumption-based poverty line is used as a point of reference. The "poverty line" is set based on the cost of a basket of basic food products containing the minimum nutritional recommendations required to feed an average size household. Subsequently, a household is defined as poor if total household income is below the poverty line. The results cited here are based on recent work by Miguel Urquiola (UDAPSO), *Participando en el Crecimiento*, March 1994.

^{10/} $H = q/n$; $P1 = 1/n \sum (z - y)/z$; and $P2 = 1/n \sum ((z - y)/z)^2$, where: H: headcount index; q : quantity of poor households; n = total households; P1 : poverty gap; P2 : poverty gap/intensity; z : poverty line; and y : income of poor household.

Annex B

The Fiscal Impacts of the Hydrocarbons Reform

I. The Reform Program

1. **Introduction.** Contributing approximately 6.5 percent of GDP, the oil and gas industry is vital to Bolivia (see Box 1). Although YPFB continues to dominate the sector, private sector activity has increased in recent years through operations contracts and joint ventures. A model was developed to simulate supply/demand behavior in the Bolivian **Hydrocarbons Sector** for a ten year period under the following two scenarios: (a) implementation of the proposed reform program; and (b) continuation of present policies--i.e., "no reform".^{1/} The model attempts to estimate the fiscal impacts, placing emphasis on calculating revenues accruing to the national treasury. To calculate these impacts, it estimates domestic consumption, production, exports, costs of production, profits and gross revenues to the treasury.

2. **Reform Scenario.**^{2/} The proposed program includes reforms at three levels--the Government, the sector and YPFB. At the level of the Government, reforms will strengthen the capacity to formulate sectoral policy and to regulate the sector. This includes improving the Government's ability to conduct policy, negotiate agreements with interested foreign oil and gas companies, and improve implementation of existing policies. In addition, a regulatory system (a hydrocarbons'

Box 1: Characteristics of the Hydrocarbons Sector		
Sectoral contribution to GDP		6.5%
YPFB contribution to General Government revenues		
US\$400 million (35% of total current revenues)		
Production	YPFB	Private
• Natural gas	64%	36%
• Oil and condensates	85%	15%
• Refined products	100%	0%
Investment (1993)		
• YPFB	Approximately US\$100 million	
• Private sector	US\$70 million	
Natural Gas		
Total production	14.4 million m ³ /day	
Total volume of exports	210.7 ft ³ /day	
Contribution to total exports	25%	
Reserves	712 million BOE	
Liquids		
Total production	25,000 bpd	
Reserves	187.4 million barrels	
Number of export oil pipelines	2 (Chile and Argentina)	
Number of refineries	3 (Cochabamba, Santa Cruz and Sucre)	
Total refinery capacity	60,000 bpd	

1/ This model was developed by Mr. Martin Petri while working as a summer intern in LA3C1. Messrs. Abdu Megateli (LA3TF), Eleodoro Mayorga (IENOG), Salvador Rivera (IENEP) and Chakib Khelil (IENOG) provided valuable advice towards developing the model. In the model, the values of major parameters--e.g., production, exports and overall GDP growth--are consistent with the base case scenario discussed in Chapter III. The "no reform" scenario is not discussed in this annex; however, the major conclusion from this scenario is that because of high production costs, the current levels of transfers from YPFB can not be maintained.

2/ Details of the proposed hydrocarbons reform may be found in the World Bank Report Bolivia: Restructuring for Growth, (World Bank Report 11075-BO, September 1992). Additional background may be found in Bolivia: Restructuring the Hydrocarbons Sector, (April 1992, Booz Allen and Hamilton Inc), and Informe de Precios y Régimen Impositivo de YPFB, (June 1993, UDAPE). This section summarizes the main measures to be taken.

superintendency in SINARE) will be established to define and monitor compliance with norms governing the sector as a whole. The National Secretariat of Energy and Hydrocarbons will: (a) operate as the counterpart for all existing and future operations and enhanced recovery contracts; (b) promote investment in exploration and production; (c) negotiate and supervise all exploration and production contracts; (d) market (through third parties) crude oil and liquids resulting from all contracts; and (e) establish and manage a data base designed to promote investments in exploration and production.

3. At the sectoral level, to allow competition in the industry and make the sector more attractive to private investors, new legislation is being prepared and will be enacted. Specific elements of the legislation include: (a) elimination of the explicit and de-facto monopoly position of YPFB in all areas of the sector; (b) introduction of the right of free disposition, including for exports and imports of crude oil, petroleum products and natural gas; (c) introduction of flexibility on contractual arrangements for exploration and production; (d) establishment of regulatory provisions for ensuring open third party access to oil and gas pipelines under regulated tariffs; and (e) elimination of direct and indirect barriers to entry in the wholesale and retail distribution and marketing of petroleum products.

4. At the level of YPFB, it has been assumed that the enterprise will operate subject to the same rules as all other oil companies in Bolivia. As a first step in the capitalization process, during a transition period YPFB will operate under a management contract. Under this contract 20 percent of the YPFB's shares will be awarded to the managing/investing company. Afterwards, the capitalization will be finalized through floating shares (in one of more major international stock exchanges) worth an additional 30 percent of the value of the enterprises.

II. The Model

5. **Assumptions.** The basic assumptions of the model are contained in Table 1. A key assumption of the exercise is that if the reform is implemented, real GDP growth will be about 5 percent annually during the period 1994-2003. This GDP growth, along with other macro parameters, are identical to those of the base case scenario and other sectoral models.

Table 1: Basic Assumptions of the Hydrocarbons Model

	Current Situation/No Reform	Reform Scenario
• Real GDP Growth	Average of 3% annually.	Average of 4.8% annually (1994-2003).
• Prices	Prices are based on the existing price structure (1992). Afterwards prices are adjusted according to expected Bolivian inflation rates.	Prices are adjusted to import parity prices in 1995. Afterwards, price movements reflect expected world market oil price changes.
• Production	Production has been estimated based on expected investments in a no reform scenario.	Production has been estimated based on expected private investments in a reform scenario.
• Consumption	For each product group, consumption has been estimated as a function of real income and real prices.	For each product group, consumption has been estimated as a function of real income and real prices.
• Exports	Natural gas exports to Argentina continue at the current volume of 75 billion cubic feet per year.	Through 1998, natural gas exports to Argentina continue at the current volume of 75 billion cubic feet per year. In 1999, natural gas is exported to Brazil, initially at the volume of 84 billion cubic feet per year, and increasing over time to 165 billion cubic feet per year in 2004.
• Cost of production	Same as historical costs.	Starting at historical costs but annual efficiency gains are realized over the period 1994-2001. A 45% efficiency gain is realized during this period.
• Tax Revenues, Transfers and Other Revenues	Current tax system: - VAT of 13% on sales value. - IT of 2% on sales value. - Production tax of 19% of the value of crude, GLP and natural gas production. - Department tax/royalty of 12% of the value of crude, GLP and natural gas production. - Transfer equivalent to 65.55% of domestic sales plus 30% of domestic natural gas sales plus 63% of export sales as long as the value is greater than YPFB profits; otherwise, transfer equivalent to YPFB profits.	System of taxation is changed with reforms and implemented in mid-1995: - VAT of 13% on sales value. - IT of 3% on sales value. - Production tax of 19% on existing contracts, and YPFB share is transferred to the treasury. - Departmental tax/royalty of 11.0%. - Additional royalty of 1.5% for the Compensation Fund. - Corporate income tax of 25% on net profits. - Diesel tax of 50% on the import parity price. - Gasoline tax of 125% on the import parity price. - Royalty of 50% on production from current YPFB fields. - Transfers are discontinued in mid-1995—i.e., a corporate profits tax of 50% is applied in 1995, which is equivalent to a six-month transfer and a 25% corporate profits tax for six months. - Exploration licenses are sold to private investors.

Production

6. In the model, production of crude petroleum and condensates have been estimated based on a production function provided by the Bank's sectoral experts. This function takes into account the quality of oil fields, potential investment and new technologies. The major

assumptions--in terms of number of operations contracts, number of discoveries, and number of licenses--are provided in Table 2. The corresponding production estimates for crude and condensates are provided in Table 3. Private sector investment requirements to reach these levels have been estimated at about US\$80 million per year during the period 1994-2003.

Table 2: Exploration and Production Assumptions

YPFB--Current Form (i.e., Public Enterprise)										
- Exploration investments of US\$18.5 million in 1994 and US\$10 million in 1995; no exploration investments, thereafter. - In 1994, operations contracts are signed with four private sector companies for existing fields; production from these fields increases by 20%. - In 1995, 12 additional contracts will be signed: <i>Camino, Caveriti, Guairuy, La Peña, Monteagudo, Montecristo, Rio Grande, San Roque, Tundy, Vibora, Vuelta Grande</i> and <i>Yapaceni</i>.										
Private Companies: 30 companies by 1995; 35 afterwards										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Operating contracts										
Existing	12	12	12	12	12	12	12	12	12	12
New	6	21	36	40	40	40	40	40	40	40
Discoveries										
from existing	2	-	-	-	-	-	-	-	-	-
from new	-	2	2	4	3	4				
Number of enhanced										
Recovery contracts	6	8	10	10	10	10	10	10	10	10
Number of Licenses	-	4	10	20	20	20	20	20	20	20

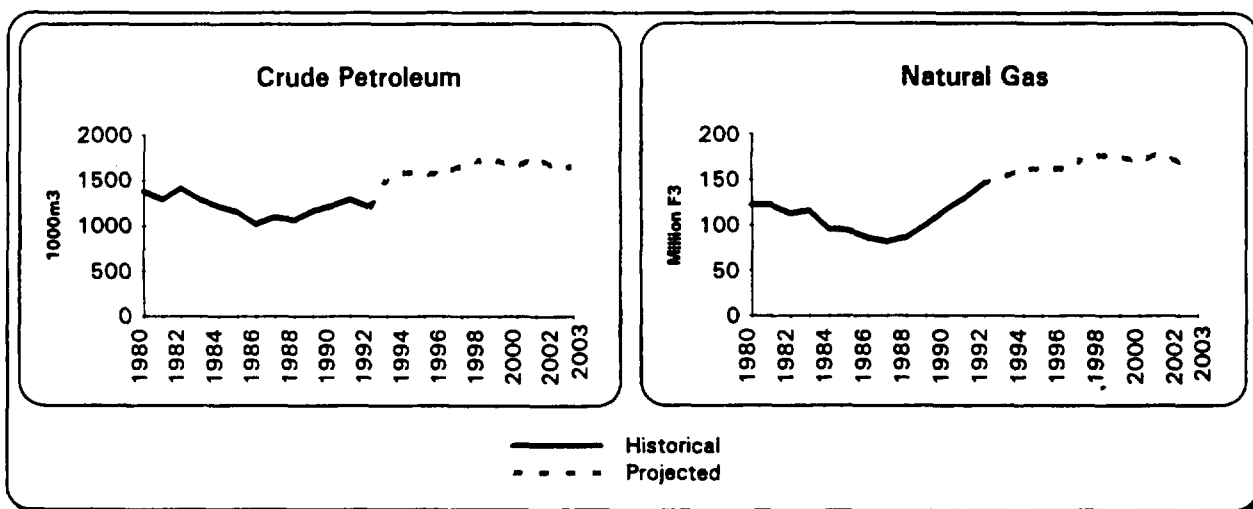
Table 3: Production of Crude and Condensates
(in 1000 m3)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Private Sector										
Old Contracts ^{1/}	319.2	290.2	232.1	203.1	174.1	174.1	145.1	116.1	116.1	116.1
New Production ^{2/}	0.0	208.9	269.3	422.5	520.0	515.3	501.4	631.4	545.5	545.5
YPFB Production ^{3/}	1092.1	1072.4	1072.4	1035.8	1023.7	1023.7	1001.0	1001.0	986.5	986.5
Total Production	1573.8	1571.5	1573.8	1661.4	1717.7	1713.1	1647.5	1748.5	1648.1	1648.1
^{1/} Private sector production from fields currently under operating contracts. ^{2/} New private sector production resulting from new operations contracts and new discoveries. ^{3/} Production from fields currently controlled by YPFB.										

7. The production of natural gasoline has been modeled as function of petroleum/condensates production. Given the composition of Bolivian crude, the model assumes that the observed historical relationship between natural gasoline production and petroleum

production will continue in the future--i.e., natural gasoline production is 10 percent of crude petroleum production. Production of liquid petroleum gas (LPG) has been estimated in a similar manner based on the historical relationship with petroleum production--i.e., LPG production is 23 percent of crude production. The production of natural gas has been modeled quite simply. Given the level of natural gas reserves and the international price for natural gas, production of natural gas is assumed to be equal to domestic demand, exports, and an additional 100 billion cubic feet for reinjection, internal and other uses.

Figure 1: Production--Historical and Projected



Exports

8. Currently, Bolivia annually exports 75,000 million cubic feet of natural gas to Argentina at a unit export price of US\$1.00 (recently negotiated). In the model, it has been assumed that current export volumes to Argentina continue until 1998 under these same assumptions. In addition, it has been assumed that the pipeline to Brazil will become operational in 1999, with an initial export volume of about 85 billion cubic feet per year. Exports to Brazil increase to about 165 billion cubic feet per year by 2004. Based on the terms of the current contract with Brazil, the initial export price has been set at US\$1.10 and it has been assumed that the price will change at the same rate as the international oil price.

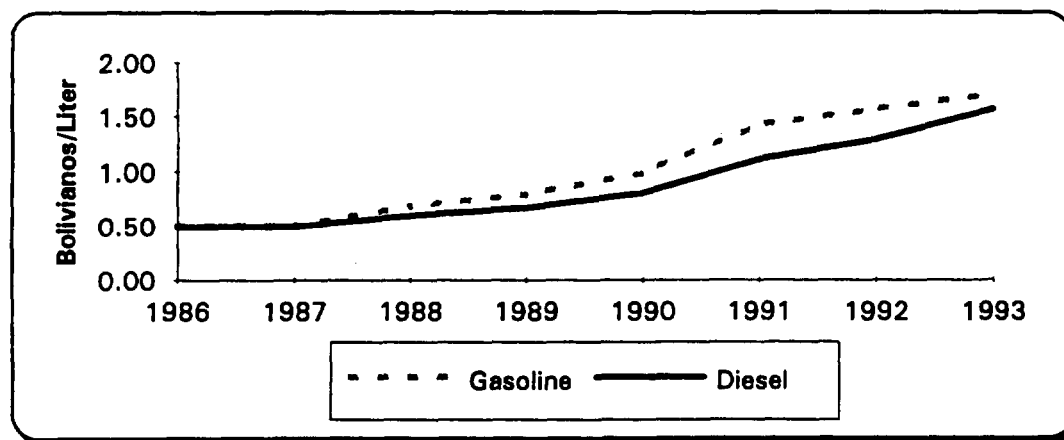
9. For liquids, it has been assumed that the surplus/deficit will be exported/imported at the price of oil on the international markets (plus the transportation cost in the case of imports). The surplus/deficit has been calculated as the difference between total production of unrefined products and total demand for refined products. It has been assumed that one unit of refined products is equivalent to one unit of unrefined products.

Demand

10. Based on the historical relationship/correlation between real GDP, real prices and quantity demanded, consumption was projected for each of the following product groups--Gasoline; Diesel; Liquid Petroleum Gas (LPG); Jet Fuel; and Natural Gas.^{3/}

11. Since 1990, diesel consumption has grown very fast--i.e., faster than real income--as it has become significantly cheaper than alternative fuels, including gasoline. There is a strong correlation between diesel consumption and real GDP growth. This is probably capturing not only the direct real income effect, but also the income effect of the changes in real relative prices. It has been assumed that relative prices would change as a result of, among other things, policy changes, including the introduction of excise taxes on gasoline and diesel. Thus, the consumption of diesel should not grow as fast in the future as it has historically. To correct for the upward bias in the estimated correlation between the consumption of diesel and GDP, an adjustment factor was estimated based on a longer series and the experience of other countries. The correlation coefficient was then adjusted downward using this factor to more closely reflect the consumption of liquid products and GDP growth. Without such an adjustment, the consumption of diesel would surpass the consumption of gasoline by the year 1998--not a realistic outcome in light of expected relative prices. Finally, in the case of LPG consumption, the correlation coefficient was also adjusted downward to reflect, among other things, the effect of policy changes.

Figure 2: Domestic Prices of Gasoline and Diesel



^{3/} While there is some consumption of other liquid products--kerosene, fuel oil, aviation gasoline, *aceites*, *grasas*, and others--the four products listed accounted for more than 95 percent of domestic consumption in 1993.

12. For all products, consumption--i.e., quantity demanded--reflects expected price changes. Current prices of most petroleum products in Bolivia are higher than the corresponding import parity price. As prices are adjusted to import parity prices plus taxes, it is expected that demand will correspondingly adjust. The model uses price elasticities that have been estimated by sectoral experts based on historical patterns in Bolivia (see Table 4). These estimates are short run--i.e., first year--elasticities. For the long run, the model incorporates a lag equivalent to one-half the value of the previous adjustment. As a result, the final impact of a price change is about twice as large as the initial impact. Thus, if the price change is perceived as permanent, there will be a larger impact on the quantity demanded in the longer run.^{4/}

Table 4: Estimated Price Elasticities

Product	UDAPE	World Bank	Model
Gasoline	-0.4	-0.5 to -0.7	-0.35
Diesel	-0.5	-0.6	-0.35
LPG	-0.1	-0.3 to -0.5	-0.25
Natural Gas	-0.2	-0.2	-0.20

Prices

13. For all products, it has been assumed that the price to the final consumer includes all taxes--i.e., production tax, departmental tax, VAT, and IT (see Table 5). Prices were first adjusted to market based prices in 1994 using estimated import parity prices--i.e., FOB import price plus transportation cost to the refinery.^{5/} In addition to the taxes mentioned above, the price to the final consumer includes an excise tax in the case of gasoline and diesel. The excise tax rates--125 for gasoline and 50 percent for diesel--have been selected so that the final consumer prices in 1994 are equivalent to the current domestic market prices. For LPG, it was assumed that sales would take place at a price equivalent to the weighted average of export and import parity prices.^{6/} For the above mentioned products, it was also assumed that future price changes would mirror projected movements of oil prices on the world market.

14. For natural gas, it was assumed that sales in Bolivia would be at the export price less transportation costs--i.e., a price to the consumer of about US\$0.80 per 1000 cubic feet in

4/ For each product, the consumption estimates of the model have been compared to projections made by YPFB. In all cases, the model estimates are more conservative than the YPFB projections. Specifically, the YPFB projections estimate overall growth in consumption of petroleum products of 4.8 percent annually during the period 1992-2000 versus the model projections of 4.0 percent annually. The estimates of the model are, however, close to historical patterns in which growth of petroleum consumption has been below the rate of real income growth.

5/ These prices are contained in *Informe de Precios y Régimen Impositivo de YPFB* (UDAPE, June 1993).

6/ In the case of LPG in the reform scenario, the following prices were used:
 Import parity price: \$/bbl 30.75 Export parity price: \$/bbl 4.79
 Actual price: \$/bbl 23.69 Proposed price: \$/bbl 10.00

1993. The domestic price of natural gas is assumed to vary with export prices, which are expected to remain constant until the pipeline Brazil is operational in 1999. At that time, it is assumed that the price to domestic consumers will increase slightly to US\$0.90 per 1000 cubic feet--an export price of US\$1.10 less the transportation cost US\$0.20.

**Table 5: Petroleum Products--Prices to Final Consumers
(Current US\$ per Gallon)**

	1994 ^{1/}	1995	1996	1997	1998	1999	2000	2001	2002	2003
Gasoline	1.55	1.61	1.73	1.85	1.97	2.08	2.20	2.25	2.30	2.33
Jet Fuel	1.02	1.28	1.37	1.46	1.56	1.65	1.74	1.78	1.82	1.85
Diesel	1.27	1.32	1.42	1.51	1.61	1.70	1.80	1.84	1.88	1.91
LPG	0.52	0.54	0.58	0.62	0.66	0.69	0.73	0.75	0.77	0.78
Kerosene	0.79	0.82	0.88	0.94	1.00	1.06	1.12	1.14	1.17	1.19
Fuel Oil	1.19	1.24	1.33	1.42	1.51	1.60	1.69	1.73	1.76	1.79
Natural Gas ^{2/}	0.82	0.62	0.61	0.76	0.82	0.87	0.93	0.95	0.96	0.97

1/ Prices are identical to current domestic market prices.
2/ Price per 1000 cubic feet.

YPFB/Sector Profits^{7/}

15. YPFB/sector earnings are projected based on YPFB historical data on earnings/loss and cost of production.^{8/} Using this information, a per unit production cost was calculated and a "fixed coefficient" production function has been assumed. This historical ratio is applied to future production to estimate costs and earnings. It has also been assumed that new technologies will be introduced as a result of the reforms, which should increase the efficiency of all companies operating in the sector and lead to lower per unit production costs. It has been assumed that these new technologies will lead to an overall decline in the cost of production of about 45 percent (see Table 6).

^{7/} In 1992, YPFB accounted for 90 percent of crude production and 60 percent of natural gas production. Although the importance of YPFB will be diminished in the *reform scenario* as private investors are attracted to the sector, the model does not attempt to separately calculate revenues from YPFB and private companies. As a result, although revenues in 1992 are primarily revenues from YPFB, in later years there is an increasing share of revenues coming from private companies.

^{8/} From an economic standpoint, this aspect of the model is weak as production costs are derived from accounting costs, which may not necessarily reflect economic costs. Given the limited information, however, this reflects the "best" approximation in our judgement.

Table 6: Annual Savings in Productions Costs Resulting from Efficiency Gains

1994	1995	1996	1997	1998	1999	2000	2001	2002-2004
13%	11%	6%	5%	4%	3%	2%	1%	0%

16. A per unit export cost of natural gas production was also estimated assuming fixed production coefficients based on historical costs and exports. In general, the historical natural gas unit costs are quite high and may be over-estimated. The use of this cost results in a loss from exports starting in 1994 (i.e., the export price of US\$1.00 per 1000 cubic feet, is less than the estimated cost of production).^{9/} To partially correct for these high costs, a production cost of US\$0.50 per 1000 cubic feet was assumed for exports in excess of 76,000 million cubic feet. This cost is in between the Bolivian long-run marginal price/cost of natural gas production (US\$0.25) and a unit cost of natural gas production estimated by sectoral experts (US\$0.61).

Revenues

17. It has been assumed that certain elements of the current tax system would continue in the future. Specifically,

- The value added tax of 13 percent and the transaction tax of 2 percent will be applied to the sales values of all petroleum products.^{10/}
- For production under existing contracts, the production tax of 19 percent will be applied to the values of crude, GLP and natural gas production.^{11/}
- The department tax/royalty of 11 percent will be applied to the values of crude, GLP, and natural gas production.
- During 1994 and the first half of 1995, it has been assumed that the transfer from YPFB will be maintained. During 1994, revenues from the sector to the treasury will remain at the 1993 level--approximately US\$335 million, not including departmental royalties of US\$36 million.

^{9/} While the reason for the high export production cost is unknown, it is likely that YPFB allocates some of costs to natural gas production which should instead be allocated to other products. Based on YPFB's income statement, it is difficult to reallocate these costs.

^{10/} It has been assumed that most taxes are completely passed onto the consumer. An increase in either the VAT or IT tax rates will increase prices to the consumer and hence reduce consumption in accordance with the price elasticity.

^{11/} The methodology to value production for the purposes of estimating revenues from both the production tax and the departmental royalty, has been taken from the UDAPE Report: *Informe de Precios y Régimen Impositivo de YPFB* (June 1993). Specifically, crude production—petroleum condensates and natural gasoline—is valued at the international crude oil price less transportation costs. GLP production is transformed into petroleum equivalents and the results are evaluated at the international crude oil price minus transportation cost. Domestic natural gas production—domestic consumption plus the own consumption of the oil companies—is evaluated at the domestic price less transportation costs. Natural gas exports are valued at the export price minus the transport price.

18. It has also been assumed that in mid-1995, certain changes will be introduced with the new tax regime.^{12/} Specifically,

- For production covered by existing contracts, YPFB's share will be transferred to the treasury.
- For production from current fields of YPFB, a 50 percent royalty ("split") will be applied.
- The transactions tax will be increased to 3 percent.
- An additional royalty of 1.5 percent will be applied to the values of crude, GLP, and natural gas production. Revenues collected from this source will be for the Compensation Fund established under the Popular Participation program.
- A corporate profit tax of 25 percent will be applied to the net profits of all companies in the sector.
- A consumption tax of 50 percent will be applied to the import parity price of diesel.
- A consumption tax of 125 percent will be applied to the import parity price of gasoline.

Other Costs and Revenues

19. It has been assumed that there are certain one-time costs of implementing the reforms--specifically, seniority/severance payments, transactions costs, sectoral restructuring costs, costs to strengthen the National Secretariat of Energy and Hydrocarbons, and costs to establish an exploration and development entity (see Table 7). The model also incorporates additional revenues from the reforms--specifically, revenues from selling licenses to the private sector for exploration. The assumptions on the number of licenses are provided in Table 2. It is assumed that each license is sold for US\$1 million.

^{12/} The proposed new tax structure for hydrocarbons is comparable to tax structures in neighboring countries, thereby maintaining attractiveness to potential investors. The Government is considering implementing this system, however, is also still exploring other alternatives.

Table 7: One-time Costs of Implementing Reform

- Seniority/Severance Payments: 5,014 people @ US\$10,673 in 1996 = US\$53.4 million.
- Investment Banker Fees: US\$6.0 million
- Institutional Strengthening: US\$15.2 million
- Environmental Obligations: US\$30 million

III. The Fiscal Impacts

Revenues

20. Based on the results of the model, with the implementation of the reforms, the most important sources of revenue are the excise tax on gasoline, the additional royalty on production from current YPFB fields, and the value added tax^{13/}. In 1995, the model predicts total revenues of approximately US\$350 million, of which 24 percent is generated from the tax on gasoline, 12 percent is generated from the tax on diesel, 13 percent is generated from the value added tax, 21 percent is generated by other excise taxes, and 9 percent is generated through the additional royalty on YPFB production.^{14/} As private sector activity increases during the period, the corporate income tax becomes more important, generating about 7 percent of total revenues by the year 2000. However, given the initial dominance of YPFB in the sector, the additional royalty on production from current YPFB fields and YPFB's share on existing contracts is estimated to still generate about 15 percent of total revenues by 2000. By the same year, the gasoline tax remains an important source of revenues (25 percent), as do the diesel (15 percent) and value added (20 percent) taxes. Departmental royalties increase significantly due to the increased private sector production.

^{13/} All numbers cited are expressed in current US\$ and are provided in Table 8. The analysis in Chapters II and III does not incorporate the departmental royalties, as these revenues do not accrue to the central government. However, departmental royalties, are included in this analysis as they are an important source of revenues to the regions. In addition, based on historical experience in Bolivia and other countries, the following collection ratios (in percent) have been assumed for the different taxes:

<u>Tax</u>	<u>1994/1995</u>	<u>1996</u>	<u>Efficiency increases starting in 1997 until 100 percent efficiency is reached</u>
Corporate Income	60	70	5 percent per year
Value Added	60	70	5 percent per year
Transactions	60	70	5 percent per year
Excise	80	85	5 percent per year

^{14/} As indicated, 1995 is a transition year in which there will be a mid-year shift from the current transfer system to the new taxation system. During the first half of the 1995, it has been assumed that there will be transfers from YPFB to the treasury. During the second half of the year, it has been assumed that the corporate income tax and the additional 50 percent royalty on production from current YPFB fields and YPFB's share on existing contracts will apply. "Other excise taxes" includes the corporate income tax and the transfers from YPFB.

Figure 3: Estimated Gross Revenues to the Treasury
(in US\$ Million)

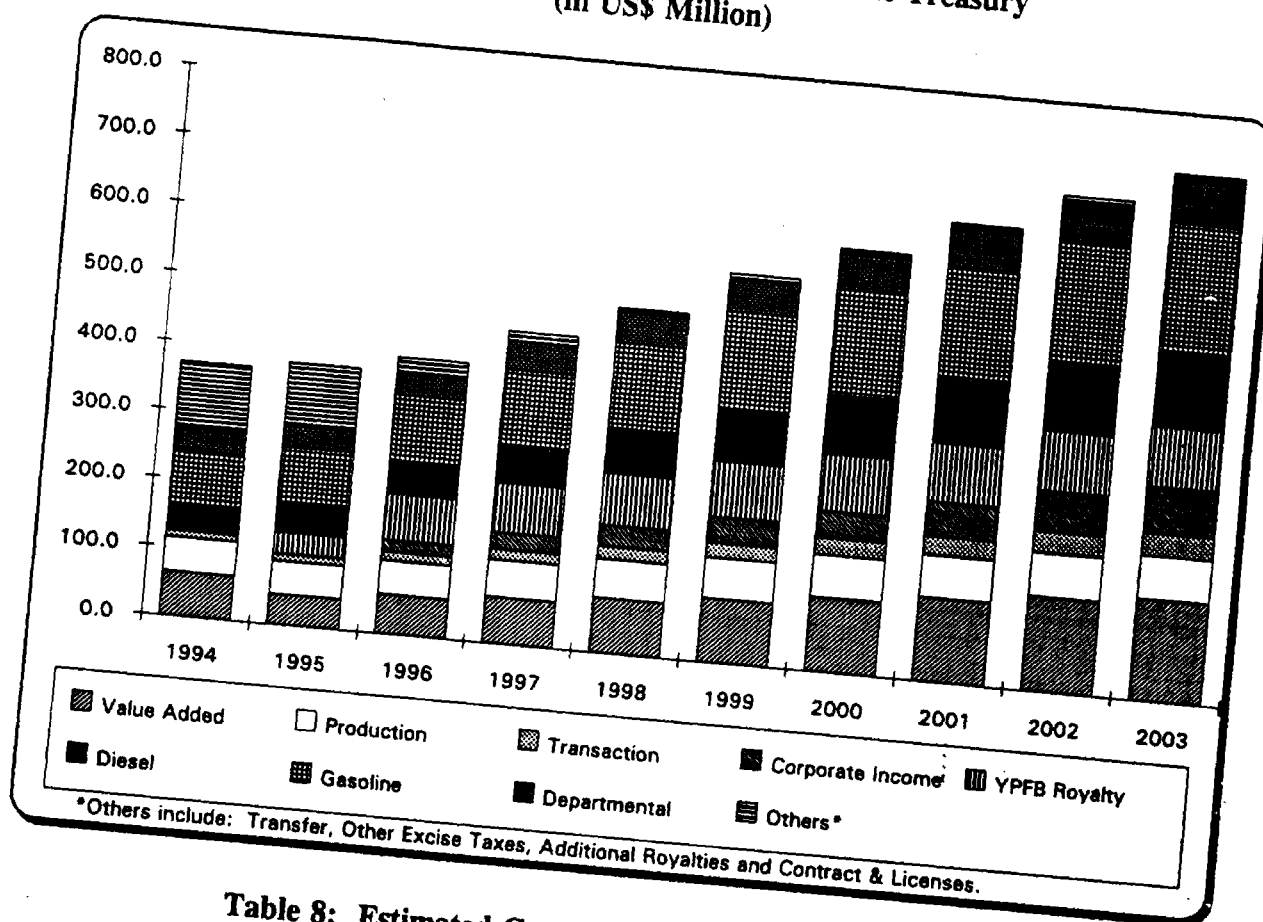


Table 8: Estimated Gross Revenues to the Treasury
(in US\$ Million)

	1994 ^{1/}	1995	1996	1997	1998	1999	2000	2001	2002	2003
Gross Revenues										
Total Taxes	334.3	349.4	368.0	413.1	456.7	515.7	561.5	608.7	660.8	702.0
Value Added Tax	334.3	332.4	351.0	403.1	456.7	515.7	561.5	608.7	660.8	702.0
Production Tax	64.2	43.9	56.8	67.7	79.5	92.2	107.0	121.0	137.1	146.7
Transaction Tax	49.2	47.3	48.9	52.7	55.2	58.8	61.1	61.3	62.3	63.1
Corporate Income Tax	9.9	10.1	13.1	15.6	18.3	21.3	24.8	27.9	31.7	33.9
Additional Royalty ^{2/}			16.0	24.2	31.2	38.0	38.9	49.3	59.9	66.8
YPFB Royalty ^{3/}		4.0	4.3	5.1	5.7	6.2	6.6	7.3	7.6	8.2
Transfers/Excise Taxes		31.6	67.5	71.6	76.1	81.1	84.9	87.2	88.0	89.5
Diesel	210.9	195.6	144.5	166.2	190.6	218.2	238.3	254.8	274.3	293.8
Gasoline	71.6	41.2	48.7	57.0	66.4	77.3	85.8	93.1	101.6	110.1
Other Excise Taxes	77.5	82.8	95.7	109.2	124.2	140.9	152.5	161.7	172.7	183.7
Contracts and Licenses	95.7	71.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Departmental Royalties	0.0	17.0	17.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
	36.0	31.9	34.6	41.1	45.8	49.7	52.9	58.0	60.5	65.5

- 1/ Given that the deregulation of petroleum product prices and the introduction of the new system of taxation have not taken place, some revenue "losses" are expected for 1994. This results as the private sector is currently importing refined products—in particular, diesel—at the import parity price and selling these products at the domestic market price. The difference between these two prices is not being captured by the Government under the existing tax system.
- 2/ The proceeds from this additional royalty of 1.5 percent will be allocated to the Compensation Fund established under the Popular Participation program.
- 3/ The "YPFB royalty" is applied to the value of production from current YPFB fields, and YPFB's share on existing contracts.

Fiscal Impacts

21. The one-time costs associated with implementing the reform (see Table 7)--seniority/severance payments, transactions costs, costs associated with institutional strengthening, and environmental obligations--have been estimated at approximately US\$105 million. For the purposes of these projections, it has been assumed that these costs will be incurred during the period 1995-1999. As the environmental liabilities may be viewed as "contingent" liabilities--i.e., a potential long-term liability of YPFB--the costs have been shifted to the outer years--i.e., beginning in 1998. The net impact--i.e., gross revenues to the treasury less the one-time costs--is presented in Table 9.

**Table 9: Fiscal Impacts of Hydrocarbons Reform
(in US\$ Million)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Gross Revenues	334.3	349.4	368.0	413.1	456.7	515.7	561.5	608.7	660.8
Short-term Costs of Reforms	3.8	5.8	59.3	5.8	10.0	10.0	10.0		
Seniority/Severance Payments			53.5						
Transaction Costs/Fees		2.0	2.0	2.0					
Studies/Institutional Strengthening	3.8	3.8	3.8	3.8					
Environmental Obligations					10.0	10.0	10.0		
External Debt Service, incl. on-lending	51.1	49.7	48.2	46.7	45.1	43.5	42.0	40.0	39.0
Net Revenues	279.4	294.0	260.6	360.6	401.6	462.2	509.5	568.7	621.8

IV. Sensitivity Analysis

22. Fiscal impacts of alternatives were evaluated. The following are the principal conclusions from these alternatives.

Different Tax Scenarios

- (a) Revenue would increase substantially if the excise tax rates on gasoline and diesel were increased from the proposed rates of 125 percent and 50 percent, respectively. Specifically, if the excise tax on gasoline was increased to 150 percent (i.e., a 20 percent increase) and the excise tax on diesel was increased to 65 percent (i.e., a 30 percent increase) **starting in 1996**, prices of these products to the final consumer would increase by about 10 percent. As a result, revenue from the sector to the treasury would on average be approximately 12 percent higher during the period. There are some drawbacks associated with increasing the excise taxes. Specifically, these are: (a) this form of taxation is more distortionary in affecting relative prices and resource allocation; and (b)

smuggling may result if increasing the tax causes the domestic price to be higher than the price in neighboring countries, including the cost of transportation. As shown in Table 10, compared to prices in neighboring countries, existing prices of petroleum products in Bolivia are already relatively high.

Table 10: Prices of Selected Petroleum Products--An International Comparison
(first quarter 1993, in US\$ per gallon)

Country	Gasoline				Diesel	
	Regular Leaded		Premium Leaded			
	Price	Tax	Price	Tax	Price	Tax
Bolivia	1.66		2.42		1.38	
Chile	1.54	0.71	1.58	0.78	1.23	0.39
Paraguay	1.51	0.63	1.66	0.66	1.05	0.11
Peru	1.42	0.80	1.91	0.13	1.07	0.42

- (b) Revenue would also be increased by imposing excise taxes on other petroleum products--such as jet fuel or liquid petroleum gas. However, as consumption of these products is not large--i.e., the taxable base is small--the additional revenues would be minimal.
- (c) Revenue would also be increased by imposing a new production tax. If the existing production tax is maintained on all production at 19 percent, this would yield additional revenues. However, net tax revenues would increase by a smaller amount as collections from corporate taxes, sales taxes and transaction taxes decline as the higher price is passed to consumers reducing consumption demand. More importantly, such a tax would likely make Bolivia less attractive to potential private investors as, in general, Bolivian fields are small and relatively marginal in comparison to fields in neighboring countries. In addition, investors usually prefer a system of taxation based on production value--allowing for some adjustments for production costs--over a taxation system based purely on quantity produced.
- (d) Increasing the value added tax rate would significantly increase revenue. This is an attractive option because the VAT: (a) has a broad base; (b) is applied primarily on consumption of goods and services in the domestic market; and (c) is the least distortionary in terms of its effects on relative prices and resource allocation. However, the drawbacks with increasing the VAT are: (a) a potential long fiscal lag resulting from the need to secure approval from Congress; and (b) administrative difficulties associated with collections.

Different Growth Scenario

- Most taxes in the model are applied to consumption. The results, however, are not particularly sensitive to the GDP growth rate.

Different Cost Scenario

- As net profits are the basis for the new corporate income tax, revenue is highly sensitive to the efficiency gains assumed under the reforms. If the efficiency gains are assumed to take place over a longer period (say ten years instead of the assumed six), revenue would decline significantly.

Different Export Scenario

- As natural gas exports to Brazil have an impact on the income of the sector starting in 1999, they also influence revenue in the later years. If there are no exports to Brazil starting in 1999, revenue would decline in 1999 and 2000.

Different Consumption Scenario

- Revenue is not very sensitive to the price elasticities used in the model. If higher elasticities are assumed, consumption of petroleum products initially increases substantially, but this does not translate into higher revenue. Although one might expect higher tax revenue with increased domestic consumption, this is not the case as higher domestic consumption means lower exports of crude petroleum--the profit margin for the crude exports is much higher than the profit margin for domestic sales.

V. Weaknesses of the Model

23. While the model is fairly robust, certain aspects--specifically, production and production cost assumptions--could be improved.

24. **Production.** The estimation of the supply of natural gas is very simple as the model assumes that demand--export and domestic--is satisfied. This could be improved if estimated independently. Production of natural gasoline and liquid petroleum gas are modeled assuming a fixed ratio to the production of petroleum and natural gas. Again, it might be more appropriate to independently estimate these outputs. However, the production of refined products--determined by the domestic demand for these products--is quite reasonable. The model estimates the production of "others" as a ratio of total production. Exports are affected by these assumptions, as exports are estimated as the difference between unrefined production

and total consumption and production of other refined products. When compared to historical exports, however, the model projections are fairly accurate.

25. **Production Costs.** Since cost data was not available at the product level, the model assumes an aggregate cost function and may not fully discount economies of scale as production expands. In addition, potential cost savings are difficult to quantify. The estimates might be conservative in light of the fact that most international oil companies could probably produce more efficiently than YPFB even after the reforms. Finally, the model does not differentiate between YPFB and the sector. Prior to 1993, YPFB historical earnings were used without making adjustments for existing private sector activity. For the purposes of the projections, the private sector is integrated into the earnings projections because of uncertainty associated with the timing and nature of the capitalization process.

VI. Conclusions

26. The results of the model show that as a result of the restructuring the hydrocarbons sector, there will be significant declines in revenue to the treasury unless a new system is introduced. If the following system--corporate income tax of 25 percent; royalty on production from current YPFB fields of 50 percent; diesel tax of 50 percent; gasoline tax of 125 percent; YPFB's share on existing contracts is transferred to the treasury; and the transactions tax is increased to 3 percent--is substituted for the fiscal transfer, potential revenues will be maintained near or even above the revenue levels of recent years. However, given the short-term costs associated with implementing the reform, net revenue will initially decline. In any event, if the reform is not implemented, revenue from the hydrocarbon sector would be lower than in the recent past, as current YPFB transfer levels can not be maintained.

27. Increasing the value added tax rate would be the most efficient way of increasing revenue from the sector. The additional tax would not distort relative prices and would to a great extent be borne directly by consumers. The second "best" alternative to increase revenue from the sector would be to increase diesel and gasoline taxes. A high diesel tax rate (50 to 65 percent) is an effective revenue raiser and would also slow domestic consumption growth. A relatively high gasoline tax (125 to 150 percent) would also be effective at raising revenue. However, there are limits on the extent to which excise taxes can be used to raise revenue. Specifically, smuggling may result if increasing the tax causes the domestic price to be higher than the price in neighboring countries, including the cost of transportation. Finally, introducing additional taxes on production would be an effective means of raising revenue, but they would significantly reduce the competitiveness and attractiveness of the Bolivian hydrocarbon sector. While additional actions may be required to increase revenue from the sector, it is essential that a stable tax regime be maintained on upstream activities--particularly on income and production.

Annex C

The Fiscal Impacts of the Mining Reform

I. The Reform Program

1. **Introduction.** Although having declined in importance, the mining sector still contributes approximately 8.5 percent of GDP and 50 percent of total exports (see Box 1). With regards to traditional mineral products--especially tin and silver--COMIBOL continues to play a significant role. However, in non-traditional mining--specifically gold, zinc, and lead--the private sector dominates. A model was developed to simulate outputs in the Bolivian Mining Sector for a ten year period during which the proposed reform program is fully implemented.^{1/} The model estimates the fiscal impacts of the reform scenario, placing emphasis on calculating the revenues accruing to the treasury and the costs incurred by the treasury. To calculate revenues, increasing production levels and exports are estimated.

2. **Reform Program.**^{2/} The objective of the mining sector reforms is to create an efficient and self-sufficient mining sector which would contribute to the development of the Bolivian economy. The specific measures to be undertaken include: (a) transforming COMIBOL into a holding company, including closing all unprofitable mining operations, transferring mining operations (except for those nationalized in 1952, in which the operational and managerial functions would be transferred through leases or joint ventures) to

Box 2.4: Characteristics of the Mining Sector

Contribution to GDP: 8.50%; to exports: 45-50%

<i>Product</i>	<i>Volume*</i>	<i>COMIBOL (as %)</i>	<i>Medium (as %)</i>	<i>Small (as %)</i>
Tin	16.8	43.8	8.2	48.0
Silver	0.3	43.5	37.3	19.2
Antimony	7.2	8.0	74.8	17.0
Zinc	12.9	24.2	57.4	18.3
Gold	3.5	0.3	44.6	55.0
Lead	20.8	19.3	51.5	29.2

** Production in thousands of metric tons*

Taxes and royalties paid by COMIBOL US\$1.7 million

Distribution of COMIBOL royalties

- National Treasury 55%
- Regional Development Corporations (RDCs) 40%
- FONEM 5%

Taxes and royalties paid by the sector US\$8.2 million

Tax Structure (introduced in 1991 Mining Code)

- Tax on profits 30%
- Complementary tax on sales 2.5%
- Royalties (on presumed profits, mineral specific rates) in lieu of profits tax for companies incorporated prior to April 11, 1991; to be replaced by profits tax in 1999

Ratio of Bolivian to world reserves

Tin	12.1%	Silver	1.2%	Antimony	6.4%
Zinc	0.2%	Gold	0.8%	Bismuth	5.3%

1/ This model was developed jointly by the Government of Bolivia (the National Secretariat of Mining) and the World Bank, specifically Messrs. Felix Remy (IENIM) and Claude Ginet (Coordinator of the Mining Sector Rehabilitation Project).

2/ Details of the mining sector reforms may be found in a variety of World Bank documents; specifically Bolivia: Restructuring for Growth, (World Bank Report 11075-BO, September 1992), and Bolivia: Credit 2013-BO Mining Sector Rehabilitation Project--Amendment to the Credit and Project Agreements, (World Bank Report, April 7, 1993). This section merely summarizes the main measures to be taken.

the private sector, and transferring, privatizing or liquidating all operations or activities that are not directly related to mining; (b) passing a new Mining Law to permit long-term mining leases, among other things; (c) implementing a new regulatory and institutional framework, including environmental standards; (d) strengthening and/or establishing sectoral institutions to reduce the costs of mining information; and (e) capitalizing the smelter company (ENAF/Vinto).

II. The Model

Investment and Production

3. As a consequence of the reform program, it has been estimated that approximately US\$665 million of investment will be attracted during the 1993-2000 period--or about US\$100 million per year (see Table 1). Of this amount, it is estimated that one-half will be invested in properties owned by COMIBOL--primarily *Cerro Rico*, *Colquiri*, *Colas Colquiri*, *El Asiento*, *Escala*, *Huanuni* and *Lipez*--and that the remainder will be invested in private properties. On the basis of the projected investments, production growth rates (volumes) for all minerals have been estimated. These projected growth rates and the resulting projected composition of production by the year 2000 are provided in Tables 2 and 3. The growth rates, and hence production volumes, are sensitive to the projected level investments. For example, if only 75 percent of the projected investment materializes, mineral production would grow at about 80 percent of the projected growth rates.

**Table 1: Projected Total Investment, 1993-2000
(in US\$ Million)**

	Exploration	Operations and Production	Sector Restructuring (inc. COMIBOL)	Total
Total Public Investment	22	—	53	75
Private Investment in COMIBOL mines	44	306	—	350
Private Investment in other mines	18	222	—	240
Total Investment	84	528	53	665

Table 2: Production Growth

Average Annual Growth	
Zinc	9.4%
Tin	8.8%
Silver	13.8%
Lead	4.0%
Gold	10.5%
Source: Estimates provided by the National Secretariat of Mining and the World Bank.	

Table 3: Projected Production--2000

Production Composition	Tin	Zinc	Silver
COMIBOL Mines	63.7%	46.7%	58.5%
Medium-size Enterprises	4.7%	43.2%	29.1%
Small-size Enterprises & Cooperatives	31.6%	10.1%	12.4%
Total (in metric tons)	32.2	336.1	722.4
Source: Estimates provided by the National Secretariat of Mining and the World Bank.			

Prices

4. For the purposes of the projections, it was assumed that real prices would remain at their 1992 levels. The only exceptions are in the case of zinc and gold--it was assumed that the price of gold would increase from US\$343/ounce in 1992 to US\$500/ounce in 1994 and stabilize at US\$450/ounce beginning in 1997. The results of the model are sensitive to the assumed price levels.

Exports

5. Based on the projected production volumes (which are assumed to be totally exported) and the assumed international mineral prices, the net value of exports is projected to reach US\$417.5 million by the year 2000.

Revenues

6. In addition to defining a new taxation system in the mining sector, the Mineral Code (Articles 38,39 and 62 of Law 1243 of April 11, 1991 and Supreme Decree 21060) identifies the following payments for mining licenses:

Exploration License:	0.5 US\$/ha
Exploitation License:	1.0 US\$/ha

7. Under the current system--in which there are royalty payments--the taxable base for the payment is presumed/expected profits. These are defined as the officially quoted metal price, less the assumed cost of operation and distribution, according to the following formula:

$EP = QP - EC - g \cdot QP$ where:

EP = Expected profit

QP = Quoted price

EC = Assumed cost of operation

g = Coefficient applied to the quoted price to determine the costs of commercialization and distribution

8. Once the expected profit (EP) has been calculated, a royalty rate of 53 percent is applied for tin, antimony, bismuth, and wolfram and a rate of 20 percent for lead and zinc. These parameters are subject to change as they are defined through executive decrees.

9. All companies constituted before April 11, 1991 have the option of remaining under the current system of royalties until October 1, 1999, at which date they will have to conform to the new tax system. All companies constituted after April 11, 1991 are subject to the new taxation system, established as follows:

- An income tax of 30 percent on net profits (based on financial statements).
- A complementary tax, equivalent to 2.5 percent of the value of net sales.

10. For each company, the amount paid as income tax is credited towards the complementary tax (i.e., the maximum taxation to be paid is 30 percent, with a minimum of 2.5 percent on net sales). The revenues collected from the complementary tax are forwarded to the producing department, while the remaining revenues are distributed according to the established coparticipation regime. Starting in January 1995, except for royalties, the revised tax law will eliminate the special tax system in the sector and the uniform corporate income tax of 25 percent will be applied.

11. Given the limited information on the structure of production costs in the mining sector, it was necessary to approximate total revenues from the sector to the treasury. Based on historical data and the experience of other countries with similar tax regimes, revenues to the treasury were estimated at about 3 percent of the total production value.

Short-Term Costs

12. The reforms will involve certain one-time implementation costs (see Table 4) which include:

- Seniority/severance payments to COMIBOL and ENAF/Vinto personnel;^{3/}
- Costs associated with transforming COMIBOL into a holding company, including signing and implementing leases/joint ventures, preparing of mines and transferring/liquidating COMIBOL non-mining assets;
- Transactions-costs, including investment banker fees and other costs of preparing ENAF/Vinto for capitalization;
- Costs to strengthen and establish sectoral institutions. From these funds, 70 percent are earmarked towards GEOBOL, the institution responsible for generating and disseminating basic geological information; and
- Environmental obligations

^{3/} In simulations of the macro model, it has been assumed that the Government will bear seniority/severance costs for COMIBOL.

Table 4: One-time Costs of Implementing Reform

•	Seniority/Severance Payments
	COMIBOL: 2,940 people @ US\$16,000 in 1994 = US\$47.0 million
	COMIBOL: 1,493 people @ US\$16,000 in 1995 = US\$23.9 million
	ENAF/Vinto: 1,050 people @ US\$3,006 in 1995 = US\$3.2 million
•	Transaction Costs/Fees: US\$4.1 million
•	Studies/Institutional Strengthening: US\$19 million
•	Environmental Obligations: US\$25 million

Other costs

13. Other costs associated with the reform include the debt and debt service of COMIBOL and ENAF/Vinto. The debt service burden will have to be borne either by ENAF/Vinto or by the new investors entering into contracts/joint-ventures with this enterprise. The composition of projected debt service is provided in Table 5.^{4/}

**Table 5: Estimated Debt Service of ENAF/Vinto
(in US\$ Million)**

	1994	1995	1996	1997	1998
Internal Debt	0.0	0.1	0.1	0.1	0.1
Amortization	—	—	—	—	—
Interest	0.0	0.1	0.1	0.1	0.1
Source: Estimates provided by the National Secretariat of Mining.					

III. The Fiscal Impacts

14. The projected gross revenues to the treasury--by source for the years 1993 and 2000--are provided in Table 6.

^{4/} As COMIBOL is not being capitalized, it is assumed that the Government will continue bearing the responsibility for debt servicing.

Table 6: Estimated Gross Revenues by Sources

	1994	1995	1996	1997	1998	1999
Revenues (in US\$ Million)	7.9	16.5	22.9	24.9	26.6	27.0
Sources of Taxes & Royalties, Selected Years (in Percent)	COMIBOL	Medium Enterprises	Small Enterprises & Cooperatives	Concessions		
1993	13.3	50.6	21.7	14.5		
2000	--	35.5	17.5	47.0		
Source: National Secretariat of Mining and World Bank estimates.						

Fiscal Impacts

15. As presented in Table 4, the one-time costs associated with implementing the mining sector reforms have been estimated at approximately US\$120 million. For the purposes of these projections, it has been assumed that these costs, with the exception of environmental obligations, will be incurred in 1994 through 1996. The net impact--i.e., revenues to the treasury less the one-time costs--is presented in Table 7.

**Table 7: Fiscal Impacts of Mining Reforms
(in US\$ Million)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Gross Revenues	7.9	16.5	22.9	24.9	26.6	27.0	28.6	29.3	30.1
Short-term Costs of Reforms	53.0	38.7	5.5	5.0	5.0	5.0	10.0		
Seniority/Severance Payments	47.0	27.1							
Transactions Costs/Fees		2.6	1.5						
Studies/Institutional Strengthening	6.0	9.0	4.0						
Environmental Obligations				5.0	5.0	5.0	10.0		
External Debt Service, incl.on-lending	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Net Revenues	-46.2	-23.4	16.2	18.7	20.4	20.8	17.4	28.1	28.9
Source: National Secretariat of Mining and World Bank estimates.									

IV. Sensitivity Analysis

16. The results of the fiscal projections are particularly sensitive to the projected levels of mineral production and the corresponding projected mineral prices. If as a consequence of lower investment, the projected level of production for the sector is on average 20 percent lower than projected, ceteris paribus, gross revenues to the treasury would be 20 percent lower.

Similarly, if the price of zinc and gold are 10 percent lower than expected, *ceteris paribus*, revenues to the treasury would be about 3 percent lower. Finally, revenues to the treasury are also sensitive to the assumption about the timing of the short-term costs, particularly seniority/severance payments and environmental obligations.

V. Conclusions

17. The following conclusions can be drawn from the projected impact of the reforms:

- The reforms will encourage private investment which in turn will lead to increased production levels. Given the expected international prices for minerals, the net value of exports is projected to reach US\$417.5 million by the year 2000.
- Mineral royalties and taxes are estimated to reach US\$25 million by the year 2000.
- Implementation of the reforms will have overall negative net fiscal impacts in the short-term, particularly in 1994 and 1995 as seniority/severance payments are incurred. In the medium to long term, positive net fiscal impacts are predicted.
- The net fiscal impacts are sensitive to: (a) projected mineral production levels; (b) expected international mineral prices; and (c) timing of the costs of the reforms, particularly seniority/severance payments and environmental obligations.

Annex D

The Fiscal Impacts of the Telecommunications Reform

I. The Reform Program

1. **Introduction.** The telecommunications system in Bolivia is characterized by low telephone density, poor quality of service and high long distance tariffs (see Box 1). The contribution of ENTEL to Government revenues is not insignificant, however, currently local cooperatives are exempt from paying the presumed corporate profits tax. A model was developed to simulate inputs/outputs of the Bolivian Telecommunications Sector for a ten year period under a scenario in which the proposed reform program is fully implemented.^{1/} Incorporating technical specifications of the sector, the model attempts to estimate the fiscal impacts of the reforms, placing emphasis on calculating revenues accruing to the national treasury. To calculate these revenues, the model projects domestic supply/demand, prices, costs of production and profits (for the long distance--ENTEL--and local carriers--cooperatives).

Box 1: Characteristics of the Telecommunications Sector	
<i>ENTEL contribution to General Government revenues</i>	
	US\$24 million
<i>Service Providers</i>	ENTEL and 22 local cooperatives
<i>Telephone density</i>	3.8 lines per 100 inhabitants
<i>Number of access lines</i>	256,368
<i>Number of public phones</i>	3,191
<i>Revenues per access line</i>	US\$607
<i>Tariff Structure</i>	
• Installation charge	US\$1,500(R)/US\$1,500(C) ^{b/}
• Basic monthly charge	US\$2.93(R)/US\$9.82(C)
<i>Tax Structure</i>	
• VAT	13%
• IRPE (ENTEL only)	3%
• IT	2%
• ENTEL transfers to treasury	
^{a/} (R): Residential	
^{b/} (C): Commercial	

2. **Reform Scenario.**^{2/} Development of Bolivia's telecommunications sector has been impeded by three fundamental constraints: (a) an inadequate regulatory framework; (b) a distorted tariff structure and levels; and (c) poor management of most of the telephone operating companies. To address these problems, the Government's reform program will introduce open competition for the provision of telecommunications services, within a regulated environment. To achieve these objectives will require: (a) reforming the regulatory framework;

^{1/} This model was developed by Deloitte & Touche as part of the Telecommunications Sector Restructuring Plan jointly sponsored by the Government of Bolivia and the World Bank. Mr. Doyle Gallegos (Consultant, Ministry of Capitalization) was especially helpful in carrying out this analysis.

^{2/} Details of the proposed telecommunications reforms may be found in Bolivia: Restructuring for Growth. This section summarizes the main measures to be taken.

(b) reforming the structure of the sector; (c) modifying tariffs and access charges; and (d) attracting private sector capital and management skills to the sector.

3. The cornerstone of the reform program will be the enactment of a new telecommunications law with the following components: (a) a new tariff structure and interconnections charges will be defined; (b) competition will be phased-in for both long distance and local services; and (c) new concession procedures will be established. Another key element of the program will be to capitalize ENTEL and subsequently the local cooperatives that volunteer to participate in the program.

II. The Model

4. **Assumptions.** Business planning analysis was used to model the sector as it functions today--based on historical data--and how it is expected to evolve in the near future.^{3/} The model contains sub-models for ENTEL and the Regional Cooperatives--specifically COTEL, COMTECO and COTAS--which represented more than 80 percent of the total access lines in 1992. The basic assumptions of the model are contained in Table 1.

^{3/} The Deloitte & Touche business planning model has been developed and applied to Bolivia and other Latin American countries.

Table 1: Basic Assumptions of the Telecommunications Model

	Current Situation	Reform Scenario
• Access Line growth		9% annually
• Telephone density	3.8%	6.8%
• Tariffs		
Installation charge	US\$1,500(R)/US\$1,500(C)	US\$300(R)/US\$600(C)
Basic Monthly charge		
Existing customers	US\$2.93(R)/US\$9.82(C)	US\$3.00(R)/US\$10.00(C)
New customers		US\$10.00(R)/US\$39.00(C)
Adjustment		Beginning in 1995, semi-annual based on a price-cap formula.
Interconnection charges		Beginning in 1995, introduction of a new level of interconnection charges.
• Taxes	- VAT of 13% - IRPE of 3% (ENTEL only) - IT of 2% - ENTEL transfers - Mobil Assets tax of 5%	- VAT of 13% - For all companies, corporate income tax of 25% (cooperatives begin to pay in 1995) - IT of 3% - ENTEL transfers to treasury are eliminated in 1995.
(R): Residential (C): Commercial		

Capitalization

5. While the Government is examining options for capitalization, an integral part of the program will be the capitalization of ENTEL and a partial recapitalization of the regional cooperatives that volunteer. The model currently assumes that capital equivalent to about 45 percent of the current value of ENTEL's shares will be invested in the cooperatives. To benefit immediately from offering intra-regional national long distance service, it has been assumed that Bolivia's 22 cooperative local exchange carriers are consolidated into three regional carriers (RSCs) in 1995.

Supply

6. Based on demand analysis, it has been determined that there is substantial unsatisfied demand for telecommunications services, partially due to a high subscription charge. Currently, Bolivia has 256,368 access lines in service for a population of about 6.7 million—a line density of about 3.8 percent. The expansion plan for the sector has been developed to increase line density while meeting specific quality of service goals. By the year 2002, the goal

is to increase line density to a minimum of 6.8 percent--or 10 percent in urban areas and 2 percent in rural areas. To improve the quality of service, specific goals have been set, including: (a) increasing the user satisfaction level from 15 percent in 1993 to 95 percent in 2002; (b) decreasing the waiting time to obtain service from 240 days in 1993 to 120 days in 1996 to 3 days by 2002; and (c) increasing the call completion ratio from 58 percent to 75 percent.

7. To meet these goals over the ten year period will require increasing the number of access lines by approximately 298,000--i.e., growth of 9 percent per year--and implementing upgrading and modernization programs. This will require investments of approximately US\$500 million to: (a) expand the cooperatives (72 percent); (b) expand ENTEL (12 percent); and upgrade and modernize line services (16 percent).

Prices

8. The reforms include introducing a new tariff structure which has been designed according to the following principles: (a) a balance between social, economic, and financial obligations will be maintained; (b) the costs to provide service will be taken into account; (c) pricing will be sufficiently flexible to encourage competition; and (d) adequate protection will be provided to consumers while the Government's rural development goals are met.

9. To the consumer, the proposed new tariff structure will result in a 16 percent reduction in the average monthly bill over the 10 year period--thereby making telephone service more affordable to a wider population. At the same time, the new structure will allow for profitable operations for all companies. The key elements of the proposed new structure are:

- Installation charges will be lowered from US\$1,500 to US\$300 and US\$600 for residential and commercial services, respectively.^{4/} The lowering of the installation charge is expected to increase residential demand significantly.
- Monthly basic rental charges for existing customers will remain at the current level of US\$3.00 for residential and US\$10.00 for commercial--levels similar to the Latin American average. Rates for new customers will be increased--to US\$10.00 for residential and US\$39.00 for commercial--to reflect the depreciation of installation capital costs not recovered in the lowered installation charge.
- Free monthly usage is increased significantly--from 100 impulses to 300 impulses per month to be phased in over five years. This new level approaches average monthly usage and effectively converts the monthly basic charge to a flat-rate fee.

^{4/} Currently, Bolivian installation charges (which includes purchasing ownership in the local cooperative) are approximately 4 times higher than the Latin American average.

- Usage tariffs will be based on the cost to provide service, including operations, depreciation and a profit margin. As the current level allows for such, the existing usage tariffs--US\$0.016 per minute--will be maintained.
- A higher level of interconnections/access charges--between the cooperatives and ENTEL--will be implemented in 1995. This will increase the level of participation of the new regional carriers in long distance and international services, including outgoing and incoming traffic. Although the specific methodology for establishing interconnection charges is still being developed, it has been assumed that the new level will be higher than the current level.
- Under the new system, a "price cap" approach will be used by the regulatory entity to establish limits on rate increases. Such a mechanism will be designed to reflect price changes in the economy and targets for productivity improvements.^{5/}

Costs

10. To operate the local phone system in the future, the model assumes that the number of sectoral employees will increase from 1,685 in 1992 to 2,425 in 2001--average growth of about 4 percent per year. While sector employment is expected to grow, it has been assumed that the introduction of new technology will result in more efficient operations. As reflected by a decrease in the number of employees per 1000 access lines (from 9 employees per 1000 lines to 6 by the year 2001), a 33 percent efficiency gain is expected.

11. As a result of the change in the tariff and interconnection charges and efficiency gains, the profitability of the RSCs is expected to increase. It is projected that revenues per access line for the RSCs will increase from approximately US\$190 in 1992 to US\$600 in 2001. Although losses were experienced in 1992 and 1993, it is estimated that the RSCs will have an operating profit margin starting in 1995. The operating profit margin increases until 1997, and then declines steadily as levels of operations, maintenance and training costs increase in the attempt to reach international standards.

Revenues

12. The model assumes that the following revenues will accrue to the treasury:
- The value added tax of 13 percent and the transactions tax of 3 percent will be applied to sales of services.

^{5/} During the transition period--i.e., the first five years--tariffs will be adjusted semi-annually based on the consumer price index. The "price cap" mechanism, including the productivity factor, will be introduced after the transition period.

- The corporate income tax of 25 percent will be applied to profits of ENTEL. The regional cooperatives--presently exempt from the presumed income tax--will begin to pay the corporate income tax in 1995.
- Transfers from ENTEL to the treasury will be eliminated in 1995. Although amounting to between US\$16 million and US\$35 million in recent years, the amount transferred has been fairly arbitrarily set and not determined through economic criteria.

Other costs

13. The model also incorporates the one-time costs of implementing the reform--seniority/severance payments, and costs to strengthen the telecommunications secretariat and sectoral agencies. A summary of these costs is provided in Table 2.

Table 2: One-time Costs of Implementing Reform

- | |
|---|
| <ul style="list-style-type: none"> ● Seniority/Severance Payments: 1,846 people @ US\$10,679 in 1995 = US\$19.7 million ● Investment Bankers Fees: US\$2.7 million ● Institutional Strengthening Costs & Technical Assistance Needs: US\$5.3 million |
|---|

III. The Fiscal Impacts

Revenues

14. Compared to 1992, it is likely that revenues to the treasury will increase during 1994 because of a significant transfer from ENTEL to the treasury and increased value added tax collections. It is likely that fiscal revenues will decline during 1995 and 1996 as revenues collected from the corporate profits tax--which is imposed on all enterprises, including the cooperatives, for the first time in mid-1995--is less than the amount of the transfer^{6/}. Revenues increase in subsequent years because mainly due to increased collections in all taxes.

^{6/} Based on historical experience in tax collection in Bolivia and other countries, a collection ratio--for all taxes--of 60 percent has been assumed during 1994 and 1995. In 1996, it has been assumed that the collection ratio increases to 70 percent, and starting in 1997, annual efficiency improvements of 5 percent per year have been assumed until 100 percent efficiency is reached.

**Table 3: Estimated Gross Revenues to the Treasury
(in US\$ Million)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Value added Tax	3.3	4.0	5.4	9.6	11.9	14.5	16.6	20.0	23.9
Transactions Tax	2.1	3.9	4.8	6.0	6.9	8.0	8.9	9.9	11.1
Corporate Income Tax	1.2	2.9	7.2	8.7	10.0	11.6	10.0	9.9	9.8
Transfers	17.9	8.6							
Gross Revenues	24.5	19.4	17.5	24.3	28.8	34.0	35.4	39.8	44.8

Fiscal Impacts

15. The one-time costs associated with implementing the telecommunications sector reforms have been estimated at US\$27.7 million. For the purposes of these projections, it has been assumed that these costs will be incurred in 1994 and 1995. The net impact--i.e., gross revenues to the treasury less the one-time costs--is presented in Table 4.

**Table 4: Fiscal Impacts of Telecommunications Reform
(in US\$ Million)**

	1994	1995	1996
Gross Revenues	24.5	19.4	17.4
Short-term Costs of Reforms	3.1	23.8	2.1
Seniority/Severance Payments		19.7	
Transaction Costs/Fees	0.2	2.5	
Studies/Institutional Strengthening	1.6	1.6	2.1
External Debt Service incl. on-lending	7.5	7.3	6.9
Net Revenues	13.9	-7.1	8.4

IV. Sensitivity Analysis

16. Sensitivity analysis has focused on two areas: (a) the rate at which production expands; and (b) evaluating the possible impacts of imposing a "cash flow tax". In the first case, given the relatively elastic demand for telecommunication services, the model projects that if the rate of production expansion were 10 percent lower than the rate currently incorporated into the model, net revenues to the treasury would be about 8.5 percent lower. In the second case, it has been assumed that such a tax would be in lieu of the corporate income tax. The imposition of such a tax--applied to 25 percent of cash flow from operations less investment less transactions taxes--would result in decreased revenues to the treasury.

Annex E

The Fiscal Impacts of the Electricity Reform

I. Background

1. Sector Organization and Characteristics (see Box 1).

The *Secretaría Nacional de Energía e Hidrocarburos* is responsible for formulating policies and regulating the operations of the sector. More specifically, its responsibilities include: (a) authorizing the installation of new plants; (b) granting concessions to power companies; and (c) approving tariffs through the *Dirección Nacional de Electricidad* (DINE). The state-owned *Empresa Nacional de Electricidad* (ENDE) and the privately-owned *Corporación Boliviana de Electricidad* (COBEE) are the two largest power companies in the country. ENDE's operations include generation and transmission within the National Interconnected System (SIN). It supplies electricity to eight principal regional companies which distribute electricity in the departments of Tarija, Potosí, Oruro, Sucre, La Paz, Santa Cruz, Trinidad, and Cobija. It also supplies electricity directly to mines and factories in various

departments. COBEE's operations include power generation in the departments of La Paz and Oruro. It also distributes electricity in the city of La Paz and in the city of Oruro through its subsidiary *Empresa de Luz y Fuerza Eléctrica Oruro* (ELFEO). In addition to COBEE, other large utilities are: *Empresa de Luz y Fuerza Eléctrica Cochabamba, S.A.M.* (ELFECSAM); *Servicios Eléctricos Potosí, S.A.* (SEPSA); *Cooperativa Eléctrica Sucre*; and *Cooperativa Rural de Electrificación Ltd.* (CRE).

Box 1: Characteristics of the Electricity Sector	
<i>Sectoral Organization</i>	
<i>Generation</i>	
Installed capacity 633 MW Hydro: 58%; and Thermal: 42%	
• ENDE (national power company)	58%
• COBEE (private)	30%
• Others (COMIBOL, private & cooperatives)	12%
<i>Transmission</i>	ENDE and COBEE
<i>Distribution</i>	COBEE and regional companies
<i>Policy & Regulation</i>	
National Secretariat of Energy and Hydrocarbons to:	
• Administer national energy policies	
• Grant concessions	
• Regulate operation of companies	
• Approve wholesale ENDE distribution tariff rates	
COFER (<i>Corporación de Fomento Energetico Rural</i>) to:	
• Promote electricity services in rural areas	
• Develop non-conventional energy sources	
<i>Coverage of rural electrification</i>	
- Altiplano	less than 10% of households
- Valleys	20% of households
<i>Tariff Structure</i>	
• Industrial and commercial consumers subsidize household consumers (e.g., price paid by households in La Paz is 56% of average cost)	
<i>Tax Structure</i>	
• VAT	13%
• IT	2%
• IRPE (applied to ENDE only)	3%

Table 1: Electricity Sector Organization

Company	System	Activity	Ownership
ENDE	SIN	Generation/Transmission	State
COBEE	SIN	Generation/Transmission/Distribution.	Private
ELFEC	SIN	Distribution	Mixed
ELFEO	SIN	Distribution	Private
CRE	SIN	Distribution	Cooperative
CESA	SIN	Distribution	Mixed
SEPSA	SIN	Distribution	Mixed
SETAR	Isolated	Distribution	Mixed
COSERELEC	Isolated	Distribution	Cooperative

2. **Sector Development.** In 1993, the total electric capacity of the National Interconnected System was 590.3MW, distributed as shown on Table 2.

Table 2: Capacity of the National Interconnected System

	Hydro (MW)	%	Thermo (MW)	%	Total (MW)	%
ENDE	126.0	45	311.4	100	437.4	74
COBEE	142.2	51			142.2	24
Others	10.7	4			10.7	2
	278.9	100	311.4	100	590.3	100

3. In 1993, the total consumption of electricity was 2,300 GWh, distributed as follows: (a) the residential sector--45 percent; (b) mining and industry--33 percent; and (c) the commercial sector.

4. The Government has developed a National Plan of Electrification containing an investment plan for generation and transmission expansion both for the integrated system and rural electrification. It represents the least-cost option to satisfy the domestic demand for electricity, which is expected to grow at 7 percent per annum during the 1990s. To satisfy this demand growth, between 1995 and 2005, an increase of 600MW in generation capacity is necessary. This is estimated to require an additional US\$640 million in new investments.

5. The least-cost plan of investment in the SIN generation capacity includes the implementation of the projects shown on Table 3.

Table 3: Least Cost Expansion Path

Project	Year	Investment (in US\$ Million)	Capacity (in MW)	Proposed Assignment Under Reform*
1st Gas Turbino Sucre	1994	15.890	18.4	ENDE/capitalized
Central Rehabilitation (ELFEC + COMIBOL)	1994	16.200	12.0	COBEE
Expansion-ZONGO	1994	34.900	33.4	COBEE
HUAJI	1995	43.800	28.0	ENDE/capitalized
1st Gas Turbine-Carrasco	1995	30.801	40.0	New Company
2nd Gas Turbine-Carrasco	1996	21.154	40.0	New Company
3rd Gas Turbine-Carrasco	1997	21.154	40.0	New Company
MISICUNI 1st Stage	1998	104.340	80.0	New Company
MISICUNI 2nd Stage	2000	28.574	40.0	New Company
Calachaca	2001	83.119	60.0	COBEE
San José 1st Stage	2002	117.487	84.6	New Company
San José 2nd Stage	2003	10.949	42.3	New Company
Palillada	2004	113.841	80.0	COBEE
Total		642.209	598.7	
* See Section II.				

II. The Reform Program

6. The development of the power sector has been constrained by two fundamental problems: (a) poor legal and regulatory framework; and (b) limited incentives (including distorted tariffs) for investors to expand services and improve efficiency.

7. The Government's objective for the sector is to expand services. To achieve this goal and address broader sectoral issues, the reforms will: (a) promote competition through a new legal and regulatory framework; and (b) attract private capital to support sectoral development through the capitalization of ENDE. Thus, key elements of the reform process include:

- (a) **Passage of a new Electricity Law** and accompanying regulations to stimulate competition and private investment by: (i) removing barriers which impede open access to transmission and distribution; (ii) establishing a regulatory agency; (iii) ensuring that interconnection is available under non-discriminatory terms--common carrier; (iv) for utilities integrated into the National Interconnected System, requiring the separation of generation, transmission and distribution functions into different companies--i.e. prohibiting "vertical integration" but allowing them to have common shareholders with majority ownership in only one of them; and (v) introducing anti-trust provisions so that competition in the wholesale contract market is not undermined. The Government intends to present

the new Law to Congress in 1994 and expects to have it enacted through issuance of regulations soon thereafter. Regulations will include: (i) clear and specific rules for tariff setting; (ii) a methodology to regulate generation, transmission and distribution companies; and (iii) general conditions to monitor performance of concession contracts.

- (b) **Establishment of Regulatory Superintendency** with the authority to: (i) set and regulate tariffs, reflecting marginal cost for generation; average transmission cost for transmission; and price cap for distribution; (ii) grant and monitor concessions; and (iii) supervise safety and quality of services.
- (c) **Capitalization of ENDE and integration of its assets into the National Interconnected System** in a manner that fosters competition among private generation suppliers and ensures open access to the grid. ENDE's generation and transmission assets will be separated into different companies and capitalized separately. The resulting ENDE-Generation will be divided and capitalized into three generation companies so that new investment in the sector spurs efficient competition rather than the creation of a quasi-monopoly. The smaller systems of ENDE will be capitalized in line with existing legislation. The transfer of ENDE ownership to the private sector will require creating a load dispatch committee, which all generating companies that intend to be connected to the grid must join.
- (d) **Divestiture of Regional Distribution Systems:** The transfer of ownership of local distribution companies--ELFEC, SEPSA, CESSA and SETAR--to the private sector will be carried out according to strategies to be defined and implemented in 1994/1995. It has been decided that the shares of ELFEC will be floated through a major international stock exchange and the Bolivian stock exchange.
- (e) **Transition Period:** During the implementation phase, the Government will ensure that ENDE: (i) maintains the reliability and quality of its service; (ii) continues the implementation of ongoing investments; and (iii) takes all necessary steps required to adopt the new Law.

III. The Model

8. **Assumptions.** The model of economic/financial projections is based on the investment program of the National Plan of Electrification defined for the National Interconnected System.^{1/} The basic assumptions of the model are contained in Table 4.

^{1/} The institutional structure taken as the basis for the future development of the sector is within a framework defined in Bolivia Power Sector Reform Program (ESMAP), (World Bank Report, April 1993).

Table 4: Basic Assumptions of the Electricity Model

	Current Situation	Reform Scenario
Prices	Costs (Marginal cost of generation and transmission US\$41.00 and consumer prices are subsidized)	Generation: Long-run marginal costs (38.17US\$/MWh); Average price for transport of energy: US\$7.7; Marginal Cost of generation and transmission about US\$45--10% increase
Demand	Less than 7% per year	7% per year in <i>Sistema Integrado Nacional</i> --mainly La Paz, Oruro, Cochabamba and Santa Cruz, including mining areas (south and central)*
Supply	590.3 MW in 1992; Investment (public)	To satisfy demand growth: Supply 1,189 MW in 2004 Investment, mainly generation and transmission: US\$642 million (private) ^{1/}
Cost of production	See prices above	Cost base on least cost expansion path
Tax revenues	Direct transfers from ENDE to treasury VAT and IT Parts of sector exempt from IRPE	- VAT of 13% - IT of 3% - Corporate income tax of 25%
Industrial composition	Generation/Transmission: ENDE (S) Generation/Transmission/Distribution: COBEE (P) Distribution: ELFEC (M), ELFEO (P), CRE (C), CESSA (M), SEPSA (M) ^{2/}	Generation: 4 (3 Capitalized ENDEs and 1 COBEE) Transmission: 1 (Capitalized ENDE) Distribution: 5
^{1/} For the outer years (1998-2003), the model includes the output growth generated by exports to Peru, Chile and Brazil. ^{2/} Type of ownership provided in parentheses: (S)--State; (P)--Private; (M)--Mixed; and (C)--Cooperative.		

Generation Prices

9. The generation projects within the least-cost expansion plan were assigned to four generation companies. To determine the long-run marginal cost of generation, the following were taken into account:

- Investment costs were analyzed--starting with the first year of operation for each project--using the following parameters:

Cost of capital/discount rate = 12 percent per annum
 Period of useful life = 40 years for hydroelectric projects
 = 20 years for thermoelectric projects

- The unit costs of operation and maintenance estimated were:^{2/}

- Hydroelectric projects: 0.005 of investment cost
 - Thermoelectric projects: 0.015 of investment cost

^{2/} These figures are based on ENDE's experience.

- The cost of natural gas was estimated as actual market prices minus taxes of US\$1.0875 per thousand cubic feet.

10. Under these assumptions, the long-run marginal cost--equal to the tariff under the assumed marginal cost pricing--for generation is US\$38.17/MW.

Transmission Costs

11. It has been assumed that a single transmission company would operate the transmission system. This company will also be responsible for the construction, operation and maintenance of future extensions. The new company will begin operating in 1995. The transmission assets of ENDE are be transferred under the following conditions: (a) payment of an initial quota in the amount equivalent of 30 percent of net value; and (b) payment of the balance (70 percent) in 16 years with an annual interest rate of 8 percent.

12. To determine the annual net revenues of the transmission company, the following factors have been taken into account: (a) a revenue annuity based on the assets transferred from ENDE, with an annual yield of 12 percent and 16 years of remaining useful life; (b) revenue annuities based on new investments, with annual yields of 12 percent and useful life of 30 years, starting the first year the corresponding investment project is operating; and (c) annual maintenance and operation costs equal to 0.01 of the cost of the investment project.

13. The average energy transmission price was estimated as the ratio of annual revenues of the transmission company to total energy (GWh) transported. The resulting average price of energy transmission is US\$7.7/MW. This price includes an energy loss adjustment calculated as follows:

- 5 percent loss during transmission
- 10 percent loss during distribution

Distribution Prices

14. In addition to counting the distribution activities of COBEE in La Paz and in El Alto as two separate companies, five more distribution companies have been assumed. Thus, the following structure has been used:

Distribution Companies	Areas of Concession
COBEE-Distribution	La Paz, El Alto
ELFEC	Cochabamba
CRE	Santa Cruz
CESSA	Sucre
SEPSA	Potosí
ELFEO	Oruro

15. The projected information for distribution companies--sales of electricity, costs of operation, fixed assets, investment programs, debt service, etc.--was prepared in part by each company and estimated by ENDE in other cases. The electricity purchases by each distribution company are based on projected sales forecasted in the National Plan of Electrification.

16. The average sales tariff of each distribution company has been estimated so that it covers the following: (a) costs of purchasing electricity; (b) costs of operation, maintenance, administration, commercialization, etc.; (c) costs of depreciation; and (d) profits estimated assuming a 6 percent return on net fixed assets. The average cost of purchasing electricity has been estimated at US\$45.8/MW--this covers the US\$38.1/MW long-run marginal cost of generation and the US\$7.7/MW average cost of transmission--that is 10 percent higher than ENDE's existing tariff (US\$41 as of end-December 1993). The other elements of the average sales tariffs are company specific.

IV. The Fiscal Impacts

Revenues

17. Based on the above assumptions, financial statements were projected for each of the companies for a period of 11 years (1994-2004). Based on these projections, revenues to the treasury were estimated by applying the transaction and value added taxes to sales and a corporate income tax on profits.^{3/} In 1995, the model predicts gross revenues of approximately US\$16 million, of which 35 percent is generated from the transactions tax, 45 percent is generated by the value added tax and 20 percent is generated by the corporate income tax (see Table 5).

**Table 5: Estimated Gross Revenues to the Treasury
(in US\$ Million)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Transactions Tax	1.7	5.6	6.6	8.0	9.3	10.5	11.7	13.4	15.0
Value Added Tax	3.3	7.4	10.1	13.2	15.4	17.5	19.0	23.9	31.0
Corporate Income Tax	5.9	3.4	3.3	3.6	4.0	5.3	5.6	9.1	9.6
Gross Revenues	10.9	16.2	20.0	24.7	28.7	33.2	36.4	46.2	55.6
Of which: ENDE									
Transactions Tax	0.4	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.4
Value Added Tax	0.8	3.9	4.4	4.8	5.0	5.6	6.0	6.3	6.2
Corporate Income Tax	3.2	2.2	2.6	2.9	3.0	3.6	4.0	4.0	4.0
Total	4.4	7.0	8.0	8.8	9.2	10.4	11.3	11.7	11.6

^{3/} Based on historical experience in tax collection in Bolivia and other countries, a collection ratio--for all taxes--of 60 percent has been assumed during 1994 and 1995. In 1996, it has been assumed that the collection ratio increases to 70 percent, and starting in 1997, annual efficiency improvements of 5 percent per year have been assumed until 100 percent efficiency is reached.

Other Costs

18. The model also incorporates the one-time costs of implementing the reform--seniority/severance payments, costs to strengthen sectoral institutions and costs to establish a regulatory superintendency. These costs have been estimated at approximately US\$13.1 million and are summarized in Table 6.

Table 6: One-time Costs of Implementing Reform

•	Seniority/Severance Payments: 505 people @ US\$6,163 in 1995 = US\$3.1 million
•	Investment Bankers Fees: US\$7.5 million
•	Institutional Strengthening: US\$2.5 million

Fiscal Impacts

19. For the purposes of the projections, it has been assumed that the one-time costs would be incurred in 1994-1996. The net impact--i.e., gross revenues to the treasury less the one-time costs--is presented in Table 7.

**Table 7: Fiscal Impacts of Electricity Reform
(in US\$ Million)**

	1994	1995	1996
Gross Revenues	10.9	16.2	20.0
Short-term Costs of Reforms	2.5	9.1	1.5
Seniority/Severance Payments		3.1	
Transaction Costs/Fees	2.0	4.0	1.5
Studies/Institutional Strengthening	0.5	2.0	
External Debt Service, incl. on-lending	10.9	10.7	10.5
Net Revenues	-2.5	-3.6	8.0

V. Sensitivity Analysis

20. The model is quite sensitive to changes in tariffs at both transmission and distribution levels. On the basis of the least-cost expansion plan, the long-run marginal cost of transmission is in the order of US\$45/MW--i.e. 10 percent higher than ENDE's actual tariff

(US\$41/MW as of end-December 1992). Therefore, if the actual tariff remains, then revenues to the treasury will be lower. Furthermore, under the assumption that distributing companies have a minimum return of 6 percent on their net fixed assets, tariff increases varies from 20 percent to 100 percent. This results because: (a) the consumer tariff structures vary significantly between different cities; and (b) the book value of fixed assets may not capture market value. If, for example, distribution tariffs increase by only 20 percent across-the-board, then 3 companies would be operating at loss and would not continue operating in the medium term (4 to 5 years). This obviously will imply lower sectoral revenues and consequently lower fiscal revenues.

Annex F

The Fiscal Impacts of the Civil Service Reform^{1/}

I. Background

1. Over the last few years, the Government of Bolivia has been preparing a Civil Service Reform Program to rationalize and professionalize public service. Given the characteristics of public sector employment in mid-1994 (see Box 1), the Government has reformulated the program to incorporate a more comprehensive and longer term approach to reforming public service as part of a Government-wide institutional and administrative reform. This new approach includes: (a) a conceptual definition of the civil service; (b) human resource requirements in line with the new role of the state; (c) the normative and administrative frameworks for the reform program; (d) strategies and procedures to implement and manage the system in its two phases; and (e) an analysis of the fiscal implications of the reform. The main objective of the program is to improve the quality and efficiency of public sector personnel at all levels.

Box 1: Characteristics of the Existing Public Employment System	
<i>Total annual cost of public sector employees</i>	US\$730 million
<i>Number of public sector employees</i>	205,415
<i>Permanent</i>	197,343
<i>Permanent central public administration*</i>	155,078
* includes teachers, health care workers, and other central public administration employees	
Benefits	
• Christmas bonus	1 month salary (by law)
• Life and health insurance	
• Professional training	limited
• Transportation benefits	depending on position
• Seniority bonus	between 5% and 50% of minimum salary depending on years of service
• Frontier bonus	20% of basic monthly salary
• Incentive bonus	(in certain institutions)
• Family Benefits	(pregnancy, birth and lactation)
Personnel to be incorporated into the civil service program:	
<i>Currently financed by the treasury</i>	
• Number of people	7,327
• Total annual cost	US\$16.4 million
• Average salary	US\$172/month
<i>Currently financed by donors</i>	
• Number of people	1,180
• Total annual cost	US\$11.4 million
• Average salary	US\$802/month

2. A Civil Service Executing Unit (CSEU) was established in the National Secretariat of Finance to design and execute the program. CSEU's main areas of responsibility are to: (a) develop norms and procedures for hiring and establish terms of employment (performance evaluation procedures, salary scales, training programs and policies); (b) arrange for internal and external financial resources and set up administrative procedures; and (c) provide assistance to implementing agencies.

^{1/} This annex draws from preliminary information provided by the Civil Service Executing Unit.

3. The following table summarizes the structure of the public sector in mid-1994:

Table 1: Composition and Cost of the Public Sector

Sector	Number of Permanent Employees	Number of Non-Permanent Employees	Total	Personnel Expense (Bs Million)
Total Central Administration	155,078	1,197	156,275	2,155.1
Decentralized Institutions	8,813	2,451	11,264	183.5
Development Corporations	2,317	2,504	4,821	83.3
Department Prefectures	410	31	441	3.7
Social Security Institutions	8,761	492	9,253	211.2
Non-financial Public Enterprises	21,052	1,284	22,336	701.7
Non Banking Financial Institutions	170	71	241	13.9
Banking Financial Institutions	742	42	784	43.5
Total	197,343	8,072	205,415	3,396.1

II. The Reform Program

Institutions to be Included in the First Phase of the Reform Program

4. The civil service program will include Central Public Administrative staff in the following institutions:

- (a) All Ministries, except those dealing with national security and those with political responsibilities.
- (b) Eight decentralized institutions responsible for key analysis and/or priority programs.^{2/}

These institutions are responsible for the strategic management of the Government's activities, including implementing the structural adjustment program and the Government's social strategy. These institutions currently have 7,327 employees financed by the treasury and about 1,200 financed by international donors. Although there are a substantial number of teachers and health care workers associated with these institutions (on the order of 85,000), these groups will not be included in this civil service reform program.

^{2/} The National Institute of Statistics (INE); the General Customs Directorate (DGA); the General Internal Revenue Directorate (DGII); the Economic Policy Analysis Unit (UDAPE); the Social Policy Analysis Unit (UDAPSO); the National Exports Promotion Institute (INPEX); the National Road Service (SNC); the National Organization of Minors, Women and Family (ONAMFA).

Employment Statistics

5. An audit of the institutions to be covered in the first phase of the reform program found that the staffing and activities of the institutions are not consistent with their roles and that human resource administration policies are inadequate. The civil service program has established six occupational levels: (1) operational; (2) administrative; (3) technical; (4) professional; (5) executive; and (6) managerial.^{3/} This classification has been derived from the analysis of budget payrolls, a division between priority levels and support levels.

Employees Paid by the National Treasury

6. About 63 percent of the employees paid by the treasury are classified as support staff (i.e., operational, administrative and technical staff in levels 1-3), while about 37 percent are at the professional/managerial levels (Appendix 1, Tables 1.1-1.3). For these employees, the salary compression ratio^{4/} is low--about 3.3--and does not reflect the relative rank and level of responsibility. Analysis of the total wage bill associated with these employees indicates that about 51 percent is allocated to the support levels.

Consultants/Employees Paid by International donors

7. At the end of 1993, about 1,200 consultants paid by international donors functioned in line positions in institutions to be incorporated in the civil service program (Appendix 1, Tables 1.1-1.3). Of these consultants, about 74 percent are at support levels and the rest are at the professional/managerial levels. On average, salaries financed by international donors are about four times higher than salaries paid by the treasury. Moreover, the compression ratio for this group (11.2) is significantly higher than the ratio for personnel paid by the treasury. This ratio reflects more accurately the differences in responsibilities between level 6 and level 1 positions. About 47 percent of the total wage bill financed by international donors is allocated to the support levels.

III. The Model

8. **Methodology.** The following methodology was used for the projections:

- (a) The numbers (described above) are based on treasury payroll information for 1994 and a survey of consultants financed by international donors. To define the scope and number of people in the civil service program, a preliminary analysis was carried out for each institution with potential for the program.

^{3/} For the purpose of this analysis, levels 1-3 are considered as support levels and levels 4-6 are considered as professional/managerial levels.

^{4/} The compression ratio is defined as the average salary for level 6 divided by the average salary for level 1.

- (b) For the reformed structure, the post valuation system developed by the CSEU was used to estimate average salaries for each level (see Appendix 2). These average salaries and a skills ratio matrix were used to determine the total number of personnel, average salaries and total monthly wage bill in the new system.
- (c) The incorporation of treasury financed civil servants and consultants in line positions paid by donors into the civil service program will be done in two phases. The first phase (1994-1997, denoted as years 1-4) involves incorporating 1,100 civil servants at the professional, executive and managerial levels (i.e., levels 4-6). The second phase will incorporate 4,281 civil servants, primarily in the support level positions (i.e., levels 1-3). Given the current imbalance between support staff and professional/managerial staff, the program envisions a reduction of support level positions during the first phase of the program.
- (d) It is assumed that the treasury will fully finance the entire civil service program by the end of the 10-year implementation period. To achieve this objective, the required annual incremental treasury contributions were estimated.

9. **Assumptions.** The following table summarizes the basic assumptions of the model:

Table 2: Basic Assumptions of the Civil Service Model

	Current Situation		Reform Scenario
Personnel to be included the civil service program	Treasury	Donor	
• Number of employees	7,327	1,180	5,381
Distribution of personnel by level			
• (1) Operational	14.3%	30.0%	11.3%
• (2) Administrative	21.6%	22.2%	17.1%
• (3) Technical	27.4%	21.4%	21.6%
• (4) Professional	25.8%	13.0%	35.2%
• (5) Executive	6.4%	8.0%	8.7%
• (6) Managerial	4.5%	5.4%	6.1%
Average annual salary by level			
• (1) Operational	US\$1,245	US\$2,436	US\$3,731
• (2) Administrative	US\$1,516	US\$6,468	US\$5,722
• (3) Technical	US\$2,367	US\$10,908	US\$8,187
• (4) Professional	US\$2,637	US\$15,432	US\$11,771
• (5) Executive	US\$3,469	US\$20,460	US\$17,510
• (6) Managerial	US\$4,125	US\$27,300	US\$25,776
Salary increases	At projected inflation—0% real increases		Increase to civil service levels, 0% real increase thereafter

10. The number of central public administration employees, classified by level under the new structure are shown in Table 2. When the new civil service structure is completely

implemented, it is expected that 50 percent of the personnel will be at the support and 50 percent will be at the professional/managerial levels. Due to changes in required skill mix, there would be a net reduction of 3,126 employees (37 percent) with the implementation of the program. Most of the positions to be rationalized would be at the support levels.

11. Proposed salaries to be offered under the civil service program have been based on an evaluation of the relative importance of positions and the results of a salary survey.^{5/} For comparative purposes, the average, maximum, and minimum private sector salaries for similar levels are also presented (Appendix 1, Tables 1.4).

12. Bolivian law requires that public employees be given the following benefits:

- (a) a bonus based on length of services, ranging from 5 percent to 50 percent of minimum salary;
- (b) a bonus equivalent to 20 percent of the basic monthly salary for employees stationed in remote areas;
- (c) a "Christmas bonus" equivalent to one month's salary; and
- (d) family benefits for pregnancy, birth and lactation. Some institutions give their employees additional benefits or bonuses. For example, employees of the General Internal Revenue Directorate and the General Customs Directorate receive incentive bonuses when revenue collections are greater than originally programmed.

With the exception of the last, the costs of these benefits has been included in this analysis.

Costs of Reform

13. The model assumes that the civil service reform program will be implemented in ten years.

14. **Personnel.** The program will incorporate mainly professional, executive and managerial levels in the first five years. In parallel, a rationalization of approximately 2,000 personnel at the support levels is expected. Starting only in the sixth year of the program, support level personnel will be incorporated, complemented by continued rationalizations at all levels (see Appendix 1, Tables 1.5).

^{5/} For more details see the following: (a) Valuation of Posts and the Remuneration Structure for the Civil Service Personnel, (Ministry of Finance, Civil Service Program, June 1993, La Paz, Bolivia) which is summarized in Appendix 2; and (b) Salary Survey through April 30, 1993, (Price Waterhouse, La Paz, Bolivia). The salary survey included 101 private companies located mainly in La Paz, Cochabamba and Santa Cruz. The sectors analyzed included: industry, commerce, financial services, non profit organizations and others. The salaries obtained include the basic wage, the length of service bonus, premiums, family subsidies and others; however do not include profit sharing or special bonuses that some top level executives may receive. The survey includes direction personnel (General Managers, Section Managers, Chiefs of Departments, etc.), professionals (Auditors, Accountants, Financial Analysts, etc.) and support personnel (Secretaries, Salesmen, Receptionists, etc.).

15. **Costs.** The estimated cost of maintaining the current staff of 8,507 employees without the civil service reform has been estimated to increase from US\$28.2 million to US\$31.5 million over ten years as shown in Table 3. Although implementation of the reform program would reduce the number of employees, total personnel costs would rise to US\$74.0 million over the same period because of the increased salary levels (See Table 3 and Appendix 1, Tables 1.6). It has been assumed that the Government will fully finance the program by the tenth year.

**Table 3: Costs of the Civil Service Program
(in US\$ Million)**

	Total Cost		Incremental Cost	Financing	
Year	Maintaining Current System	Civil Service Program	Civil Service Program	Government	Donor
1	28.2	30.0	1.8	17.8	12.2
2	28.6	33.8	5.2	19.1	14.7
3	28.9	37.0	8.1	20.4	16.6
4	29.3	40.4	11.1	21.6	18.8
5	29.6	45.7	16.1	25.0	20.7
6	30.0	50.6	20.6	32.0	18.6
7	30.4	56.0	25.6	40.0	16.0
8	30.7	61.7	31.0	50.0	11.7
9	31.1	67.8	36.7	62.0	5.8
10	31.5	74.0	42.5	74.0	0.0

IV. Conclusions

16. This analysis can be summarized as follows:

- (a) As of mid-1994, the institutions to be included in the civil service reform program had 7,327 employees financed by the treasury with an annual wage bill of US\$16.48 million. International donors financed an additional 1,180 employees in these institutions at an annual cost of US\$11.4 million. In general, these institutions have inadequate staffing structures reflected by disproportionate assignments of employees in the different occupational categories--about 65 percent of employees are in support level positions. Salary scales within this group of employees are also distorted. Personnel financed by the treasury receive an average monthly salary of US\$190, while personnel financed by international donors receive an average salary of US\$800.
- (b) By applying a "ratios-mix" matrix, it has been estimated that the agencies to be covered by the reform program are over-staffed. The majority of the over-staffing occurs at the support levels.

- (c) The post valuation system developed by the CSEU results in salary levels that are in line with the average salaries paid by the private sector.
- (d) At the end of implementing the first phase of the program (i.e., at the end of the fourth year), the aggregate wage bill for the institutions in the civil service program has been estimated at US\$40.4 million with the implementation of the reform programs, compared to US\$29.3 million without implementation of the reform program--a cost differential of US\$11.1 million. Upon implementation of the entire program (i.e., at the end of the tenth year), the corresponding cost estimates are US\$74.0 million (with reform) and US\$31.5 million (without reform).
- (e) During the first phase of the program (i.e., the first four years), the cumulative incremental cost of the program has been estimated at US\$26.7 million. During the ten year implementation period, the cumulative incremental cost of implementing the civil service program has been estimated at about US\$200 million.

Basic Data on Employees to be Included in the Civil Service Program: mid-1994

Table 1.1: Number of Employees

Financing Source	L1	L2	L3	L4	L5	L6	Total	%
Treasury	1,046	1,583	2,004	1,894	470	330	7,327	86.1
Donors	354	262	252	154	94	64	1,180	13.9
Total	1,400	1,845	2,256	2,048	564	394	8,507	
%	16.5	21.7	26.5	24.1	6.6	4.6	100.0	

**Table 1.2: Average Annual Salaries
(US\$)**

Financing Source	L1	L2	L3	L4	L5	L6	Weighted Average
Treasury	1,245	1,516	2,367	2,637	3,469	4,125	2,243
Donors	2,436	6,468	10,908	15,432	20,460	27,300	9,621
Weighted Average	1,546	2,219	3,321	3,599	6,301	7,899	3,266

**Table 1.3: Wage Bill
(in US\$ Million)**

Financing Source	L1	L2	L3	L4	L5	L6	Total (*)	%
Treasury	1.3	2.4	4.7	5.0	1.6	1.4	16.4	59.1
Donors	0.9	1.7	2.7	2.4	1.9	1.7	11.4	40.9
Total (*)	2.2	4.1	7.5	7.4	3.6	3.1	27.8	
%	7.9	14.7	27.0	26.6	12.9	11.1	100.0	

(*) Figures may not add due to rounding.

**Tables 1.4: Salary Levels
(US\$/month)**

Assumed Salaries by Level under the Civil Service Reform									
Level	Description			Average		Minimum		Maximum	
	Years Exp.	Educational Background	Posts	Direct Support	Indirect Support	Direct Support	Indirect Support	Direct Support	Indirect Support
L1	2.5	H.S. Grad. Pre. Tech.	Receptionist, Chauffeur, Messenger	303.2	275.66	224	204	606	551
L2	2.5	Tech. Sup. Tech	Secretary Assistant	466.5	424.1	345	314	934	849
L3	2.5	B.S. Grad.	Chief Section Equiv. Prof.	639.8	581.6	530	482	1,155	1,050
L4	3	B.S. Grad. Spec.	Chief Division Equiv. Prof.	911.8	835.8	741	674	1,562	1,432
L5	4	Spec. Post Grad.	Chief Dept. Equiv. Prof.	1,371.8	1,257.4	1,003	919	1,935	1,774
L6	5	Post Grad. Master	Director	1,999.4	1,832.8	1,773	1,625	2,398	2,198

Average Private Sector Salaries by Level				
Level	Post	Average Salary	Minimum Salary	Maximum Salary
L1	Secretary Receptionist	336	114	1,115
L2	Bilingual Secretary	531	153	1,537
L3	Loans Official, Accountant	688	333	1,388
L4	Chief of Area	946	307	2,929
L5	Int. Auditor, Ext. Commerce Chief, Operat. Chief	1,295	285	3,146
L6	General Manager, Area Manager	2,104	560	9,209

Tables 1.5: Balance of Employees in Present and New Systems

Annual Balance of Employees in the Present System (*)							
Year	L1	L2	L3	L4	L5	L6	Total
0	1,400	1,845	2,256	2,048	564	394	8,507
1	1,312	1,712	2,088	1,958	454	324	7,848
2	1,224	1,579	1,920	1,868	334	244	7,169
3	1,136	1,446	1,752	1,778	214	184	6,510
4	1,048	1,313	1,583	1,688	94	124	5,850
5	961	1,180	1,414	1,238	78	64	4,935
6	768	944	1,128	989	63	48	3,940
7	576	708	846	742	48	36	2,956
8	384	472	564	495	33	24	1,972
9	192	236	282	248	18	12	988
10	0	0	0	0	0	0	0

Annual Balance of Employees in the Civil Service System (*)							
Year	L1	L2	L3	L4	L5	L6	Total
0	0	0	0	0	0	0	0
1	0	0	0	90	110	70	270
2	0	0	0	180	230	150	560
3	0	0	0	270	350	210	830
4	0	0	0	360	470	270	1,100
5	0	0	0	810	470	330	1,610
6	122	183	233	1,027	470	330	2,365
7	244	366	466	1,243	470	330	3,119
8	365	550	698	1,460	470	330	3,873
9	486	734	930	1,677	470	330	4,627
10	607	918	1,162	1,894	470	330	5,381

Annual Balance of Total Personnel in both Systems(*)							
Year	L1	L2	L3	L4	L5	L6	Total
0	1,440	1,845	2,256	2,048	564	394	8,507
1	1,312	1,712	2,088	2,048	564	394	8,118
2	1,224	1,579	1,920	2,048	564	394	7,729
3	1,136	1,446	1,752	2,048	564	394	7,340
4	1,048	1,313	1,583	2,048	564	394	6,950
5	961	1,180	1,414	2,048	548	394	6,545
6	890	1,127	1,361	2,016	533	378	6,305
7	820	1,074	1,312	1,985	518	366	6,075
8	749	1,022	1,262	1,955	503	354	5,845
9	678	970	1,212	1,925	488	342	5,615
10	607	918	1,162	1,894	470	330	5,381

(*) Balance at the end of the year

**Tables 1.6: Annual Cost of Present and New Systems
(in US\$ Million)**

Annual Balance of the Wage Bill in the Present System							
Year	L1	L2	L3	L4	L5	L6	Total (*)
0	2.2	4.1	7.5	7.4	3.6	3.1	27.8
1	2.1	3.9	7.1	7.2	2.9	2.6	25.8
2	2.0	3.6	6.7	7.0	2.2	2.0	23.5
3	1.9	3.4	6.2	6.9	1.4	1.5	21.3
4	1.8	3.2	5.7	6.7	0.6	1.0	19.0
5	1.6	2.9	5.2	5.0	0.5	0.5	15.8
6	1.3	2.4	4.2	4.1	0.4	0.4	12.8
7	1.0	1.8	3.2	3.1	0.3	0.3	9.8
8	0.7	1.2	2.2	2.1	0.2	0.2	6.7
9	0.4	0.6	1.1	1.1	0.1	0.1	3.4
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Annual Balance of the Wage Bill in the Civil Service System							
Year	L1	L2	L3	L4	L5	L6	Total (*)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	1.1	1.9	1.8	4.8
2	0.0	0.0	0.0	2.2	4.2	4.0	10.4
3	0.0	0.0	0.0	3.4	6.5	5.8	15.7
4	0.0	0.0	0.0	4.7	9.1	7.7	21.5
5	0.0	0.0	0.0	10.9	9.4	9.7	29.9
6	0.5	1.2	2.2	14.2	9.6	10.0	37.8
7	1.1	2.5	4.6	17.7	9.9	10.3	46.2
8	1.7	3.9	7.1	21.4	10.2	10.6	55.0
9	2.3	5.4	9.8	25.3	10.6	10.9	64.3
10	3.0	6.9	12.6	29.4	10.9	11.2	74.0

Annual Balance of the Wage Bill in Both Systems							
Year	L1	L2	L3	L4	L5	L6	Total (*)
0	2.2	4.1	7.5	7.4	3.6	3.1	27.8
1	2.1	3.9	7.1	8.3	4.8	4.4	30.5
2	2.0	3.6	6.6	9.2	6.3	6.0	33.8
3	1.9	3.4	6.2	10.2	8.0	7.3	37.0
4	1.8	3.1	5.7	11.3	9.7	8.7	40.4
5	1.6	2.9	5.2	15.8	9.9	10.2	45.7
6	1.9	3.6	6.5	18.2	10.1	10.4	50.6
7	2.1	4.3	7.9	20.8	10.3	10.6	56.0
8	2.4	5.1	9.3	23.5	10.5	10.8	61.7
9	2.7	6.0	10.9	26.4	10.7	11.0	67.8
10	3.0	6.9	12.6	29.4	10.9	11.2	74.0

(*) Figures may not add due to rounding.

Appendix 2

Post Evaluation System

1. The post valuation system^{1/} was developed to evaluate the relative importance of a post within an institution. To determine the value of a post under this system, the following six criteria were considered:

- (a) **Structural or organizational level.** This criteria is used to value the relative position of a post within the institution. Four levels are considered: Level I or Direction (Directors of ministries or decentralized institutions), Level II or Intermediate (Chiefs of Departments or Divisions, Regional Directors, top level professionals), Level III or Operational (professionals that support Department or Division Chiefs) and Level IV or Administrative/Support (Secretaries, Messengers, Chauffeurs, Assistants, etc.).
- (b) **Scope of the decisions.** This criteria is used to value the scope of the type of decisions made in the institution where the post is located. All the institutions have been classified into three groups: (1) Multi-sectorial; (2) Sectorial; and (3) Departmental.
- (c) **Educational Background.** Under this criteria, the educational background required for the post is valued. Nine levels of education are considered for this purpose: Basic, High School Graduate, Pre-Technician, Technician, Superior Technician, B.S. Graduate, Specialized, Post-Graduate and Masters.
- (d) **Experience.** Under this criteria, the minimum years of experience required for the four organizational levels are valued as follows:

Level	Experience
Direction	5 years
Intermediate	3 years
Operational	2 years
Administrative/Support	2-3 years

^{1/} For more information see Valuation of Posts, Remuneration Structure for the Civil Service Personnel, Ministry of Finance, Civil Service Program, June 1993, La Paz, Bolivia.

Appendix 2

- (e) **Support to the Objectives of the Institution.** Under this criteria, posts are valued according to whether their functions directly or indirectly support the main objective of the institution. Posts are deemed as direct support if the position contributes directly to the attainment of the main objectives of the institution. Posts are deemed as indirect support if the post only indirectly supports the main objective of the institution.
- (f) **Responsibility over personnel.** Posts that have responsibility over personnel are valued higher than those who do not.

2. Using these six criteria, Table 1 was developed to value each post.

**Table 1: Valuation of Posts
(Structural Level Vs. Educational Background)**

	Experience (Years)	Basic	High School Graduate	Pre- Technician	Technician	Superior Technician	B.S Graduate	Specialized	Post Graduate	Master
Multi- Sectorial	5	2.40	2.97	3.67	4.56	5.66	7.00	8.68	10.75	13.32
	3	1.68	2.08	2.57	3.19	3.96	4.90	6.08	7.52	9.32
	2	1.20	1.48	1.83	2.28	2.83	3.50	4.34	5.37	6.66
Sectorial	5	2.20	2.72	3.36	4.18	5.19	6.42	7.96	9.85	12.21
	3	1.54	1.91	2.35	2.92	3.63	4.49	5.57	6.89	8.54
	2	1.10	1.36	1.68	2.09	2.59	3.21	3.98	4.93	6.10

Direct Support to the Objective: Increases by 10%
Responsibility over Personnel: Increases by 10%
Unity value of Point: US\$150
Minimum Salary: US\$165
Expansion Factor: 1:15

3. In order to obtain an average salary scale, a typical post profile was used for each one of the seven organizational levels, differentiating between those posts that provide direct and indirect support to the mission.

Annex G

The Fiscal Impacts of the Pension Reform^{1/}

I. The Reform Program

1. Given the characteristics of the current pension system, the Government is embarking on a major reform (see Box 1). The Pension Reform is intended to: (a) establish a defined contribution system; (b) restructure the current pay-as-you-go system to improve services for those workers who choose to remain in this system; and (c) expand participation in the pension system.

2. The new system will be based on: (a) defined contributions placed in individual accounts for those contributors who voluntarily switch from the pay-as-you-go system and for all new entrants to the work force^{2/}; (b) private administration of the contributions; (c) competition among the private fund administrators to attract additional contributors; and (d) limiting the role of the Government to establishing norms, supervising the system and providing limited guarantees to contributors. Except for an administrative fee, each individual's contribution would be placed in his/her own account. Returns from investing the contributors' funds would be credited to the corresponding account. At retirement, the cumulative amount in each individual account would be used to purchase an annuity that would provide the participant with monthly pension payments.

Box 1: Characteristics of the Pension System^{1/}

Providers: Public (FOPEBA), and Private (32 Complementary Funds).
Superintendency: National Institute for Pension Insurance (INASEP) for FOPEBA, the complementary funds and the integrated institutions.

Contribution rates (% of gross salary)

Basic Fund (FOPEBA)—Mandatory Contribution

- Employer public sector 6.0%
- Employer private sector 4.5%
- Employee 2.5%

Complementary Funds

- Employee rates range from 3.5% to 12%. Employers' rate is 1%. The government contributes 1% of gross salaries.

Retirement age 55 for men and 50 for women.

Overall Average retirement benefit US\$103/month.

Replacement rate: 70% of last salary (for those who contributed for 15 years). 100% of last salary (for those who contributed for 25 years or more).

Average survivor benefit US\$35/month

Current coverage less than 15% of the total labor force.

^{1/}Reflects recent changes established by Supreme Decree #23716, January 1994.

^{1/} The current pension system has already accrued costs given that it does not have the adequate reserves to meet its pension obligations. Obviously, this accrued fiscal cost has not been accounted for in the Government fiscal financial program. The pension reform will recognize the fiscal costs already accrued and identify sources of financing.

^{2/} The Government is considering the possibility of only allowing workers below the age of 50 to transfer into the new system.

3. The pension contributions will be administered by private entities called *Administradoras de Fondos de Pensiones (AFPs)* which will compete to attract contributors. This competition will be in the form of administrative fees, services and returns on the contributors' savings. The Government's role under the new system will be limited to establishing the rules and regulations, supervising the system and providing limited guaranties to the contributors. The Government supervision is to be performed through a Superintendency of AFPs which would establish rules to be followed by the AFPs in administering pension contributions.

4. The fiscal cost of the reform is primarily from two sources: (a) as contributors switch from the pay-as-you-go system to the defined contribution system, the revenues of the former system diminish, but payments to those already retired are still incurred; and (b) Government compensation to those contributors that switch to the new system for contributions already made into the pay-as-you-go system. This compensation would be in the form of a lump sum payment at the time of retirement--i.e. a recognition bonus (RB) (see paragraph 12). On the other hand, the reform will also result in fiscal savings as the pay-as-you-go system is currently running a deficit which is increasing at an increasing rate.^{3/}

II. The Model^{4/}

5. To analyze the fiscal impact of the reform, a model was developed by the *Unidad de Análisis de Políticas Económicas (UDAPE)* in coordination with the technical team for the pension reform. The model estimates the costs of the pension system both "with reform" and "without reform". Cash flows are projected for the *Fondo de Pensiones Básico (FOPEBA)* and the *Fondos Complementarios (FCs)* over the period 1993-2020. Two basic scenarios were run: (a) a no-reform case which projects the present system; and (b) a reform case in which affiliates who transfer to the new system receive a RB--representing a lump sum payment to be cashed upon retirement--as compensation for contributions to the present system^{5/}. In addition, sensitivity analysis was performed on the basic assumptions of the RB.

6. **Assumptions.** The macro assumptions of the pension model--GDP growth, inflation, exchange rate, etc.--are identical to those of the RMSM-X and other sectoral models. The variables in the model are projected in US dollars and all variables denominated in local

^{3/} For a complete description of the current administrative and financial situation of the pay-as-you-go system, as well as the proposed reform see: *La Seguridad Social a Largo Plazo: Diagnóstico y una Alternativa de Solución* by Centro de Investigaciones para la Seguridad Social (April, 1993).

^{4/} For a full description of the model see *La Reforma de la Seguridad Social, Impacto Fiscal y Financiero* by UDAPE (June, 1993).

^{5/} The Government is considering providing the RB only as compensation for contributions made to FOPEBA and not for contributions made to the FCs which are considered to be private.

currency are converted to US dollars using the average exchange rate. Table 1 contains the major assumptions of the model, with the most important variables explained in more detail below.

Table 1: Basic Assumptions of the Pension Model

	1995	2000	2005	2010	2015	2020
Real wage growth (%)	0.0	0.0	1.1	1.1	1.2	1.3
Real interest rate RBs	1.0	1.0	1.0	1.0	1.0	1.0
Int. rate for soft donor finc. (%)	0.7	0.7	0.7	0.7	0.7	0.7
Int. rate for regular donor fin. (%)	7.5	7.5	7.5	7.5	7.5	7.5
Max. Gov. finance from AFPs (%)	45.0	45.0	45.0	45.0	45.0	45.0
Retirees death rate before 1992 (%)	5.0	5.0	5.0	5.0	5.0	5.0
Disability rate (%) ^{1/}	0.5	0.5	0.5	0.5	0.5	0.5
Inflation adj. for pensions (%)	90.0	90.0	90.0	90.0	90.0	90.0
Contributor growth rate w/out reform						
Public sector (%)	1.0	0.9	0.9	0.8	0.8	0.8
Private sector (%)	0.5	0.3	-0.3	-0.8	-1.0	-1.5
Contributor growth rate w/reform						
Public sector (%)	1.0	0.9	0.9	0.8	0.8	0.8
Private sector (%)	30.0	6.0	5.0	4.3	3.8	3.3
Average FCs' contribution rate (%) ^{2/}	6.3	6.3	6.3	6.3	6.3	6.3
FOPEBA's contribution rate (%) ^{2/}						
Employer public sector (%)	6.0	6.0	6.0	6.0	6.0	6.0
Employer private sector (%)	4.5	4.5	4.5	4.5	4.5	4.5
Employee (%)	2.5	2.5	2.5	2.5	2.5	2.5
Contribution rate new system (%)	11.0	11.0	11.0	11.0	11.0	11.0
Administration fee new system (%)	2.0	2.0	2.0	2.0	2.0	2.0
Replacement rate (%) ^{2/}	70.0	70.0	70.0	70.0	70.0	70.0
Salary adjustment for new system (%)	85.0	85.0	85.0	85.0	85.0	85.0
Salary adjustment for old system (%)	115.0	115.0	115.0	115.0	115.0	115.0
1/ Before and after the reform						
2/ Prior to the reform						

The No-Reform Case

7. Real wages in the public and private sectors are assumed to remain constant for the first ten years of the projection period. The rate increases to 1.1 percent by 2005; 1.2 percent by 2015 and continues increasing by about 0.1 percent every five years. The number of public sector contributors is assumed to grow at 1 percent per year for the first five years of the projection period. The rate of increase declines slowly thereafter, reflecting the slower growth in public sector employment. On the other hand, the rate of growth of private sector contributors is assumed to continue a downward trend over the next 10 years and become negative thereafter. This means that the number of contributors from the private sector will eventually start to decline as benefits diminish in real terms and private sector employees continue to evade the system. Wages of new affiliates are assumed to be 20 percent below the

average wage rate. The contribution rates are assumed to remain at their current levels.^{6/} Total contributions for each of the FCs and FOPEBA are calculated by multiplying the contribution rates by the corresponding average wage rate by the number of affiliates per age distribution.

8. In every year, the total pension amount to be paid by the FCs and FOPEBA is obtained by multiplying a replacement rate by the average wage rate by the number of retirees. The replacement rate is assumed to remain constant at 70 percent. The flow of retirees has been projected using a demographic table prepared by INE showing the population divided into five age groups by gender and also by assuming that the current legal retirement ages (55 for men and 50 for women) are not modified. An adjustment has been made incorporating a retiree mortality rate of 5 percent per year. The model also assumes that affiliates become disabled at a rate of 0.46 percent per year. Finally, payments to retirees are assumed to be 20 percent higher than the average public wage and it is assumed that the current policy for adjusting pensions--at a rate equivalent to 90 percent of the adjustment to the public sector work force wage rate--will not be modified throughout the projection period.

9. The model also assumes that the FCs continue to contribute 1 percent of total contributions to the *Instituto Nacional de Seguros de Pensiones*. All other operating and administrative expenditures for FOPEBA and the FCs are assumed to remain constant in terms of the fixed cost per affiliate. It is assumed that 40 percent of the retirement benefits are paid by the FCs and 60 percent by FOPEBA.

The Reform Scenario

10. Under the reform, affiliates below the age of 50 in the pay-as-you-go system are allowed to transfer to the new system on a voluntary basis. This transfer of affiliates to the new system is assumed to take place over a five year period with different transfer rates per age group. For example, it has been assumed that 90 percent of the contributors in the current system between the ages of 20 and 25 would switch to the new system. It also has been assumed that nobody over 45 will transfer. It has also been assumed that affiliates that remain in the pay-as-you-go system have a wage rate 15 percent higher than the average wage rate because they are probably more senior. The number of affiliates that remain in the pay-as-you-go system has been calculated as the number of contributors estimated under the no reform scenario minus the number of affiliates estimated to transfer to the new system. All new entrants to the work force are assumed to automatically enter the new system, and therefore, must make mandatory contributions to the individual capitalized account. The assumed transfers per age group per year are presented in Table 2.

^{6/} Current contribution rates to FOPEBA are 8.5 percent of salaries for public sector employees (6 percent paid by the Government and 2.5 percent by the employee) and 7 percent for private sector employees (4.5 percent paid by the employer and 2.5 percent paid by the employee). For the FCs, the rates range from 4.5 percent of salaries to 15.5 percent. In all cases, the employer pays at least 1 percent and the difference is paid by the employee.

Table 2: Transfers to the New System

Age Groups	Percent of Work Force	Transfers (Percent of Total Individuals in the Age Group)					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
20 - 25	8.5	15	20	25	15	15	90
25 - 30	16.1	15	20	20	15	10	80
30 - 35	18.5	10	20	20	15	10	75
35 - 40	18.8	5	15	20	15	10	65
40 - 45	13.9	5	15	15	10	10	55
45 - 50	10.1	0	0	0	0	0	0
50 - 55	6.4	0	0	0	0	0	0
55 - 60	4.6	0	0	0	0	0	0
60 - 65	3.2	0	0	0	0	0	0

11. The retirement age in the reform case scenario has been increased to 65 years for both men and women. It has also been assumed that pension benefits for those already retired will continue to be paid through the old system. The wage rate for affiliates that transfer is assumed to be 15 percent lower than the average wage rate. Contributions and pensions for the FCs and FOPEBA, as well as other expenditures, are estimated as in the no reform case for all affiliates that remain in and retire from the old system.

12. The reform scenario assumes that the Government will provide compensation in the form of the RB to affiliates that transfer to the new system for contributions made to the pay-as-you-go system. The principal for the RB has been estimated as the product of the following: (a) the contribution rate for FOPEBA (8.5%); (b) an adjusted minimum wage (the adjustment factor ranges between 2.8 and 3.5 depending on the age of the affiliate); (c) the number of years that the affiliate has contributed to the pay-as-you-go system; and (d) a premium of 1.2. The premium is included to provide some incentive for affiliates to transfer by partially compensating for contributions made to the FCs. It is anticipated that with this premium, the replacement rate will increase to an average of 55%. The minimum wage is assumed to remain constant in real terms over the period and the RB accrues at a 1% real interest rate starting in 1995 until the time of retirement. The total value of the recognition bonds has been estimated as the product of the number of affiliates that transfer into the new system and the value of the RB corresponding to each individual.

III. The Fiscal Impact

13. The results of the model suggest that the pension reform program will have different fiscal implications in the short, medium and long terms. In the short term,

implementation of the reform implies increased fiscal costs--i.e., Government outlays under the reform scenario are greater than under the no reform scenario. This is in large part because the transfer of affiliates from the old to the new system decreases the revenues of FOPEBA and the FCs from 1.7 percent of GDP in 1992 to 0.6 percent in 2000. However, the increase in the retirement age under the reform scenario, diminishes pension outlays in the short run. Nevertheless, this decrease in outlays does not offset the decrease in revenues of the pay-as-you-go system. As a consequence, the reform has greater fiscal costs than the no reform case until the year 2005. Table 3 presents the results of the fiscal projections.

**Table 3: Fiscal Impact
(as a percent of GDP)**

	1995	2000	2005	2010	2015	2020
Reform Case						
Deficit of FOPEBA	0.5	0.7	0.5	0.4	0.3	0.3
Deficit of FCs	0.1	0.4	0.3	0.2	0.2	0.1
Total Deficit with Reform	0.6	1.1	0.8	0.6	0.5	0.4
No Reform Case						
Deficit of FOPEBA	0.5	0.5	0.5	0.6	0.7	0.7
Deficit of FCs	0.1	0.3	0.3	0.4	0.5	0.5
Total Deficit without Reform	0.6	0.8	0.8	1.0	1.2	1.2
Net Impact of the Reform						
FOPEBA	0.0	0.2	0.0	-0.2	-0.4	-0.4
FCs	0.0	0.1	0.0	-0.2	-0.3	-0.4
Total	0.0	0.3	0.0	-0.4	-0.7	-0.8
Source: UDAPE, Secretaría Nacional de Pensiones						

14. Although the fiscal costs under the reform scenario decrease from 1.1 percent of GDP in 2000 to 0.4 percent of GDP in 2004. Furthermore, they are lower than the no reform scenario starting in 2005. Without reform, it is likely that the costs would continue increasing after 2005 due to the increase in the average replacement rate for the affiliates of the pay-as-you-go system. The average replacement rate increases because current retirees have a very low replacement rate (due to the hyperinflation of the mid-eighties) whereas the replacement rate is assumed to be constant (at 70 percent of the last salary) for new retirees.

Other Costs

15. In addition to the above mentioned fiscal impacts, there are one-time costs associated with implementing the pension reform. These costs--estimated at a total of US\$8.5 million--will be incurred in 1994-1996. These represent expenses for institutional strengthening and setting up the distribution system--i.e., a computerized registry system.

IV. Sensitivity Analysis

16. Sensitivity analysis was performed on estimating the cost of the RB using: (a) 3.7 times the minimum salary (instead of 3.8 times under the base case) to calculate the principal; and (b) 3.5 times the minimum salary to calculate the principal and a 2 percent (instead of 1 percent under the base case) real interest rate. The model is not very sensitive to these changes. Only in the second case, the deficit (as a percent of GDP) increases slightly (.01 percent) at the end of the projection period (2020).

V. Weaknesses of the Model

17. The model is flexible and useful as a decision-making tool in the design of the pension reform program. However, the model does have some weaknesses. For example, it does not include the potential fiscal impacts of guaranteeing a minimum pension benefit (equivalent to the minimum wage) as proposed under the draft pension reform law. The draft legislation states that if an affiliate complies with all requirements but does not accumulate a sufficient amount in his/her individualized account to purchase an annuity payment (equivalent to the minimum wage), the Government will contribute the difference to his/her individualized account. The fiscal impact of this proposal is not likely to be large given: (a) the relatively small coverage of the pension system; and (b) the fact that the current system is made up mostly of public sector employees (about 70 percent of the affiliates) which earn an income greater than the minimum wage. However, given that the Government has decided to use the pension system as a vehicle to distribute the shares of the public companies being capitalized to the Bolivian citizens, the potential impact of the guarantee may be larger.

18. In addition, the model does not take into account the possible economic impacts of channeling the contributions towards private investment instead of using contributions to pay current expenditures--pensions and administrative--as is the case currently. Finally, the potential impacts that the reform may have towards developing capital markets have not been taken into account.

VI. Conclusions

19. The model developed to estimate the fiscal impacts of the pension reform proposed by the Government covers the period 1995 to 2020. In the short-run, the results of the model suggest that the fiscal impacts of implementing the reform are greater than the fiscal impacts of not implementing the reform. However, in the long-run (i.e., starting in 2005), the Government would incur greater fiscal costs if the reform is not implemented. Under the reform scenario, the fiscal impact decreases (as a percent of GDP) starting in the year 2000. Under the

no reform case, the fiscal impact (as a percent of GDP) continues to increase over time. The model is not very sensitive to small changes in the characteristics of the RB. However, the model does not take into account the potential fiscal impacts of guaranteed minimum pension benefits.

Annex H

The Education Reform Program

I. Background

1. The Bolivian education system currently provides inadequate coverage and low-quality education (see Box 1). This poor performance is the result of: (a) insufficient allocation of resources to pre-university education; (b) poor management; (c) lack of participation of primary beneficiaries and communities in decision-making; and (d) inadequate curricula, texts, teaching materials and teacher training.

2. The Government's spending on education as a percentage of GDP has been below the Latin America average during the past five years. Furthermore, the allocation of resources within the sector has been uneven. Most of the resources have been channelled to higher education where efficiency and social rates of return are the lowest. The resources that have been allocated to pre-university education have been almost totally absorbed by salary expenses, leaving minimal funds for maintaining infrastructure, texts, and teaching materials.

3. The institutional shortcomings of the National Secretariat of Education (SNE) are a major cause of poor performance and inefficient management of sector resources.^{1/} These shortcomings include a complex and illogical administrative structure, excessive centralization of authority, a shortage of trained personnel, lack of policies and capacity to manage human

Box 1: Characteristics of the Education Sector			
<i>Total spending on public education</i>			
• as % of GNP			4.2%
• as % of Central Government budget			20.6%
<i>Allocation of public education expenditures</i>			
• Preschool/Primary			44.0%
• Secondary			8.9%
• Higher			30.1%
• Other			18.0%
<i>Cost of repetition at primary level: US\$30 million per year</i>			
<i>Access to basic education</i>			
• Rural	60%	• Urban	87%
<i>Gross enrollment rates (% of age group enrolled)</i>			
• Primary			80
• Secondary			30
• Higher			24
<i>Primary student/teacher ratio</i>			16:1
<i>Drop out rates</i>			
• Primary	5.4	• Secondary	7.9
<i>Repetition rates</i>			
• Primary	2.5	• Secondary	12.1
<i>Illiteracy rates</i>			
• Overall	23	• Female	29
<i>Composition of illiterate population</i>			
• Rural	70%	• Urban	30%
<i>Number of schools</i>			10,800
<i>Number of classrooms</i>			45,000
<i>Number of teachers</i>			88,000
<i>Average teacher salary (US\$/year)</i>			1,400

^{1/} Prior to the restructuring of the Executive Branch, the Ministry of Education and Culture (MEC) was the institution responsible for the sector. Although the institutional analysis was carried out with respect to the old MEC, the proposals and recommendations developed for its transformation apply to the SNE.

resources, weak management of financial resources, and strong influence of the teacher's union over human resource management in the sector.

4. Several other factors have had a negative effect on the performance of the education sector, specifically: (a) local capacity to deliver education services is weak, particularly in rural areas; (b) beneficiaries are excluded from key decisions and supervisory functions; (c) the content of public education is inadequate and unrelated to the country's needs; and (d) participation rates--especially for girls--are low.

5. The Government recognizes the need to reform the education system. Its objective is to modernize this system and to turn it into a vehicle for development. The proposed reform program is expected to consist of at least four phases lasting over twenty years. This annex analyzes the fiscal impact of the first phase of the reform program.

II. The Reform Program^{2/}

6. The first phase of the reform is designed to improve the quality of education, initiate the long-term process of curriculum revision, and expand pedagogical and institutional capacity, starting at the primary level. Targets for the first phase include: (a) establishment of an institutional and pedagogical framework; (b) expansion of coverage, including reducing the drop-out and repetition rates; (c) development and application of performance objectives for the primary levels and strategies to achieve them; (d) establishment of a sample-based education assessment system; and (e) design of a long-term strategy for pre-service and in-service teacher training.

7. To achieve these targets, the education reform is aimed at: (a) establishing an institutional framework with incentives that encourage efficient use of resources; (b) increasing participation of local communities in the education process; (c) rationalizing sector financing; (d) improving the professional level of the teaching force; (e) incorporating elements of cultural diversity in the education process, including the introduction of bilingual programs; (f) upgrading primary and secondary education infrastructure; and (g) providing new infrastructure.

Expected Benefits

8. Under the reform program, student-teacher ratios in elementary schools are expected to improve from 18 in 1994 to 23 in 1999 and to 26 in 2002. In secondary schools, the ratios would improve from 15 in 1994 to 19 in 1999 and to 21 in 2002. With the

^{2/} Details on the reform program, including estimation of the cost of the various components, may be found in the Staff Appraisal Report for the Bolivia Education Reform Project (World Bank Report 12863-BO, March 23, 1994). This annex presents projections for the period 1994-2002. In the macro-model it is assumed that the reforms are implemented with a one year delay--i.e., during the period 1995-2003.

implementation of the reforms, it is also expected that the number of students covered by the education system would increase. The percentage of elementary school students (aged 6-14) would increase to 83 percent by 2002. Secondary school enrollment would increase in line with growth in demand resulting from improved efficiency and higher coverage in the elementary cycle. Table 1 provides annual projections of the numbers of students and teachers for the period 1994-2002.

**Table 1: Projected Number of Students and Teachers
(in Thousands)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Students									
Basic Urban	435	447	460	472	491	510	524	538	553
Basic Rural	552	552	559	567	580	581	581	582	582
Intermediate Urban	222	234	246	260	273	284	295	307	319
Intermediate Rural	116	123	131	146	161	172	184	195	207
Secondary Urban	198	204	233	263	295	318	342	368	394
Secondary Rural	56	68	79	90	102	113	125	136	147
Total	1579	1628	1708	1797	1901	1978	2051	2126	2202
Teachers									
Basic Urban	19	19	19	19	20	20	20	20	17
Basic Rural	32	32	33	33	33	33	33	33	33
Intermediate Urban	13	14	14	14	15	15	15	15	16
Intermediate Rural	7	7	7	8	8	9	9	10	10
Secondary Urban	13	13	15	15	16	17	17	18	19
Secondary Rural	4	4	5	5	6	6	7	8	8
Total	88	90	92	95	98	100	102	104	116

III. The Fiscal Impacts

9. The proposed reform is an integrated program which also includes new investments oriented towards improving the quality and expanding the coverage of education. Many of these investments will be permanent, resulting in an increase in expenditures other than wages and salaries.

10. While there will be increased revenues allocated to the sector and a reallocation of expenditures within the sector, the major fiscal impacts of the reform will be increased expenditures. Details of the assumptions behind the estimation of the fiscal impacts are provided in Table 2. GDP growth and other macro variables are consistent with the assumptions of the macro and other sectoral models.

Table 2: Basic Assumptions

Student-Teacher Ratios	<table><tr><td></td><td>1994</td><td>1995</td><td>1996</td><td>1997</td><td>1999</td><td>2002</td></tr><tr><td>Elementary:</td><td>18</td><td>19</td><td>20</td><td>21</td><td>23</td><td>26</td></tr><tr><td>Secondary:</td><td>15</td><td>15</td><td>16</td><td>17</td><td>19</td><td>21</td></tr></table>		1994	1995	1996	1997	1999	2002	Elementary:	18	19	20	21	23	26	Secondary:	15	15	16	17	19	21
	1994	1995	1996	1997	1999	2002																
Elementary:	18	19	20	21	23	26																
Secondary:	15	15	16	17	19	21																
Coverage Rates	Elementary: Grows gradually to reach 83 percent by 2002. Secondary: Grows in accordance with elementary coverage rates and with the increase in demand resulting from internal efficiency improvements to reach 50 percent by 2002.																					
Nominal Salary Increases	The annual increase in the wage bill of teachers will be 50% more than the increase in the wage bill of the rest of the public sector until the 1994 teachers' wage bill doubles in nominal terms.																					
Other Costs	The following costs have been included: - Operational (texts, teaching materials, teacher's training) - Other materials - Infrastructure (US\$25-30 million per year) - Decentralization (based on a model which estimates transformation and institutional strengthening costs)																					
Investment Financing	The Social Investment Fund (FIS) will partially finance infrastructure improvements.																					
"Revenues" allocated to sector	Revenues allocated to the sector are assumed to change as follows: - PGN/GDP ^{1/} : 24.5% throughout - EDUC/PGN ^{2/} : 20.4% (94); 21.5% (95); 22.0 (96); increasing to 24.1 (99) and maintained thereafter - U/EDUC ^{3/} : 27.3% (94); declining progressively to reach 15.1% (2000) and maintained thereafter																					
Foreign Financing	Estimated at US\$150 million.																					

1/ PGN/GDP: Expenditures in the budget of the non-financial public sector as a percent of GDP

2/ EDUC/PGN: Expenditures on education as a percent of the expenditures in the non-financial public sector budget.

3/ U/EDUC: Post-secondary education expenditures as a percent of total education expenditures.

Salaries

11. Annually, the Government plans to increase the wage bill of teachers by 50% more than the increase in the wage bill of the rest of the public sector. These annual increases will be given until the 1994 teachers' wage bill doubles in nominal terms. The allocation of the increased wage bills into specific increases in wages will be phased in gradually via two strategies: (a) nuclearization; and (b) performance increases. With regard to the former, the universe of teachers will be organized into 1,800 *núcleos* which will be gradually incorporated into the program. In the first year, it is expected that about 300 *núcleos* will enter into the program. As the *núcleos* enter into the program, the corresponding teachers will be eligible to receive the corresponding increases in salaries. In addition, all teachers will be eligible for supplemental merit-based increases. The size and the timing of these increases will depend on a variety of factors, including degree, training, publications and performance evaluation. The

net impact of these salary increases on the allocation of the overall teachers' wage bill will depend on the amount of savings realized through the elimination of "ghost" teachers from the system as planned under the rationalization plan.

Other Costs

12. In addition to increased expenditures on salaries, the costs of the reform include increased expenditures on teaching materials, school equipment, textbooks, training programs for teachers, and other costs related to the reform program. The costs of these incremental expenditures have been based on a model which estimated project costs of the Education Reform Project. Incremental expenditures on school infrastructure are estimated to increase gradually, and are expected to reach US\$10 million annually by 1997. It is possible that these investments will be financed and implemented through the Social Investment Fund (*Fondo de Inversión Social*, FIS).

Overall Impact

13. Table 3 presents the projected incremental education sector expenditures resulting from the implementation of the reform program. To calculate these incremental costs, a "no reform" scenario was also estimated assuming that current education expenditure patterns increase at the same rate as inflation. The incremental costs of the reform have been estimated as the difference between the estimated costs under the reform program and the estimated costs of no reform. The total incremental cost of the reform program is estimated at about US\$360 million during the period 1995-2002.

**Table 3: Incremental Costs of the Reform Program
(in US\$ Million)**

	1995	1996	1997	1998	1999	2000	2001	2002	Total
Texts and teaching materials	8.7	16.5	15.9	7.5	7.5	7.5	7.5	7.5	78.6
Teacher training	5.0	3.5	3.2	2.4	2.5	2.4	2.4	2.4	23.8
Other programs	1.1	3.1	3.1	3.3	3.1	1.1	1.6	1.6	18.1
Decentralization/instit. strengthening	5.4	5.9	3.5	3.4	1.1	1.3	1.2	1.2	23.2
Other costs (support & implementation)	3.9	2.3	3.0	1.9	1.9	1.6	1.6	1.5	17.7
Subtotal, including taxes	24.1	31.3	28.8	18.5	16.0	14.0	14.3	14.2	161.3
Applicable taxes	4.1	4.6	5.6	3.1	2.4	2.0	2.1	2.1	25.9
Subtotal, net of taxes ^{1/}	20.1	26.8	23.3	15.4	13.6	12.0	12.2	12.1	135.4
Wage bill costs	4.9	9.4	13.1	17.2	21.1	25.0	29.0	33.1	152.8
Expansion of school infrastructure	5.0	7.0	10.0	10.0	10.0	10.0	10.0	10.0	72.0
Total incremental cost	30.0	43.2	46.4	42.6	44.7	47.0	51.2	55.2	360.2

Note: Figures may not add due to rounding.
^{1/} This subtotal is considered to be a component of the incremental cost of the program—i.e., gross expenditures less taxes collected on these expenditures.

14. The following external financing sources have been identified for this program (a) IDA--US\$40 million equivalent; (b) IDB--US\$80 million; and (c) bilateral donors (e.g., Germany, Sweden, and the Netherlands)--US\$30 million equivalent in total. Additional funds for education infrastructure may be made available through the Social Investment Fund. This leaves a financing gap of about US\$210 million equivalent. Approximately 70 percent of this requirement results from the projected increases in wages for the non-university education sector.

IV. Sensitivity Analysis

15. The results of the model are most sensitive to the size and timing of the assumed salary increase--the incremental educational wage bill accounts for about 40 percent of the total incremental cost. For example, if the 1994 teachers' wage bill is doubled in nominal terms over five years (compared to about 10 years in the current projections), the cumulative incremental costs of the reform would be about doubled during the period 1995-1998--i.e., US\$314 million compared to US\$162 million.

16. The results are also sensitive to the assumptions on both the allocation of resources to the sector and the allocation of resources within the sector--i.e., primary and secondary versus tertiary. For example, if the share of public resources allocated to primary and secondary education remains constant--at the 1993 level--the net costs of the education reform would increase by 12 percent on average for the 1995-2003 period.

Annex I

The Fiscal Impacts of the Integrated Child Development Program

I. Background

Status of Women and Children

1. Bolivia faces a difficult set of development challenges, especially with respect to poverty. In particular, women and young children are disproportionately represented among the poor. More specifically,

- Women are twice as likely to be illiterate as men;
- Most women work to help support their families, but they face discrimination in hiring practices and in wage determination; and
- Women are the principal caretakers of their children, but access to child care is limited, and the extended family arrangements typical of rural areas are not available in urban areas. Therefore, they must either leave their children at home alone, or accept relatively low paying jobs where their children can accompany them.

Sector Strategy

2. The sector strategy stresses the need to concentrate government actions on human capital development by: (a) increasing social sector investment allocations; (b) strengthening the information base for social policy decision-making; and (c) increasing efficiency of resource use through sector reform, better targeting of policies and programs, and improved coordination with Non-Governmental Organizations (NGOs). A multi-disciplinary interministerial team drew up a Ten-Year Action Plan for Children and Women (*Plan Decenal de Acción para la Niñez y la Mujer*), based on guidelines set forth in the sector strategy. The plan focuses on regional interventions primarily in health and nutrition, education, water and sanitation, children in difficult circumstances, and women. The Integrated Child Development Program (*Proyecto Integral de Desarrollo Infantil--PIDI*) is one of the plan's key programs.

Role of ONAMFA

3. In December 1992, the Bolivian Congress passed the *Ley del Menor* which sets overall policy on issues pertaining to children and the family. A key feature of the law is the creation of the National Organization for Minors, Women and the Family (*Organismo Nacional del Menor, Mujer y Familia--ONAMFA*) as the successor to the National Agency for Solidarity and

Social Development (*Junta Nacional de Solidaridad y Desarrollo Social--JNSDS*). ONAMFA and its predecessor have provided health care, nutrition programs, clothing, housing, legal advise, psychological counseling, training, care for the disabled and the elderly, day care and shelter for abused women. ONAMFA's delivery network includes 109 homes for children, 20 homes for the elderly, 9 health clinics, 14 family legal centers and 22 day-care centers. ONAMFA also oversees the enforcement of laws pertaining to children, including adoptions, evaluations to determine custody, matters pertaining to social problems and abuse, and legal infractions committed by minors.

II. The Integrated Child Development Program

Objectives

4. The Integrated Child Development Program will contribute to poverty alleviation and human capital development by establishing a basis for early childhood development programs. Primary objectives of the program are to: (a) improve children's readiness to succeed in school and beyond; (b) enhance the status of women; and (c) increase community and private sector participation in social development. A secondary objective is to help the government strengthen its capacity to formulate and evaluate social policy. To meet these objectives, the program includes: (a) assistance for the delivery of integrated child development services through home-based day-care centers; (b) support to develop national policies on early childhood development, food security and nutrition; and (c) support to strengthen institutional capacity and establish monitoring systems.

Scope and Target Population

5. The program targets poor households in urban and peri-urban areas with populations over 10,000. Highest priority is assigned to cities with the highest prevalence of malnutrition. By the sixth year, it is expected that 8,670 day-care centers will be providing home-based integrated child development services to about 130,000 children annually (see Table 1).

6. Women will also benefit from the program. Employment opportunities will increase through the: (a) provision of training opportunities; (b) participation of paid caregivers^{1/}; (c) expansion of access to day-care for mothers; and (d) improvements in health and nutrition practices. Expanded access to day-care will free time to allow women to seek work or to find better positions. The overall health and nutritional status of more than 16,000 pregnant women--caregivers and mothers of children who attend the day-care center--is expected to improve through improved access to health care and education at preferential rates.

^{1/} Caregivers, most of whom are expected to be women, will receive a monthly stipend equivalent to the minimum salary.

Table 1: Program Beneficiaries

End of Calendar Year						
Coverage Targets	1994	1995	1996	1997	1998	1999
No. of Functioning Day-Care Centers (Cumulative)	703	1,441	2,617	4,489	6,579	8,670
No. of Children Enrolled	10,545	21,615	39,255	67,335	98,685	130,050
No. of Caregivers (Cumulative)	1,687	3,458	6,280	10,774	15,790	20,808
Beneficiary Pregnant Women (Cumulative)	1,081	2,375	4,528	7,695	11,609	16,057

III. The Fiscal Impacts

Costs

7. The total cost of the program, including price contingencies is estimated at US\$139.7 million equivalent, as detailed in Table 2. Price contingencies (about US\$8.1 million), assume local inflation, international inflation and exchange rate changes consistent with the macro model. The foreign exchange component is estimated at about US\$16.8 million (12 percent of total project cost).

**Table 2: Incremental Program Costs
(in US\$ Million)**

Component	1994	1995	1996	1997	1998	1999	Total
Investment Costs	4.0	4.0	5.7	9.1	10.8	12.5	46.1
Recurrent Costs	4.8	5.4	9.4	16.1	24.5	33.3	93.6
of which, Food	1.7	2.5	4.9	8.9	14.1	19.9	52.0
Stipends	2.5	2.3	3.3	4.9	6.9	8.3	28.1
Others	0.5	0.6	1.3	2.3	3.6	5.1	13.4
Total Costs	8.8	9.4	15.1	25.2	35.3	45.8	139.7

8. The investment costs include expenditures associated with: (a) improving the homes in which day-care services will be provided; and (b) institutional strengthening. Recurrent costs include expenditures associated with providing the day-care services--most importantly, food and stipends for caregivers. By the end of 1999, recurrent costs would total US\$33 million, distributed as follows: (a) food--60 percent; (b) caregivers' stipends--20 percent;

(c) operating expenses of the centers--10 percent (financed by the beneficiaries); (d) administrative costs--6 percent; and (e) other recurrent expenditures--4 percent.

Fiscal Impacts

9. During 1994-96, the net fiscal cost of the program will not be significant because of the conservative scale of operations. In 1997-99, however, coverage is programmed to expand rapidly, and recurrent costs will rise to US\$33.2 million in 1999 and thereafter. As food-related costs are expected to be covered by donations and account for more than half the recurrent costs, the net fiscal impact on the Government is reduced.

IV. Sensitivity Analysis

10. The costs of the program are most sensitive to the recurrent component of the unit cost--specifically, the costs for food and the stipends given to the caregivers. If coverage were to be accelerated and the end targets reached in four years (instead of six), the net costs of this component would be approximately 10 percent higher per year, while other costs would be only 5 percent higher.

11. There is a major risk associated with the financing of the program. Contributions by the World Food Programme, the European Community and bilateral food and programs (USAID and Canada) are to be in the form of food donations. If these donations do not materialize, the net fiscal impacts will be significantly higher--an average of approximately 60 percent per year.

Annex J

The Popular Participation Program^{1/}

I. The Popular Participation Law

1. The Popular Participation Law (approved on April 20, 1994) provides a vehicle for the decentralization process in Bolivia. The law completely "municipalizes" the country by creating 198 new municipalities--bringing the total number of municipalities to 304. The law is centered around the following:

- (a) The recognition and integration of grass roots groups--*Organizaciones Territoriales de Base* (OTBs)--into the political process as collective "voice" mechanisms. OTBs, which include a large number of traditional indigenous groups, are given legal standing and *Comités de Vigilancia* (CVs) are created to bolster local accountability;
- (b) The extension of responsibilities and resources available to the municipalities. The law transfers the physical infrastructure for education, health, sports, local roads, irrigation and micro-irrigation to the municipalities along with the administration, maintenance and renovation responsibilities; and
- (c) The establishment of population criteria for the distribution of the coparticipation funds--i.e., the system of intergovernmental transfers and revenue sharing arrangements. This system is restructured in order to finance the new responsibilities given to the municipalities and to correct the existing inequalities between urban and rural areas.

2. The principal objectives of the law are to: (a) promote the process of popular participation by incorporating indigenous, rural and urban communities into the political and economic life of the country; (b) improve the quality of life for the Bolivian people by improving the reallocation and administration of public resources; and (c) consolidate democracy by facilitating popular participation.

Municipalization of Bolivia

3. The Popular Participation Law "municipalizes" the entire national territory, changes the functions of municipalities and modifies the role of Regional Development

^{1/} While popular participation is a major reform, the net fiscal effects of this program are difficult to quantify at this stage. The known fiscal impacts which revolve around the reallocation of public resources, primarily from the RDCs to the municipalities, are discussed in this Annex.

Corporations (RDCs). Municipalization is to be achieved by integrating presently unincorporated rural areas. As a result, there will be 198 new municipalities. Currently, approximately 40 percent of the country's population resides in only eight cities. These cities account for 65 percent of public spending, 70 percent of GDP and 90 percent of industrial investment. While the law "municipalizes" the country and specifies general guidelines to achieve the goals, it does not address the issue of introducing functioning administrations in the new municipalities. In general, most new municipalities are small (the smallest new municipality has only 92 residents), rural, and with little or non-existent administrative capacity. The Government is developing a program to tackle this issue.

Table 1: Distribution of Bolivian Cities by Size

Size Range (000s)	Over 200	60-200	2-60	Under 2	Totals
Number of Municipalities	4	4	126	167	301
Population (mn)	2.21	0.52	3.36	1.25	7.34
Average Size	553.3	129.0	26.7	7.5	24.4
Percent of Total	30.2	7.0	45.8	17.0	100.0
Source: Ministry of Sustainable Development and the Environment.					

4. The law makes fundamental changes in the functions of municipalities and RDCs. In addition to functions spelled out in the *Ley Orgánica Municipal*, the Popular Participation Law transfers to municipalities the responsibilities to: (a) operate and maintain facilities linked to basic infrastructure and human resources; (b) deliver and supervise municipal services, particularly in health and education (including school nutrition programs); (c) determine allocation of resources for capital investment; and, (d) manage cadastre and vehicle registries linked to municipal revenues. Certain Central Government assets--in primary and secondary education, primary health care, culture, sports, rural roads, and irrigation--are transferred to municipalities. However, there is no transfer of costs associated with personnel to the municipalities--e.g., both teachers and health workers will continue to included in the non-financial public sector wage bill.

Organizaciones Territoriales de Base (OTBs) and Comités de Vigilancia (CVs)

5. The law intends for the legally recognized *OTBs* to take over some of the supervisory functions of the elected municipal councils. *OTBs* will be legally recognized within each municipality to act as priority setters, promoters, developers and supervisors of projects and activities at the local level. To link the work of the *OTBs* to the Municipal Government, a *CV* is to be created. Only one *CV* will be recognized in each municipality as the legitimate authority. The committee will consist of representatives of each *OTBs* with the responsibility

to ensure that municipalities function efficiently, including the delivery of local services. Conflicts among OTBs will be resolved by the Municipal Council. Legal recognition--*personería jurídica*--is given to both OTBs and to CVs by Regional Governments (*Prefectos* and *Sub-Prefectos*), appointed by the President. Thus, the law provides a mechanism for the Central Government to influence local affairs, including encouraging local accountability.

6. CVs have the right to suspend coparticipation funds. When a CV files a negative report regarding the use of popular participation funds, the Central Government may demand redress of that municipality. In the case of non-compliance, the matter will be discussed in the Senate, which in turn may choose to suspend the disbursements of coparticipation funds to such municipality.

Tax Structure

7. The law classifies revenues as follows:

- *National Revenues*--Value added tax (VAT); Complementary value added tax (RC-VAT); Presumed corporate profits tax (IRPE); Transactions tax (IT); Specific consumption tax (ICE); Customs duties; Inheritance/donations tax; Tax on foreign travel;
- *Departmental Revenues*--Royalties from hydrocarbons and minerals;
- *Municipal Revenues*--Taxes on assets, including urban/rural real estate property taxes and taxes on personal property (autos, boats and planes); and
- Other license fees and taxes established by Municipal Ordinances.

Coparticipation Funds

8. The coparticipation system was established to transfer revenues from the treasury to the Municipal Governments and public universities. The law (Article 20) specifies that 20 percent of total national tax collections will be transferred to the Municipal Governments and 5 percent to the public universities. The share of resources transferred through coparticipation is still 25 percent of national revenues, but RDCs are no longer beneficiaries.^{2/} The funds will be distributed according to the population in each municipal jurisdiction (see Table 2). In the future, the demographic data necessary to implement the population criteria will come from the national decennial census and from inter-censal surveys carried out by INE at mid-decade. In the case of the public universities, resources will be allocated according to departmental population. Municipal Governments must allocate at least 90 percent of the coparticipation funds to public investments. The remaining 10 percent may be used for operating expenses.

^{2/} Under the former revenue-sharing system, funds were distributed as follows: RDCs--10 percent; Municipalities--10 percent; and Universities--5 percent.

Table 2: Redistribution of Coparticipation Resources

Capital City/Rest of Department	Present System		New System	
	Thousand Bs	Percent	Thousand Bs	Percent
La Paz (including El Alto)	119,654	99	101,224	59
Rest of Department	1,120	1	70,739	41
Santa Cruz	51,270	95	63,000	51
Rest of Department	2,880	5	60,350	49
Cochabamba	25,900	88	38,400	39
Rest of Department	3,400	12	60,300	61
Oruro	6,900	71	16,600	54
Rest of Department	103	29	14,200	46
Potosí	1,200	66	10,100	17
Rest of Department	630	34	48,300	83
Sucre	4,600	95	12,000	29
Rest of Department	300	5	29,100	71
Tarija	3,200	68	9,800	37
Rest of Department	1,500	32	16,600	63
Trinidad	480	67	5,200	21
Rest of Department	240	33	19,800	79
Cobija	99	100	900	26
Rest of Department	0.006	0	2,500	74
Summary				
Capital Cities and El Alto	213	95.4	257	44.4
Non-capital Cities	10.2	4.6	322	55.6
Total	223.2	100	579	100%
<i>Source: Ministerio de Comunicación Social</i>				

9. The coparticipation funds of each municipality will be placed in individual popular participation accounts. In order to access these funds, the Municipal Government must present a budget for each fiscal year and, thereafter, account for the use of funds for the previous fiscal year. In the event that a Municipal Government does not adhere to the provisions of the law or to the norms established by the SAFCO law, the Central Government can suspend disbursement.

Compensation Fund and Royalties

10. The law establishes a budgetary transfer--i.e., Compensation Fund--from the Central Government to departments which have royalty receipts per capita below the national departmental average. Through an additional 1.5 percent royalty on hydrocarbons (see Annex A), for those departments below the national average, the treasury will transfer an amount equivalent to the difference between the per capita departmental royalty and the national average.

Regional Development Corporations

11. In the law (Article 28), the RDCs are given responsibility for planning regional investments and for carrying out capital investments together with municipalities. RDCs will have only a single source of income--i.e; from royalties (five percent of the total to be divided among the nine regions based on population criteria). Compared to the past, this is a reduction in resources to the RDCs. In addition, these resources must be used for counterpart financing of investment projects. The RDCs are also required to provide technical assistance on planning to Municipal Governments.

12. Departmental royalties and the resources of the Compensation Fund will be administered by the RDCs for the following purposes:

- Planning at the regional, sub-regional and micro-regional levels in coordination with the Municipal Governments and the Ministry of Sustainable Development and the Environment.
- Carrying out investments in physical infrastructure in the social sectors, environment, basic services, and transportation, together with the Central and/or Municipal Governments.
- Strengthening the management capacity of Municipal Governments, along with their ability to deliver services.

II. Fiscal Impacts

13. The primary known fiscal impacts of the reform revolve around the reallocation of resources to municipalities. The population distribution criteria has the advantage of being simple and politically unequivocal. However, it also has disadvantages. For example, there is a fixed cost to maintain an administrative structure in all municipalities. Compared to large municipalities, small municipalities, particularly those in rural areas, will likely have a much higher unit cost to deliver services. On the other hand, certain big cities may have to respond to needs which are not directly related to their residents (e.g., La Paz and the daily inflow of

workers from El Alto). Moreover, population criteria do not take into account the degree of poverty in a municipality or its capacity to raise revenues.

14. The use of the population criteria will also have other effects on larger cities. Although revenues will increase substantially (for example, by a fifth in La Paz), the expenditures required by the law will be greater than revenues. In the smaller cities, revenues will likely exceed the expenditures required by law. However, the smaller municipalities will likely lack the managerial skills required to perform the functions efficiently. In addition, it is unlikely that most municipalities will be able to assume the debt service obligations contracted by the RDCs.

15. The law assumes that local governments will raise additional revenues to: (a) maintain the quality of facilities; and (b) allow for compliance with the 10 percent limit on the use of coparticipation funds for current expenditures. However in the past, municipalities have not been effective in raising taxes. This, in part, results from: (a) the narrow tax base; and (b) inefficient cadastres and registries.

16. The law also establishes facilities to encourage Municipal Governments to finance recurrent costs with own revenues. Grants-in-aid and direct investments from the Central Government are defined to cover capital investment expansion. However, the law does not encourage efficiency in spending or link the transfer of resources to the issue of direct poverty alleviation. In addition, in the law, there is no clear distinction between capital and recurrent expenses. By setting limits on the use of coparticipation funds--e.g., 90 percent must be invested--it is likely that municipalities may overspend on capital and underspend on maintenance. As such, the law may introduce rigidities for municipalities which currently have no other sources of revenue--i.e., small cities in poor regions.

17. Reallocating the coparticipation funds from the RDCs to municipalities will negatively affect the RDCs' ability to support municipal investments. In the past, the RDCs have provided investment grants and loan guarantees to projects financed by FNDR (*Fondo Nacional de Desarrollo Regional*). In addition, the reallocation may also have an impact on the quality of FNDR's portfolio, which consists largely of loans to the RDCs. Corrective actions may need to be taken to prevent any deterioration in the quality of FNDR's portfolio. On the other hand, the new system will enhance the borrowing capacity of some municipalities. The Popular Participation Law also calls for a review of the financial intermediation responsibilities presently assigned to the various *Fondos*. This may imply the merging of some of some funds.

18. It may be difficult to mobilize additional municipal revenues without technical assistance. However, it has been estimated that additional revenues--on the order of US\$30 million per year between 1990-1993 in the largest 25 cities--could have been raised if these municipalities had strengthened their capacity to collect revenues.

Annex K

General Description of the Projections

1. The general purpose of the projections is to assess whether or not the proposed fiscal and monetary policies and major macroeconomic targets for inflation, reserve accumulation, and growth are consistent with available financing for the public sector and the balance of payments. The projections are derived from a modified version of the Revised Minimum Standard Model (RMSM). The model consists of: (a) a set of consistent macroeconomic statistics for the base year 1991, including national income accounts, public finances and balance of payments; (b) a series of exogenous variables and parameters estimated on the basis of past performance or targets; and (c) equations describing the relations among the variables that permit the projection of a consistent set of accounts.
2. In light of the fiscal fragility, the central macroeconomic issue in Bolivia is the internal transfer problem. The model focuses on both the public finance and balance of payment gaps, with greater emphasis on the former. While, obviously in theory these are closely related, concentrating on the gap in the public sector allows a more direct focus on public sector financing requirements, and allows the balance of payments gap to close through capital flows--private or additional concessional flows--that finance the residual savings-investment balance.

I. National Accounts

3. The national accounts are derived from the equation:

$$(1) \quad \text{GDP} = C + I_{pr} + I_g + G + (X - M)$$

Private consumption (C) is a function of GDP. Private investment (I_{pr}) is a function of GDP and expected investment resulting primarily from the capitalization program. The resource balance ($X - M$) is a function of a set of exogenous and endogenous variables, including income growth. Public consumption (G) and public investment (I_g) are policy variables and assumed to be exogenous.

II. Public Sector Finance

4. Revenues are the sum of domestic and trade tax revenues, other non-tax revenues (grants/donations), and net operating surplus of public enterprises. Revenues from domestic taxes are the sum of revenues from domestic taxes on sectors undergoing reform and other sectors. Revenues from domestic taxes on sectors with the major public enterprises under

reform result from the sum of revenues generated by the sectoral models (Annexes A to D). Revenues from domestic taxes on other sectors are derived from a tax elasticity equal to 0.896 applied to real income and adjustment coefficients to capture efficiency gains in tax administration.^{1/} Revenues from custom duties are estimated from the projected CIF import values and a weighted average tariff, which is calculated from projected shares of different import categories (capital goods, intermediates and consumption goods) and the corresponding tariff rates. Total other revenues are projected to remain constant in real terms and grants are estimated to remain constant as share of GDP. The net operating surplus of public enterprises is projected from income and cost statements. This is most relevant for the transitional period before the capitalization is completed and consists of Government servicing of public enterprise liabilities afterwards.

5. Total expenditure is the sum of wages and salaries, other seniority/severance payments, expenditures on goods and services, transfers, interest, other current expenditures and capital expenditures. With the exception of interest and expenditures resulting from the reform programs, all expenditure components are considered to be policy variables and assumed to be exogenously determined. Interest payments are calculated based on outstanding debt stocks and corresponding interest rates. Expenditures resulting from the implementation of the reform program are discussed in the various annexes. They include: incremental salaries from the civil service and education reforms, short-term costs associated with the capitalization program, and costs associated with the pension reform. Other seniority/severance payments include labor liabilities required to reduce General Government employment--primarily in the Regional Development Corporations^{2/}.

6. The primary deficit (D) of the consolidated non-financial public sector is added to the public sector interest bill--domestic and foreign--to project the financing requirement after interest payments:

$$(2) \quad D + iB_g + i^*B_g^* = B_g + B_g^* + C_g$$

The deficit and the financing for the non-financial public sector equation states that the primary deficit (D) plus domestic (iB_g) and foreign ($i^*B_g^*$) interest payments on public debt are financed through increases in domestic (B_g) and foreign borrowing (B_g^*) and credit to the Government from the Central Bank. To minimize crowding-out and pressure on financial markets from the public sector, domestic borrowing (B_g) is constrained to a predetermined real amount per year. In addition, to ensure monetary expansion consistent with inflation targets,

^{1/} The estimated elasticity resulted from the following regression equation for the 1974-1991 period:

$$\ln(r) = a + b \ln(y) + c \ln(cpi) + d w$$

Where: $\ln$ is the natural logarithm; r is real revenues from domestic taxes; y is real income; cpi is the consumer price index; and w is a dummy variable to capture the 1986 tax reform.

^{2/} Seniority/severance payments which result from the capitalization program are included in the public enterprise accounts and, therefore, factor into the net operating surplus.

credit to the Government is a predetermined policy variable. This means that the financing requirement is assumed to be financed through foreign flows, including "additional foreign financing". This summarizes the gap that must be filled to achieve macroeconomic consistency.

III. Balance of Payments

7. The equation for the balance of payments is the following conventional relationship:

$$(3) \quad R = X - M + i^*B^* + I^* + B^*$$

The current account in the balance of payments is determined as a function of several exogenous variables: export and import prices, the export growth rate, import elasticities, and international interest rates. More specifically, exports are a function of expected sectoral output growth, the real exchange rate and export prices for key commodities--hydrocarbons, primarily natural gas, minerals and agriculture. Imports are a function of import elasticities, the real exchange rate and the relevant macro-variables--real income, consumption, investment. Total interest payments are the sum of the product of interest rates times the corresponding components of the foreign debt stock.

8. The capital account in the balance of payments incorporates the projected foreign direct investment (I^*), as well as debt flows based on amortization schedules and projected disbursements (including ex-ante and projected new commitments). Finally, the capital account incorporates the results of the unidentified financing provided to fill the internal gap in public finances as a capital inflow.

IV. Financial Sector

9. The financial sector accounts are given by the summation of the assets and liabilities for the Central Bank and the rest of the financial sector. Thus, for the Central Bank:

$$(4) \quad dR_{nb} + dC_g + dC_f + dO = dMB + dMLT_g$$

The net change in assets--net foreign reserves of the Central Bank (dR_{nb}), credit to the non-financial public sector (dC_g), credit to the financial system (dC_f), and other net assets (dO)--is equal to change in the monetary base (dMB) and in the medium and long term foreign liabilities ($dMLT_g$).

10. For the rest of the financial system:

$$(5) \quad dR_{cb} + dC_g + dC_p + dO(R_i) = dM + dC_f + dMLT_p$$

The net change in assets--deposits of reserves with the Central Bank (dR_{cb}), net credit to the non-financial public and private sectors (dC_g , dC_p) and other net assets, including foreign currency reserves ($dO(R_i)$)--is equal to the net increased liabilities to the private sector--either in the form of deposits (dM) or direct borrowing from abroad ($dMLT_p$) or from the Central Bank (dC_f).

11. For simplicity, the model works only with the consolidated financial system, given by:

$$(6) \quad dR + dC_g + dC_p + dO = dM + dMLT$$

The total net change in assets is equal to the net change in liabilities to the private sector (dM) and to foreign entities ($dMLT$), where dM is the change in: (a) broad money--i.e., currency, demand deposits, savings deposits, and time deposits--and is estimated econometrically on the basis of past willingness of the private sector to hold money as a function of real income, price stability and real domestic and foreign interest rates; and (b) foreign liabilities, calculated as the change in the stock of foreign debt included in the balance of payments.

V. Debt Stocks

12. The flow equilibrium in the balance of payments and domestic financial markets also has the following equations, describing the evolution of foreign and domestic debt stocks:

$$(7) \quad B_t^* = B_{t-1}^* + B^*$$

$$(8) \quad B_t = B_{t-1} + D = k$$

The external public and private debt stock at time t (B_t^*) is equal to the previous stock plus the debt-creating flows in the capital account of the balance of payments. This is the gapfill debt in the model. The stock of domestic debt (B_t) is not significant as a percentage of GDP. New domestic borrowing is in fact constrained to a constant (k)--to permit some borrowing to refinance domestic debt payments--such that the domestic debt stock is declining as a percentage of GDP.

VI. Closing the Model

13. The model can be run either with a "requirements" approach or with an "availabilities" approach. The "requirements" approach takes as a given the targets for GDP growth, inflation, and external reserve accumulation, and then uses the model to ensure that the consolidated public sector deficit and expenditures are consistent with the financing. The "availabilities" approach takes as a given a projected level of available external borrowing and expected demand for money, and then adjusts the growth rate, fiscal stance, and reserve accumulation to conform to projected financing and inflation objectives. For this exercise, we have used the "requirements" approach.

Annex L

Alternative Economic Projection Scenarios

I. Base Case Scenario^{1/}*Domestic Product Growth*

1. The base case scenario projects average GDP growth of at least 4.5 percent during the period 1994-1997 and higher growth beyond 1997 (see Table 1). Increased accumulation of physical capital and improved technology attracted through the capitalization program would be the driving forces behind the economic growth. As capitalization follows a decade of relative economic and political stability, and improvements are expected in real export prices, the probability of attracting private resources is high.^{2/} In addition to agriculture, attractive opportunities exist in the sectors under reform and services in general.

2. Factors expected to contribute to increased agricultural output include: (a) higher agricultural productivity resulting from the introduction of new production technologies; (b) greater access to credit through the clarification of property rights, including land tenure; and (c) higher prices resulting from neighboring countries' strong demand for agriculture products, especially soybeans and timber. Spillovers from agriculture are expected to lead to continued growth in agro-processing, with privatization of the small public enterprises in this sub-sector also contributing to growth.

Table 1: Base Case Scenario--Projected Sources of Growth

	Growth (Percent)				Composition (Percent)			
	1992	1993	1994-1997	1998-2003	1993	1994	1997	2003
GDP at Market Prices	2.8	4.1	4.5	5.0	100.0	100.0	100.0	100.0
Agriculture	-4.4	3.6	4.2	4.5	17.3	17.4	17.1	16.6
Manufacturing	4.2	4.4	4.0	4.5	15.3	15.4	15.1	14.6
Hydrocarbons	0.4	1.7	3.5	7.1	4.3	4.3	4.1	4.6
Minerals	2.6	10.7	5.0	5.3	6.0	6.1	6.2	6.3
Construction	12.4	4.0	4.5	4.5	4.2	4.2	4.2	4.1
Services	5.1	4.1	4.6	5.1	52.8	52.6	53.3	53.8

1/ As the public finance framework for this scenario is discussed in Chapter III, there is no additional discussion in this section. For comparative purposes, preliminary 1992 and 1993 figures are also presented with this scenario. In all three scenarios, the figures presented for 1994-2003 are projected.

2/ Cross-country statistical analysis for the period 1960-1985 suggests that political instability in Bolivia has had the largest negative affect on growth, reducing growth by 1.5 percent per year relative to the average. See *Economic Growth in a Cross Section of Countries* by R. Barro, *Quarterly Journal of Economics* (Vol. 106, 1991) and *Politics and Business Cycles in the Industrial Democracies* by A. Alesina, *Economic Policy* (April 1989).

3. In the short to medium term, growth in hydrocarbons will primarily result from two factors: (a) increased productivity resulting from technological and managerial improvements; and (b) increased domestic demand resulting from the overall expansion in income. In the longer term, sectoral output is expected to accelerate because of investment from the capitalization program and the resulting natural gas exports to Brazil and Chile. Sectoral growth will continue to be sensitive to fluctuations in international prices, particularly natural gas in neighboring countries.^{3/}

4. In mining, above-average growth is expected as a result of: (a) increased productivity resulting from the injection of private capital in previously state-controlled properties; (b) favorable price expectations leading to investment in non-traditional minerals, primarily zinc and gold; and (c) a recovery of economic conditions in mineral importing countries, specifically Germany and the USA.

5. Given current barriers to entry in telecommunications, the monopolistic price has dampened the quantity of service demanded. Elimination of barriers to entry and the capitalization of ENTEL should lead to expanding the supply to meet increasing domestic demand. Similarly, to keep pace with increasing demand, electricity output is expected to increase as a result of technological and managerial improvements associated with the capitalization of ENDE. In the longer term, the new investment--primarily in electricity generation and distribution--will accelerate output growth.

6. Finally, it is expected that other services--mainly financial services--will continue to expand at a rate greater than the average rate of income growth. This is expected to result as a consequence of the monetary and financial stability, increased domestic savings generated through the new pension system, and the development and increased liquidity of the secondary market for financial assets.

Investment

7. To achieve the growth objectives, Bolivia will need to increase the efficiency of capital investment and increase gross fixed capital formation--i.e., gross investment--to more than 19 percent of GDP (see Table 2). Given that gross investment is about 15 percent of GDP and private investment is about 5.5 percent of GDP, such a target will not likely be achieved overnight. However, it is achievable in the longer-term under the following conditions: (a) political and economic stability is maintained; (b) the business environment improves; (c) the program to recapitalize the major economic sectors is carried out in a timely fashion; and (d) public investment is re-oriented towards basic infrastructure and social sectors. At the same time, investment efficiency should improve as new technologies are introduced and private investment is substituted for public investment in key economic sectors traditionally dominated by the state.

^{3/} The projections assume that real prices faced by Bolivian producers--determined in the international markets--decline.

Table 2: Base Case Scenario--Projected Investment, Consumption and Savings

						Period Averages	
	1992	1993	1994	1997	2003	1994-1997	1998-2003
Growth Rates							
Gross Domestic Product	2.8	4.1	4.2	4.7	5.0	4.5	5.0
Gross Domestic Investment	15.2	-1.5	4.3	14.0	5.0	6.1	5.4
Public Investment	17.7	-6.6	-8.5	2.5	0.0	-4.9	0.9
Private Investment	10.0	9.5	5.5	25.0	5.0	19.1	7.7
Consumption	3.3	4.2	2.0	2.8	3.2	4.4	3.4
As Percent of GDP							
Gross Domestic Investment	15.7	15.1	15.4	17.4	19.1	16.4	19.6
Public Investment	10.8	9.8	8.8	6.7	5.4	7.7	6.0
Private Investment	5.0	5.3	5.6	9.6	12.7	7.8	12.5
Change in Stocks	0.0	0.0	1.0	1.0	1.0	1.0	1.0
Total Savings	15.7	15.1	15.4	17.4	19.1	16.4	19.6
National Savings, incl. Grants	8.0	6.3	7.9	9.3	16.0	9.2	13.5
Foreign Savings	7.7	8.8	7.5	8.1	3.1	7.2	6.1

8. Given the withdrawal of the state from the productive sectors and the need to maintain fiscal stability, the level of public investment is projected to decline from about 9 percent of GDP in 1994 to 6.7 percent of GDP in 1997 and to 5.4 percent of GDP in 2003.^{4/} By focussing on key areas--basic infrastructure and social services--the quality of key public services is expected to improve, reflecting greater efficiency of public investment. As inadequate physical infrastructure and scarce human capital remain major constraints on Bolivia's development, the projections assume that these sectors would absorb the majority of public investment.

9. As a consequence of opening up key economic sectors and the capitalization program, it is anticipated that private sector investment would double during the period--increasing from about 6 percent of GDP in 1994 to about 13 percent of GDP in the year 2003. This would imply average private investment growth of about 19 percent for the period 1994-1997 and about 8 percent for the period 1998-2003.^{5/}

Savings and Consumption

10. In the short term, foreign savings are needed to finance this level of investment. Given the ambitious reform program, Bolivia is expected to receive donor support and maintain

^{4/} By the end of the period, the level of public investment in Bolivia would be similar to levels in other developing countries that have achieved high economic growth with stability--e.g., Chile and Mexico.

^{5/} These growth targets are achievable and have been achieved by medium and small countries during the 1980s. For example, in Chile private investment increased from 5 percent to 15 percent of GDP in 7 years leading to average GDP growth of 6 percent. Similarly, in Mauritius private investment increased from about 14 percent of GDP in 1980 to 21 percent of GDP in 1990, while generating average GDP growth of 6 percent.

concessional inflows (including grants) at similar levels received in the recent past. In addition, foreign savings--in the form of net direct foreign investment--would be attracted by the capitalization program. In the longer term, however, as foreign resources become scarcer, Bolivia would need to increasingly rely on its own private and public savings. The key factor expected to generate increased domestic savings and contribute to the expansion of the formal financial market is the forced savings component of the new pension reform program. Other conditions necessary to encourage higher national savings include maintaining stability, modest rates of taxation on savings, and a business environment which reduces uncertainty for private investors--i.e., clear property rights and enforcement of contracts. As a result, national savings (including grants) is projected to increase from about 8 percent of GDP in 1994 to about 16 percent by 2003.

11. Through prudent fiscal management and the new role of the state, the share of public consumption in GDP is projected to decline from about 16 percent in 1994 to about 15 percent in 1997 and further to about 13 percent in 2003. The investment-led output expansion will likely increase real wages in the private sector, and hence, lead to higher disposable income and overall increased private consumption. However, in light of the increased savings efforts--including the forced savings through the new pension system--per capita consumption would grow at about 2 percent per year throughout the period.

Balance of Payments

12. **Exports.** As the domestic market is limited in size, it is anticipated that much of the growth in the medium-term will be export led. It is projected that export growth will average about 6 percent during the period 1994-2003.^{6/} This projection is feasible in light of: (a) the expected supply expansion of key exportables resulting from implementation of the reform package; and (b) expected higher international real prices for key commodities. It is also assumed that the real exchange rate will continue to be determined through the Central Bank auction system, and therefore, maintain the competitiveness of Bolivian exports in world markets.

13. The projections assume that the volume of natural gas exported to Argentina during 1993-1998 will remain constant. In light of the timetable expected for the Bolivia-Brazil pipeline, the projections assume that natural gas exports will increase starting in 1999. As a result of efficiency gains driven by increased private investment in the mining sector, mineral exports are expected to be strong, averaging approximately 5 percent per annum. While there are uncertain prospects for tin, given current international price conditions, increased exports are projected for other minerals--specifically gold and zinc--in response to higher expected prices. With the improved tax regime for private investment, it is projected that non-traditional exports will recover starting in 1994, and for the period 1995-2003 (projected average annual growth of 6 percent). In response to higher expected prices and technological improvements, non-traditional products with the best export potential are soybeans and timber.

^{6/} This is conservative compared to past performance--real export growth averaged 12.7 percent in the period 1987-1990.

14. **Imports and Current Account Balance.** Imports are projected to continue increasing during the period. More specifically: (a) imports of consumption goods and intermediates are projected to mirror increases in real GDP; and (b) in addition to increases resulting from real income growth, imports of capital goods will increase as a result of the implementation of capitalization and construction of the gas pipeline during the period 1995-1998. After 1994, the current account balance (with official transfers) will initially deteriorate before starting to recover after 1997 (see Table 3). The current account deficit is projected at about 8 percent of GDP in 1997, and about 3 percent of GDP by 2003. Net official transfers--mainly in balance of payments support, technical assistance, and transfers in kind from the US and Japan--are projected to average approximately US\$200 million a year during the entire period.

**Table 3: Base Case Scenario--Balance of Payments
(as percent of GDP)**

	1992	1993	1994	1997	2003	1994-1997	1998-2003
Exports--Goods & Non-Factor Services	15.6	16.6	19.8	21.2	24.1	20.7	22.5
Imports--Goods & Non-Factor Services	24.3	26.0	30.9	32.9	29.7	32.0	31.6
Current Account (with official transfers)	-7.7	-8.8	-7.5	-8.1	-3.1	-7.2	-6.1

15. **Capital Account and Financing** (see Table 4). The projected net direct foreign investment is driven by: (a) the capitalization program; (b) the prospects in the hydrocarbons sector, especially for the export of natural gas; and (c) the prospects in the mining sector.^{7/} Despite these levels, continued support from official donors at concessional terms is necessary to the success of the economic program, particularly in the short to medium term. To sustain the adjustment program in the past, gross disbursements from official donors (equal to about 7 percent of GDP during 1990-1993) were a necessary and appropriate response to the sharp deterioration in the terms of trade. To support the second generation of reforms, it is projected that gross disbursements will remain fairly constant in nominal terms--roughly equal to US\$350 million a year. In addition, given its debt and debt services burden, it is projected that Bolivia will continue to reschedule debt with the Paris Club on terms similar to those granted under the Agreed Minutes of January 1992, which stipulate a 50 percent reduction on principal and interest due (over the period of the rescheduling). Furthermore, it is projected that net external borrowing levels will decline relative to GDP and debt indicators will improve.

^{7/} Net direct foreign investment has been estimated based on an analysis of expected investment at the sectoral level for key economic sectors undergoing reform, including hydrocarbons, mining, telecommunications and electricity.

**Table 4: Base Case Scenario--External Financing Requirements
(as percent of GDP)**

	1992	1993	1994	1997	2003	1994-1997	1998-2003
Required Financing	13.3	18.2	15.9	14.1	6.8	14.3	10.6
Current Account Deficit	12.0	12.8	11.9	11.3	5.1	10.8	8.7
Amortization Due ^{1/}	0.5	2.6	2.9	2.2	1.4	2.7	1.7
Net Change in Reserves; (+) increase	0.7	2.7	1.1	0.6	0.2	0.7	0.2
Financing Source	13.3	18.2	15.9	14.1	6.8	14.3	10.6
Net Private Capital ^{2/}	2.3	3.0	2.9	5.6	2.2	4.1	4.0
Official Grants	4.3	4.0	4.4	3.2	2.1	3.6	2.6
Gross Disbursements ^{1/}	3.2	6.9	5.8	4.9	2.6	5.6	4.0
o/w: Capitalized Interest	1.2	1.0	0.5	0.6	0.4	0.6	0.5
Other ^{3/}	3.5	4.3	2.8	0.5	0.0	1.0	0.0
Memo: Debt to GDP^{4/}	77.2	75.8	73.0	69.0	58.0	71.0	63.0
^{1/} PPG only. ^{2/} Short-term and Foreign Direct Investment ^{3/} Includes changes in arrears, debt cancellations, errors and omissions, net relief to Brazil arrears, and other exceptional financing. ^{4/} The ratio includes the commercial debt reduction. It may also differ from those reported elsewhere due to definitional and other methodological differences.							

II. High Growth Scenario

Gross Domestic Product

16. Under the high growth scenario, average real GDP growth of at least 5 percent per year is projected for the period 1994-1997 (see Table 5). Economic performance is projected to improve in the later years, with average GDP growth of at least 6 percent during the period 1998-2003. In addition to the factors mentioned in Chapter III--specifically, increased accumulation of physical capital and improved technology--this growth is possible because of: (a) an accelerated implementation of the sectoral reforms--including the capitalization program and the construction of the gas pipeline to Brazil; and (b) higher prices for key export commodity--primarily agricultural products and minerals. An accelerated implementation of the sectoral reform programs will allow for greater improvements in these sectors (hydrocarbons, mining, telecommunications and electricity).

17. **Primary Sectors.** Compared to the base case scenario, the high growth scenario assumes higher prices for certain key **agricultural commodities**--most importantly, soybeans and timber--resulting from a stronger demand from neighboring countries for these products. As a result, the sector is projected to grow at about 5.8 percent for the entire period. This scenario also assumes an accelerated implementation of the sectoral reform program in **hydrocarbons**--specifically, passage of the legal framework, deregulation of the sector, and formalizing agreements for additional gas exports to neighboring countries (i.e., mainly to Brazil and Chile).

Such an acceleration would result in: (a) accelerated capital accumulation; (b) accelerated productivity increases; and (c) an earlier construction of a gas pipeline (starting in 1996), and hence, accelerated exports of natural gas to Brazil (1998). In the second half of the projection period, the sector is expected to be the highest growing in the economy. With regards to the **mining** sector, this scenario assumes more favorable prices, resulting from a faster recovery of economic conditions in mineral importing countries. This in turn leads to a greater level of investment in non-traditional minerals and greater sectoral growth and exports.

Table 5: High Growth Scenario--Projected Sources of Growth

	Growth (Percent)		Composition (Percent)		
	1994-1997	1998-2003	1994	1997	2003
GDP at Market Prices	5.0	6.0	100.0	100.0	100.0
Agriculture	5.5	6.0	17.4	17.6	17.6
Manufacturing	4.8	5.9	15.4	15.2	15.1
Hydrocarbons	4.2	7.6	4.3	4.2	4.7
Minerals	5.9	6.4	6.1	6.2	6.5
Construction	5.2	5.0	4.2	4.3	4.1
Services	5.0	5.6	52.6	52.7	51.8

18. **Other Sectors.** In addition to the income effects, construction is expected to grow at a faster rate as it supports higher growth in other sectors--most importantly, hydrocarbons, electricity and telecommunications. Due to the overall higher income levels, in this scenario all services--including financial services, telecommunications and electricity--are assumed to expand at rates close to the average rate of income growth. In the second sub-period, the electricity sub-sector expands more rapidly than in the base case because of private sector exports of electricity to Brazil and Chile.

Investment, Consumption and Savings

19. In the high growth scenario, capital accumulation--especially private sector--will play a more important role towards achieving the relatively high GDP growth. This scenario assumes the same real level of public investment as does the base case scenario. Because of an accelerated withdrawal of the state from the productive sectors, public investment is re-allocated toward basic infrastructure and social services at a faster pace. Public investment as a percent of GDP is expected to decline from about 9 percent in 1994 to about 4.5 percent in 2003. More importantly, higher levels of private investment are expected under this scenario because of the acceleration of the sectoral reforms and the capitalization programs. It is anticipated that private investment will increase from about 5.5 percent of GDP in 1994 to 13.5 percent in 2003 (see Table 6).

20. The relatively higher levels of investment will require correspondingly higher levels of savings. Foreign savings will continue to be important; however, it is expected to have

a decreasing significance over time--i.e., declining from about 7.5 percent of GDP (1994) to about 2 percent of GDP (2003). As such, national savings (including grants) will play an increasingly important role and is expected to increase from about 8 percent of GDP (1994) to about 17 percent of GDP (2003). Private national savings is expected to increase from about 4 percent of GDP in 1994 to about 13 percent of GDP in 2003 because of forced savings generated through the pension system and the development of savings instruments through the emerging capital market.

Table 6: High Growth Scenario--Investment, Consumption and Savings

				Period Averages	
	1994	1997	2003	1994-97	1998-2003
Growth Rates					
Gross Domestic Product	4.2	5.7	6.0	5.0	6.0
Gross Domestic Investment	4.3	13.6	3.8	7.5	6.0
Public Investment	-8.5	0.0	0.0	-5.7	0.0
Private Investment	5.5	23.0	5.0	21.8	8.0
Consumption	2.0	3.4	5.2	4.6	4.8
As Percent of GDP					
Gross Domestic Investment	15.4	18.9	19.1	16.6	19.6
Public Investment	8.8	6.4	4.6	7.6	5.5
Private Investment	5.6	11.5	13.5	8.0	13.1
Change in Stocks	1.0	1.0	1.0	1.0	1.0
Total Savings	15.4	18.9	19.1	16.6	19.6
National Savings, incl. Grants	7.9	10.7	17.2	9.3	15.6
Foreign Savings	7.5	8.2	1.9	7.3	4.0

21. The above levels of savings imply a lower level of disposable income available for consumption purposes. Primarily as a result of contractions in public consumption, total consumption will decrease from about 90 percent of GDP in 1994 to about 80 percent in 2003. Public consumption will decline from about 17 percent of GDP (1994) to about 13 percent of GDP (2003) through control of the public sector wage bill to maintain fiscal stability. The accelerated investment-led output expansion will increase real wages in the private sector. Higher real income will also result in overall increased private consumption--i.e., private consumption is projected to growth at an average rate of about 5 percent during the entire period. The share of private consumption is, however, expected to decline from about 75 percent of GDP (1994) to about 70 percent of GDP (2003).

Balance of Payments

22. **Exports.** Due to an accelerated implementation of the reform program and higher international prices for key commodity, compared to the base case, exports play a more important role in the high growth scenario. More specifically, stronger exports are anticipated from: (a) non-traditional products, primarily agriculture; (b) mining; and (c) hydrocarbons--i.e., natural gas exports to Brazil and Chile. During the period 1994-2003, it is expected that export growth will average about 10 percent per year. As a result of the improved prices in the international market (i.e., about 10 percent higher than in the base case), non-traditional exports will accelerate--with growth averaging 8 percent during the period 1994-2003. In addition to the supply effects, the higher international mineral prices (about 10 percent higher) result in average export growth of 7 percent during the period. Finally, because of increased exports of natural gas, the hydrocarbons sector is projected to achieve export growth of about 20 percent per year during the second sub-period.

23. **Imports and Current Account Balance.** Compared to the base case scenario, imports are higher in the initial period due to: (a) the acceleration of the capitalization program which increases imports of capital goods; (b) earlier construction of the gas pipeline; and (c) the effects of the higher real income growth. Despite the higher level of exports, the current account deficit (after official transfers) deteriorates from about 7.5 percent of GDP in 1994 to about 8 percent of GDP in 1997 (see Table 7). In the later years, because of the sustained export expansion, the current account balance improves more than in the base case--to a deficit of about 2 percent of GDP (2003). In the early period, net official transfers will continue to be an important element in the balance of payments, averaging approximately US\$200 million a year. In light of the improved current account position, in the second sub-period, net official transfers are projected to be lower than in the base case scenario (approximately US\$150 million per year).

**Table 7: High Growth Scenario--Balance of Payments
(as percent of GDP)**

	1994	1997	2003	1994-1997	1998-2003
Exports--Goods & Non-Factor Services	19.8	23.5	26.4	22.5	25.5
Imports--Goods & Non-Factor Services	30.9	34.4	29.5	32.4	31.0
Current Account (after official transfers)	-7.5	-8.2	-1.9	-7.3	-4.0

24. **Capital Account and Financing.** In the high growth scenario, the levels of gross disbursements are assumed to remain at the same levels (in nominal terms) as in the base case--i.e., approximately US\$350 million annually. As the debt rescheduling assumptions are similar to the base case, debt indicators--including net external borrowing--relative to GDP and exports improve more than in the base case. Net direct foreign investment remains a key factor in

financing the balance of payments (see Table 8). Compared to the base case, higher levels of net direct foreign investment are realized earlier in this scenario because of the accelerated sectoral reforms, particularly in hydrocarbons and mining.

**Table 8: High Growth Scenario--External Financing Requirements
(as percent of GDP)**

	1994	1997	2003	1994-1997	1998-2003
Required Financing	15.9	13.6	5.6	13.3	8.7
Current Account Deficit	11.9	10.9	3.1	10.0	5.5
Amortization Due ^{1/}	2.9	2.0	2.0	2.4	2.6
Net Change in Reserves; (+) increase	1.1	0.7	0.5	0.9	0.6
Financing Source	15.9	13.6	5.6	13.3	8.7
Net Private Capital ^{2/}	2.9	4.9	2.0	3.9	2.6
Official Grants	4.4	2.7	1.2	2.6	1.5
Gross Disbursements ^{1/}	5.8	4.5	2.4	5.6	3.9
Other ^{3/}	2.8	1.5	0.0	1.2	0.7
Memo: Debt to GDP^{4/}	73.0	68.0	56.0	70.0	61.0
^{1/} Public and publicly guaranteed only. ^{2/} Short-term and foreign direct investment. ^{3/} Includes changes in arrears, debt cancellations, errors and omissions, net relief to Brazil arrears, and other exceptional financing. ^{4/} The ratio includes the commercial debt reduction. It may also differ from those reported elsewhere due to definitional and other methodological differences.					

Public Finance

25. In the high case scenario, the 1994 fiscal program is identical to the base case. For the other years, most of the assumptions are the same with the following exceptions:

- (a) With regard to revenues, the Government is more efficient in collecting revenue from the sectors undergoing reforms. This results from shortened learning process with regard to effectively collecting the new taxes. This is expected to increase revenues from this source by about 5 percent. In addition, greater improvements are assumed in the efficiency of collections for domestic taxes from the rest of the economy (i.e., sectors not undergoing reforms). This results from a concentrated effort of the Government to expand the value added tax base. This represents an increase in revenues of about 5 percent on average.
- (b) With regard to expenditures, the real wage bill (before adjustments for the civil service and education reforms) increases by an average of 3 percent per year

during 1995-1998, and by about 3.5 percent per year afterwards. In light of a greater demand for labor under the accelerated reform program, real wages will increase in the labor market. This is captured in the assumed increases in the public sector wage bill.

26. The high growth scenario ensures a feasible fiscal program during the period 1994 to 1997. Despite the increase in expenditures, the higher revenues--from higher economic growth, improved efficiency in tax collections, and the sale of about US\$10 million of enterprise assets--result in increased net revenues and in likely a lower deficit. In addition, given the assumed levels of foreign financing, the Government would not need to increase domestic debt and the existing stock would continue to decline from its current level of about 3 percent of GDP.

27. The resulting projected revenues and expenditures for this scenario are contained in Tables 9 and 10.

**Table 9: High Growth Scenario--Revenues of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Current Revenue--General Government	21.2	20.9	21.0	21.3	21.9
Domestic Taxes--Sectors with Reforms	7.6	7.4	7.6	8.0	8.5
Domestic Taxes--Rest of the Economy	9.2	9.5	9.7	9.8	10.0
Custom Duties	1.5	1.5	1.5	1.5	1.5
Other Revenues	2.9	2.5	2.2	2.0	1.9
Capital Revenue--General Government	2.7	1.9	1.4	1.3	1.0
Grants, Donations and Other Capital Revenue	2.7	1.9	1.4	1.3	1.0
Other Revenues--Reform Program	0.0	2.3	2.0	1.0	0.3
Seniority/Severance, Transactions Costs	0.0	1.1	0.7	0.0	0.0
Debt Service	0.0	0.2	0.6	0.4	0.3
Increased Transactions Tax	0.0	0.8	0.7	0.6	0.0
Sales of Enterprise Assets	0.0	0.2	0.0	0.0	0.0
Net Operating Surplus--Public Enterprises	1.9	0.1	-0.5	-0.1	-0.1
Total Revenue Consolidated Public Sector	25.8	25.2	23.9	23.5	23.1

**Table 10: High Growth Scenario--Expenditures of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Current Expenditure--General Government	20.6	21.5	20.7	20.1	19.1
Labor Services	9.7	9.9	9.8	9.6	9.2
of which: Wages and Salaries	8.8	8.6	8.6	8.5	8.4
of which: Reforms	0.0	0.2	0.2	0.3	0.4
Goods and Services	2.4	2.4	2.4	2.4	2.4
Transfers	2.6	2.6	2.6	2.5	2.0
Interest	2.8	2.6	2.2	2.1	2.1
External	2.1	2.0	1.8	1.7	1.7
Internal	0.8	0.6	0.5	0.4	0.2
Other Current Expenditures	3.1	4.0	3.7	3.5	3.4
of which: Capitalization/Mining	0.3	0.5	0.2	0.1	0.1
of which: Pension Reform	0.0	0.4	0.4	0.4	0.4
of which: Education Reform	0.0	0.3	0.3	0.3	0.2
Central Bank Surplus (-)/Deficit (-)	-0.3	-0.2	-0.2	-0.2	-0.2
Capital Expenditures	8.8	7.8	6.7	6.4	5.5
General Government	5.8	7.0	6.5	6.3	5.5
Public Enterprises	3.0	0.8	0.2	0.1	0.0
Total Expenditures Consolidated Public Sector	29.1	29.1	27.2	26.3	24.4

28. **Deficit and Financing.** Under this scenario, the overall deficit of the consolidated public sector would decline from 6.4 percent of GDP in 1993 to 3.3 percent of GDP in 1994, and after increasing slightly in 1995 continue to decline thereafter. As in the base case scenario, levels of net external financing are anticipated to remain approximately equal to levels of recent years--about 3 percent of GDP. The limiting of public sector borrowing leads to a sustainable pattern of debt stock and service, thereby ensuring solvency.

**Table 11: High Growth Scenario--Deficit/Financing of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Primary Surplus/Deficit (-)	-0.1	-0.9	-0.8	-0.4	1.1
Overall Surplus/Deficit (-)	-3.3	-3.9	-3.3	-2.8	-1.3
Debt Financing	3.3	3.9	3.3	2.8	1.3
Net External Debt Financing	3.4	3.9	3.3	2.8	1.3
Net Internal Debt Financing	-0.1	0.0	0.0	0.0	0.0

III. Low Growth Scenario

29. In this scenario, the slower economic performance with respect to the base case results from slower accumulation of physical capital and technology in response to: (a) lower international prices of key export commodities; and (b) delays in implementing the reform program. The lower international prices result from a weaker global economy which affects the demand for Bolivian exports. The slower implementation of the reform program results from delays in setting up the legal and institutional frameworks and prolonged negotiations for certain key transactions. As a result, the private sector investment response is slower to materialize.

Gross Domestic Product

30. Under this scenario, average real GDP growth of 3.5 percent is projected for the period 1994-1997 (see Table 12). Performance improves slightly afterwards, with average GDP growth of 4 percent in the period 1998-2003.

Table 12: Low Growth Scenario--Projected Sources of Growth

	Growth (Percent)		Composition (Percent)		
	1994-1997	1998-2003	1994	1997	2003
GDP at Market Prices	3.5	4.0	100.0	100.0	100.0
Agriculture	3.8	3.8	17.4	17.5	17.3
Manufacturing	3.5	3.5	15.4	15.3	14.9
Hydrocarbons	3.0	5.0	4.3	4.2	4.5
Minerals	4.0	4.0	6.1	6.1	6.1
Construction	4.1	5.1	4.2	4.3	4.6
Services	3.4	4.0	52.6	52.6	52.6

31. **Primary Sectors.** In agriculture, this scenario assumes some productivity improvements resulting from the introduction of new production technologies for commercial crops. Also, agricultural production is stimulated by better access to credit. However, the scenario also assumes lower prices--i.e., 10 percent lower--for key commodities (soybeans and timber). As a result, the average sector growth rate for entire period is 3.8 percent and there no change in the share of agricultural value added. Due to the complexity of the hydrocarbons sector, the low growth scenario assumes a slower implementation of the sectoral reform program resulting from: (a) delays in capitalizing YPFB; and (b) prolonged negotiations and difficulties in securing financing for the construction of the gas pipeline. In this scenario, construction of the pipeline begins in 1998, with exports of natural gas to Brazil realized beginning in 2000. Postponing the gas pipeline is the major reason for the lower performance of the sector in the second sub-period (average growth of 5 percent per year). In the first sub-period, the slower capital accumulation and lagged productivity improvements are the cause of the lower growth

which averages 3 percent per year. The **mining sector** is projected to grow at a rate below the growth projected in the base case scenario due to slower expansion of demand for key commodities. This lower demand would result from slower economic growth in key mineral importing countries--i.e., the USA and Germany. As a result, prices (and hence exports) of key products--especially tin, zinc and gold--are lower than in the base case scenario. High levels of investments--particularly in non-traditional minerals such as zinc and gold--are expected to partially compensate for the adverse price effects.

32. **Other Sectors.** In this scenario, the supply of communications services is expected to expand at a slower rate than in the base case scenario. This results from delays in reaching agreement to expand services and capitalize the regional cooperatives. Given the advanced status of implementing the reform program, including capitalizing ENDE, the electricity subsector is expected to grow at about the rate of growth projected in the base case. In addition, it is expected that other services--mainly financial services--will continue to expand at about 4 percent per year during the entire period. This expansion would result from the monetary and financial stability and the development and increased liquidity of the secondary market for financial assets.

Investment, Consumption and Savings

33. The lower economic growth will result in part as a consequence of slower capital accumulation. The average GDP growth of 3.8 percent per year for the entire period will be achieved with average gross domestic investment of about 16 percent of GDP in the first sub-period and about 18 percent of GDP in the second sub-period (see Table 13). As in the other scenarios, the level of public investment is expected to remain constant in real terms from 1997 on, and therefore, declines as a percent of the GDP (from about 9 percent of GDP in 1994 to an average of 6.5 percent for the period 1998-2003). At the same time, private investment is projected to increase--although at a slower rate than the base case--from about 5.5 percent of GDP in 1994 to an average of about 11 percent of GDP (1998-2003).

34. In financing this investment, donor support and concessional inflows will continue to be important along with direct private investment. This scenario projects that Bolivia will receive an average of US\$330 million per year in foreign investment. Thus, foreign savings will continue to account for roughly 50 percent of total savings. As national savings is projected to increase, total savings--the bulk of which will be private--will also increase. This increase is expected to result from the forced savings through the implementation of the pension reform. Private national savings is projected to increase from an average of 3 percent of GDP (1994-1997) to an average of 7 percent (1998-2003).

Table 13: Low Growth Scenario--Investment, Consumption and Savings

				Period Averages	
	1994	1997	2003	1994-97	1998-2003
Growth Rates					
Gross Domestic Product	4.2	3.6	4.0	3.5	4.0
Gross Domestic Investment	4.3	7.0	3.1	3.2	5.1
Public Investment	-8.5	0.0	0.0	-5.7	0.0
Private Investment	5.5	13.8	4.5	13.3	8.1
Consumption	2.0	2.5	3.5	3.0	3.2
As Percent of GDP					
Gross Domestic Investment	15.4	16.2	18.5	16.1	18.4
Public Investment	8.8	7.1	6.4	7.7	6.5
Private Investment	5.6	8.1	11.1	7.4	11.0
Change in Stocks	1.0	1.0	1.0	1.0	1.0
Total Savings	15.4	16.2	18.5	16.1	18.4
National Savings, incl. Grants	7.9	7.7	12.5	8.6	11.5
Foreign Savings	7.5	8.5	6.0	7.5	6.9

Balance of Payments

35. **Exports.** Compared to the base case scenario, the external environment as reflected by lower prices in the low growth scenario results in lower export growth. Export growth is projected at about 3 percent per year in the first sub-period, increasing to about 5 percent per year in the second sub-period. As indicated, this scenario assumes a delay in the completion of the Bolivia-Brazil gas pipeline. Consequently, exports of natural gas (to Brazil) are realized starting in 2000, while exports of natural gas to Argentina during 1994-2000 are assumed to remain constant.

36. **Imports and Current Account Balance.** Compared to the base case scenario, lower import growth is projected in response to: (a) lower real income growth; (b) delays in implementing the capitalization program in key enterprises--primarily YPF; and (c) delays in constructing the gas pipeline. Imports of goods and non-factor services are projected to grow at the same rate as GDP, therefore, maintaining a constant share of GDP. The current account deficit (after official transfers) is projected to first slightly deteriorate, and then to improve to about 6 percent by 2003 (see Table 14). As in the other scenarios, net official transfers--averaging approximately US\$200 million per year--remain an important element of the balance of payments.

**Table 14: Low Growth Scenario--Balance of Payments
(as percent of GDP)**

	1994	1997	2003	1994-1997	1998-2003
Exports--Goods & Non-Factor Services	19.8	18.4	21.4	19.2	20.0
Imports--Goods & Non-Factor Services	30.9	30.9	30.9	30.9	30.9
Current Account (with official transfers)	-7.5	-8.5	-6.0	-7.5	-6.9

37. **Capital Account and Financing.** In the low growth scenario, the levels of gross disbursements are projected to be about US\$400 million annually. In addition, the assumptions with respect to debt services and rescheduling with the Paris Club are the same. As a consequence, during the projection period net external borrowing declines relative to GDP and exports. Relative to the base case scenario, these indicators deteriorate. As in the base case scenario, net direct foreign investment remains a key factor--although at a slower rate--in financing the current account deficits. The net flow is projected at an average of US\$250 million during the entire period. Contrary to the other scenarios, there is no increase in net reserves (see Table 15).

**Table 15: Low Growth Scenario--External Financing Requirements
(as percent of GDP)**

	1994	1997	2003	1994-1997	1998-2003
Required Financing	15.9	15.5	11.8	14.8	13.6
Current Account Deficit	11.9	12.5	9.5	11.7	10.9
Amortization Due ^{1/}	2.9	3.0	2.3	2.9	2.7
Net Change in Reserves; (+) increase	1.1	0.0	0.0	0.2	0.0
Financing Source	15.9	15.5	11.8	14.8	13.6
Net Private Capital ^{2/}	2.9	4.9	2.7	3.9	3.8
Official Grants	4.4	4.0	3.5	4.2	4.0
Gross Disbursements ^{1/}	5.8	6.4	5.5	6.1	5.7
Other ^{3/}	2.8	0.2	0.1	0.6	0.1
^{1/} Public and publicly guaranteed only. ^{2/} Short-term and foreign direct investment. ^{3/} Includes changes in arrears, debt cancellations, errors and omissions, net relief to Brazil arrears, and other exceptional financing.					

Public Finance

38. In this scenario, the 1994 fiscal program is identical to the base case. While the assumptions are similar for the other years, the lower overall economic growth implies different

fiscal results. Given the assumption of fixed foreign financing, to achieve deficits around 3.5 on average in the next few years, the Government will need to take additional revenue raising and/or expenditure reducing measures.

39. On the revenue side, total consolidated public sector revenues are projected to decline from 25.8 percent of GDP in 1994 to an average of 23.5 percent of GDP in the period 1998-2003 (see Table 16). Similar to the base case, this scenario assumes that transactions costs, at least 80 percent of the labor obligations, and at least 75 percent of the debt obligations of the enterprises to be capitalized will be assumed by the investors. During the period 1995-1997, the Government will be required to implement other measures to raise additional revenues--i.e., a total of US\$180 million. This could be accomplished through actions as selling assets of enterprises in sectors being reformed and/or increasing excise taxes on petroleum products.

**Table 16: Low Growth Scenario--Revenues of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Current Revenue--General Government	21.2	20.0	20.0	20.5	21.0
Domestic Taxes--Sectors with Reforms	7.6	7.0	7.0	7.4	7.8
Domestic Taxes--Rest of the Economy	9.2	9.1	9.3	9.5	9.8
Custom Duties	1.5	1.4	1.4	1.4	1.4
Other Current Revenues	2.9	2.5	2.3	2.2	2.0
Capital Revenue--General Government	2.7	2.2	2.0	1.8	1.8
Grants, Donations and Other Capital Revenue	2.7	2.2	2.0	1.8	1.8
Other Revenue--Reform Program	0.0	2.8	4.4	3.2	0.9
Seniority/Severance, Transactions Costs	0.0	1.3	1.2	0.3	0.0
Debt Service	0.0	0.2	0.9	0.9	0.9
Increased Transactions Tax	0.0	0.8	0.8	0.8	0.0
Sales of Enterprise Assets and Other Measures	0.0	0.5	1.5	1.2	0.0
Net Operating Surplus--Public Enterprises	1.9	0.5	-1.0	-0.5	-0.2
Total Revenue Consolidated Public Sector	25.8	25.5	25.4	25.0	23.5

40. In this scenario, total expenditure of the consolidated public sector declines from 29.1 percent of GDP in 1994 to an average of 25.9 percent in the period 1998-2003 (see Table 17). This decline is lower than in the base case for two reasons. First, the real wage bill is increasing at a rate above the rate of income expansion, whereas in the base case the real wage bill is increasing at a rate below income growth. Secondly, in this scenario capital expenditures as a percent of GDP--although at about the same levels in nominal terms in the later years--are higher because of the lower GDP growth.

**Table 17: Low Growth Scenario--Expenditures of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Current Expenditure--General Government	20.6	21.7	21.6	21.4	19.8
Labor Services	9.7	9.8	9.8	9.7	9.4
of which: Wages and Salaries	8.8	8.7	8.6	8.5	8.3
of which: Reforms	0.0	0.3	0.4	0.4	0.8
Goods and Services	2.4	2.4	2.4	2.4	2.0
Transfers	2.6	2.6	2.6	2.6	2.2
Interest	2.8	2.7	2.6	2.6	2.4
External	2.1	2.0	1.9	1.9	1.9
Internal	0.8	0.7	0.7	0.7	0.5
Other Current Expenditures	3.1	4.2	4.2	4.1	3.8
of which: Capitalization/Mining	0.3	0.6	0.4	0.2	0.1
of which: Pension Reform	0.0	0.4	0.5	0.5	0.6
of which: Education Reform	0.0	0.4	0.5	0.5	0.3
Central Bank Surplus (-)/Deficit (+)	-0.3	-0.4	-0.4	-0.4	-0.4
Capital Expenditures	8.8	8.5	7.9	7.1	6.5
General Government	5.8	6.8	6.8	6.8	6.5
Public Enterprises	3.0	1.7	1.1	0.3	0.0
Total Expenditures Consolidated Public Sector	29.1	29.8	29.1	28.1	25.9

41. In the low growth scenario, the deficit declines from 6.4 percent of GDP in 1993 to 3.3 percent in 1994. In the remaining years, under the set of assumptions--including enhanced revenue raising measures--the deficit increases in 1995 and thereafter decreases at a rate lower than the base case (see Table 18). Given the assumed domestic and foreign financing, this pattern results from the lower economic growth and the delays in implementing the reforms.

**Table 18: Low Growth Scenario--Deficit/Financing of the Consolidated Public Sector
(as percent of GDP)**

	1994	1995	1996	1997	1998-2003
Primary Surplus/Deficit (-)	-0.1	-1.2	-0.7	-0.1	0.3
Overall Surplus/Deficit (-)	-3.3	-4.3	-3.7	-3.1	-2.4
Debt Financing	3.3	4.3	3.7	3.1	2.4
Net External Debt Financing	3.4	4.3	3.7	3.1	2.4
Net Internal Debt Financing	-0.1	0.0	0.0	0.0	0.0

STATISTICAL APPENDIX

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Table 1.1.1: BOLIVIA - Gross Domestic Product by Sector of Origin
In 1980 Bolivianos

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Gross Domestic Product at M.P.	122,946	124,083	118,675	113,377	112,695	111,609	108,829	111,669	114,963	118,221
Indirect Taxes on Imports	3,288	3,753	1,091	571	1,047	1,307	1,982	2,286	1,827	1,811
Gross Domestic Product at P.P.	119,658	120,330	117,584	112,806	111,648	110,302	106,847	109,383	113,136	116,410
Primary Sector	41,970	42,493	43,426	37,900	39,455	39,583	36,644	37,688	40,757	42,652
Agriculture	22,563	22,354	23,900	19,788	23,553	25,372	24,478	25,337	25,951	25,604
Mining	19,407	20,139	19,526	18,112	15,902	14,211	12,166	12,351	14,806	17,048
Hydrocarbons	6,728	7,072	7,476	7,176	7,015	6,973	6,847	6,950	7,189	7,503
Minerals	12,679	13,067	12,050	10,936	8,887	7,238	5,319	5,401	7,617	9,545
Secondary Sector	22,495	20,639	18,229	18,272	18,225	16,872	16,404	16,724	17,871	18,592
Manufacturing	17,974	16,581	14,531	14,558	14,707	13,483	13,742	14,087	14,852	15,374
Construction	4,521	4,058	3,698	3,714	3,518	3,389	2,662	2,637	3,019	3,218
Services Sector	55,193	57,198	55,929	56,634	53,968	53,847	53,799	54,971	54,508	55,166
Utilities	806	907	930	951	1,025	986	1,059	996	1,051	1,105
Commerce	13,261	14,418	13,464	15,983	13,243	13,316	14,768	15,974	15,350	15,386
Transport Storage and Communication	7,321	8,174	7,799	7,840	8,471	8,873	9,346	9,825	9,868	10,074
Financial Services (Banking)	7,189	6,704	6,126	4,740	4,745	5,046	4,292	4,110	4,017	4,156
General Government	12,940	13,193	13,749	13,312	12,777	12,041	10,118	10,365	10,210	10,336
Other Services	13,676	13,802	13,861	13,808	13,707	13,585	14,216	13,701	14,012	14,109

Note: Based on 1980 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.1.2: BOLIVIA - Gross Domestic Product by Sector of Origin
In Millions of 1990 Bolivianos

	1990	1991	1992	1993
Gross Domestic Product at M.P.	16,937	17,721	18,214	18,962
Indirect Taxes	1,279	1,333	1,322	1,343
Gross Domestic Product at P.P.	15,658	16,389	16,891	17,619
Primary Sector	4,458	4,773	4,664	4,884
Agriculture 1/	2,805	3,089	2,952	3,057
Mining	1,654	1,684	1,712	1,828
Hydrocarbons	734	749	752	765
Minerals	919	935	960	1,063
Secondary Sector	2,999	3,110	3,291	3,432
Manufacturing	2,379	2,473	2,575	2,688
Construction	620	637	716	745
Services Sector	8,201	8,506	8,936	9,303
Utilities	249	273	297	321
Commerce	1,767	1,867	1,964	2,054
Transport Storage and Communication	1,805	1,876	2,011	2,133
Financial Services (Banking)	427	427	516	588
General Government	1,547	1,617	1,675	1,709
Other Services 2/	2,406	2,446	2,473	2,497

Note: Based on 1990 National Accounts structure.

1/Includes Industrial and Non-Industrial Agriculture Products, Forestry, Hunting, Fishing, Coca and Cattle raising.

2/Includes Services to companies, Housing services; Communal, Personal and Social Services; Restaurants and Hotels and Domestic Services (minus imputed banking services)

Source: National Institute of Statistics and staff estimates.

Table 1.2.1: BOLIVIA - Gross Domestic Product by Sector of Origin
Real Growth Rates

	1981	1982	1983	1984	1985	1986	1987	1988	1989
Gross Domestic Product at M.P.	0.9%	-4.4%	-4.5%	-0.6%	-1.0%	-2.5%	2.6%	2.9%	2.8%
Indirect Taxes on Imports	14.1%	-70.9%	-47.7%	83.4%	24.8%	51.6%	15.3%	-20.1%	-0.9%
Gross Domestic Product at P.P.	0.6%	-2.3%	-4.1%	-1.0%	-1.2%	-3.1%	2.4%	3.4%	2.9%
Primary Sector	1.2%	2.2%	-12.7%	4.1%	0.3%	-7.4%	2.8%	8.1%	4.6%
Agriculture	-0.9%	6.9%	-17.2%	19.0%	7.7%	-3.5%	3.5%	2.4%	-1.3%
Mining	3.8%	-3.0%	-7.2%	-12.2%	-10.6%	-14.4%	1.5%	19.9%	15.1%
Hydrocarbons	5.1%	5.7%	-4.0%	-2.2%	-0.6%	-1.8%	1.5%	3.4%	4.4%
Minerals	3.1%	-7.8%	-9.2%	-18.7%	-18.6%	-26.5%	1.5%	41.0%	25.3%
Secondary Sector	-8.3%	-11.7%	0.2%	-0.3%	-7.4%	-2.8%	2.0%	6.9%	4.0%
Manufacturing	-7.8%	-12.4%	0.2%	1.0%	-8.3%	1.9%	2.5%	5.4%	3.5%
Construction	-10.2%	-8.9%	0.4%	-5.3%	-3.7%	-21.5%	-0.9%	14.5%	6.6%
Services Sector	3.6%	-2.2%	1.3%	-4.7%	-0.2%	-0.1%	2.2%	-0.8%	1.2%
Electricity Gas and Water	12.5%	2.5%	2.3%	7.8%	-3.8%	7.4%	-5.9%	5.5%	5.1%
Commerce	8.7%	-6.6%	18.7%	-17.1%	0.6%	10.9%	8.2%	-3.9%	0.2%
Transport Storage and Communication	11.7%	-4.6%	0.5%	8.0%	4.7%	5.3%	5.1%	0.4%	2.1%
Financial Services (Banking)	-6.7%	-8.6%	-22.6%	0.1%	6.3%	-14.9%	-4.2%	-2.3%	3.5%
General Government	2.0%	4.2%	-3.2%	-4.0%	-5.8%	-16.0%	2.4%	-1.5%	1.2%
Other Services	0.9%	0.4%	-0.4%	-0.7%	-0.9%	4.6%	-3.6%	2.3%	0.7%

Note: Based on 1980 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.2.2: BOLIVIA - Gross Domestic Product by Sector of Origin
Real Growth Rates

	1990	1991	1992	1993

Gross Domestic Product at M.P.	4.4%	4.6%	2.8%	4.1%
Indirect Taxes	4.3%	4.2%	-0.8%	1.6%
Gross Domestic Product at P.P.	4.5%	4.7%	3.1%	4.3%

Primary Sector	6.6%	7.1%	-2.3%	4.7%
Agriculture	4.6%	10.1%	-4.4%	3.6%
Mining	10.1%	1.8%	1.7%	6.8%
Hydrocarbons	3.2%	2.0%	0.4%	1.7%
Minerals	16.2%	1.7%	2.6%	10.7%
Secondary Sector	6.3%	3.7%	5.8%	4.3%
Manufacturing	7.1%	3.9%	4.2%	4.4%
Construction	3.6%	2.8%	12.4%	4.0%
Services Sector	2.7%	3.7%	5.1%	4.1%
Electricity Gas and Water	6.2%	9.6%	8.8%	8.2%
Commerce	4.9%	5.7%	5.2%	4.6%
Transport Storage and Communication	4.0%	3.9%	7.2%	6.1%
Financial Services (Banking)	1.9%	-0.1%	21.0%	14.0%
General Government	0.0%	4.6%	3.6%	2.0%
Other Services	1.6%	1.7%	1.1%	0.9%

Note: Based on 1990 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.3.1: BOLIVIA - Gross Domestic Product by Sector of Origin
Percentage Distribution (in Constant Prices)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Gross Domestic Product at M.P.	102.7%	103.1%	100.9%	100.5%	100.9%	101.2%	101.9%	102.1%	101.6%	101.6%
Indirect Taxes on Imports	2.7%	3.1%	0.9%	0.5%	0.9%	1.2%	1.9%	2.1%	1.6%	1.6%
Gross Domestic Product at P.P.	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Primary Sector	35.1%	35.3%	36.9%	33.6%	35.3%	35.9%	34.3%	34.5%	36.0%	36.6%
Agriculture	18.9%	18.6%	20.3%	17.5%	21.1%	23.0%	22.9%	23.2%	22.9%	22.0%
Mining	16.2%	16.7%	16.6%	16.1%	14.2%	12.9%	11.4%	11.3%	13.1%	14.6%
Hydrocarbons	5.6%	5.9%	6.4%	6.4%	6.3%	6.3%	6.4%	6.4%	6.4%	6.4%
Minerals	10.6%	10.9%	10.2%	9.7%	8.0%	6.6%	5.0%	4.9%	6.7%	8.2%
Secondary Sector	18.8%	17.2%	15.5%	16.2%	16.3%	15.3%	15.4%	15.3%	15.8%	16.0%
Manufacturing	15.0%	13.8%	12.4%	12.9%	13.2%	12.2%	12.9%	12.9%	13.1%	13.2%
Construction	3.8%	3.4%	3.1%	3.3%	3.2%	3.1%	2.5%	2.4%	2.7%	2.8%
Services Sector	46.1%	47.5%	47.6%	50.2%	48.3%	48.8%	50.4%	50.3%	48.2%	47.4%
Electricity Gas and Water	0.7%	0.8%	0.8%	0.8%	0.9%	0.9%	1.0%	0.9%	0.9%	0.9%
Commerce	11.1%	12.0%	11.5%	14.2%	11.9%	12.1%	13.8%	14.6%	13.6%	13.2%
Transport Storage and Communication	6.1%	6.8%	6.6%	6.9%	7.6%	8.0%	8.7%	9.0%	8.7%	8.7%
Financial Services (Banking)	6.0%	5.6%	5.2%	4.2%	4.2%	4.6%	4.0%	3.8%	3.6%	3.6%
General Government	10.8%	11.0%	11.7%	11.8%	11.4%	10.9%	9.5%	9.5%	9.0%	8.9%
Other Services	11.4%	11.5%	11.8%	12.2%	12.3%	12.3%	13.3%	12.5%	12.4%	12.1%

Note: Based on 1980 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.3.2 : BOLIVIA - Gross Domestic Product by Sector of Origin
Percentage Distribution (in Constant Prices)

	1990	1991	1992	1993
Gross Domestic Product at M.P.	108.2%	108.1%	107.8%	107.6%
Indirect Taxes	8.2%	8.1%	7.8%	7.6%
Gross Domestic Product at P.P.	100.0%	100.0%	100.0%	100.0%
Primary Sector	28.5%	29.1%	27.6%	27.7%
Agriculture	17.9%	18.8%	17.5%	17.3%
Mining	10.6%	10.3%	10.1%	10.4%
Hydrocarbons	4.7%	4.6%	4.5%	4.3%
Minerals	5.9%	5.7%	5.7%	6.0%
Secondary Sector	19.2%	19.0%	19.5%	19.5%
Manufacturing	15.2%	15.1%	15.2%	15.3%
Construction	4.0%	3.9%	4.2%	4.2%
Services Sector	52.4%	51.9%	52.9%	52.8%
Electricity Gas and Water	1.6%	1.7%	1.8%	1.8%
Commerce	11.3%	11.4%	11.6%	11.7%
Transport Storage and Communication	11.5%	11.4%	11.9%	12.1%
Financial Services (Banking)	2.7%	2.6%	3.1%	3.3%
General Government	9.9%	9.9%	9.9%	9.7%
Other Services	15.4%	14.9%	14.6%	14.2%

Note: Based on 1990 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.4: BOLIVIA - Gross Domestic Product by Expenditure Category
In Millions of Bolivianos

	1990	1991	1992	1993
GDP at M.P.	14,235.3	17,868.4	20,487.8	22,955.4
Imports of Goods and NFS	3,586.1	4,203.2	4,987.1	5,973.7
Exports of Goods and NFS	3,104.4	3,294.9	3,200.9	3,818.4
Resource Gap	(481.7)	(908.3)	(1,786.2)	(2,155.3)
Available Resources	14,717.0	18,776.7	22,274.0	25,110.7
Consumption	12,825.7	16,296.7	19,048.0	21,650.0
Public	1,594.7	1,968.3	2,603.9	3,064.8
Private	11,231.0	14,328.4	16,444.1	18,585.2
Investment	1,891.3	2,480.0	3,226.0	3,460.7
Fixed Investment	1,891.3	2,480.0	3,226.0	3,460.7
Public Sector	1,276.5	1,659.9	2,206.9	2,245.6
Private Sector	614.8	820.1	1,019.1	1,215.1
Changes in Stocks	0.0	0.0	0.0	0.0

Gross Domestic Savings	1,409.6	1,571.7	1,439.8	1,305.4
Net Factor Income	(764.9)	(868.4)	(752.8)	(872.6)
Current Transfers	68.5	80.6	88.5	91.3
Gross National Savings	713.2	783.9	775.5	524.0
Gross National Product	13,470.4	17,000.0	19,735.0	22,082.8

Note: Based on 1990 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.5: BOLIVIA - Gross Domestic Product by Expenditure Category
In Millions of 1980 Bolivianos

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
GDP at M.P.	122,946	124,083	118,675	113,377	112,695	111,609	108,829	111,669	114,963	118,221	124,342	130,062	133,704	139,185
Terms of Trade Effect	0	367	(1,442)	(1,878)	(3,131)	(3,133)	(7,913)	(9,312)	(12,038)	(14,497)	(15,807)	(17,474)	(20,701)	(22,633)
GDY	122,946	124,450	117,233	111,499	109,564	108,476	100,916	102,357	102,925	103,724	108,535	112,588	113,003	116,552
Imports of Goods and NFS	20,718	28,534	17,803	18,618	15,512	21,978	21,469	23,245	20,788	23,177	25,917	26,872	28,568	31,358
Exports of Goods and NFS	25,585	24,548	25,085	25,024	24,205	22,780	26,448	25,793	27,366	34,123	38,243	38,539	39,037	42,677
Terms of Trade adjustment	0	367	(1,442)	(1,878)	(3,131)	(3,133)	(7,913)	(9,312)	(12,038)	(14,497)	(15,807)	(17,474)	(20,701)	(22,633)
Exports TOT adjusted	25,585	24,915	23,643	23,146	21,074	19,647	18,535	16,481	15,328	19,626	22,436	21,065	18,336	20,044
Resource Gap	4,867	(3,986)	7,282	6,406	8,693	802	4,979	2,548	6,578	10,946	12,326	11,667	10,469	11,319
Available Resources	118,079	128,069	111,393	106,971	104,002	110,807	103,850	109,121	108,385	107,275	112,016	118,395	123,235	127,866
Consumption	99,898	110,123	97,851	98,989	97,842	104,285	99,517	102,694	101,645	100,690	104,778	110,178	113,773	118,544
Public	17,330	13,690	17,100	15,706	14,666	10,509	11,343	11,769	14,204	13,654	11,434	12,119	13,347	13,963
Private	82,568	96,433	80,751	83,283	83,176	93,776	88,174	90,925	87,441	87,036	93,344	98,059	100,426	104,581
Investment	18,181	17,946	13,542	7,982	6,160	6,522	4,333	6,427	6,740	6,585	7,238	8,217	9,462	9,322
Fixed Investment	17,637	14,269	13,529	7,936	6,761	5,022	5,333	5,927	6,840	7,085	7,238	8,217	9,462	9,322
Public Sector	8,593	9,316	6,720	4,634	3,587	2,462	2,698	3,598	4,516	4,844	4,885	5,500	6,473	6,049
Private Sector	9,044	4,953	6,809	3,302	3,174	2,560	2,635	2,329	2,324	2,241	2,353	2,717	2,989	3,273
Changes in Stocks	544	3,677	13	46	(601)	1,500	(1,000)	500	(100)	(500)	0	0	0	0
Gross Domestic Savings	23,048	13,960	20,824	14,388	14,853	7,324	9,312	8,975	13,318	17,531	19,564	19,884	19,931	20,641
Net Factor Income	(7,250)	(7,230)	(9,749)	(8,580)	(8,126)	(10,181)	(8,373)	(6,565)	(6,502)	(6,200)	(5,929)	(5,640)	(4,343)	(4,585)
Current Transfers	311	237	339	771	268	321	478	466	332	562	559	548	532	517
Gross National Savings	16,109	6,967	11,414	6,579	6,995	(2,536)	1,417	2,876	7,148	11,893	14,194	14,792	16,120	16,573
Gross National Product	115,696	116,853	108,926	104,797	104,569	101,428	100,456	105,104	108,461	112,021	118,413	124,422	129,361	134,600
Gross Domestic Income	122,946	124,450	117,233	111,499	109,564	108,476	100,916	102,357	102,925	103,724	108,535	112,588	113,003	116,552
Gross National Income	115,696	117,220	107,484	102,919	101,438	98,295	92,543	95,792	96,423	97,524	102,606	106,948	108,660	111,967

Note: 1980-1989 based on 1980 National Accounts structure.
1990 on, based on 1990 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 1.6: BOLIVIA --Gross Domestic Product by Expenditure Category
Real Growth Rates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
GDP at M.P.	0.9%	-4.4%	-4.5%	-0.6%	-1.0%	-2.5%	2.6%	2.9%	2.8%	4.4%	4.6%	2.8%	4.1%
Terms of Trade Effect	..	-493.0%	30.3%	66.7%	0.1%	152.6%	17.7%	29.3%	20.4%	9.0%	10.5%	18.5%	9.3%
GDY	1.2%	-5.8%	-4.9%	-1.7%	-1.0%	-7.0%	1.4%	0.6%	0.8%	3.6%	3.7%	0.4%	3.1%
Imports of Goods and NFS	37.7%	-37.6%	4.6%	-16.7%	41.7%	-2.3%	8.3%	-10.6%	11.5%	0.6%	3.7%	6.3%	9.8%
Exports of Goods and NFS	-4.1%	2.2%	-0.2%	-3.3%	-5.9%	16.1%	-2.5%	6.1%	24.7%	15.5%	0.8%	1.3%	9.3%
Exports TOT adjusted	-2.6%	-5.1%	-2.1%	-8.9%	-6.8%	-5.7%	-11.1%	-7.0%	28.0%	14.3%	-6.1%	-13.0%	9.3%
Resource Gap	-181.9%	-282.7%	-12.0%	35.7%	-90.8%	520.8%	-48.8%	158.2%	66.4%	12.6%	-5.3%	-10.3%	8.1%
Available Resources	8.5%	-13.0%	-4.0%	-2.8%	6.5%	-6.3%	5.1%	-0.7%	-1.0%	4.4%	5.7%	4.1%	3.8%
Consumption	10.2%	-11.1%	1.2%	-1.2%	6.6%	-4.6%	3.2%	-1.0%	-0.9%	-0.3%	5.2%	3.3%	4.2%
Public	-21.0%	24.9%	-8.2%	-6.6%	-28.3%	7.9%	3.8%	20.7%	-3.9%	3.5%	6.0%	10.1%	4.6%
Private	16.8%	-16.3%	3.1%	-0.1%	12.7%	-6.0%	3.1%	-3.8%	-0.5%	-0.7%	5.1%	2.4%	4.1%
Investment	-1.3%	-24.5%	-41.1%	-22.8%	5.9%	-33.6%	48.3%	4.9%	-2.3%	8.6%	13.5%	15.2%	-1.5%
Fixed Investment	-19.1%	-5.2%	-41.3%	-14.8%	-25.7%	6.2%	11.1%	15.4%	3.6%	8.6%	13.5%	15.2%	-1.5%
Public Sector	8.4%	-27.9%	-31.0%	-22.6%	-31.4%	9.6%	33.4%	25.5%	7.3%	10.4%	12.6%	17.7%	-6.6%
Private Sector	-45.2%	37.5%	-51.5%	-3.9%	-19.3%	2.9%	-11.6%	-0.2%	-3.6%	5.0%	15.5%	10.0%	9.5%
Gross Domestic Savings	-39.4%	49.2%	-30.9%	3.2%	-50.7%	27.1%	-3.6%	48.4%	31.6%	39.0%	1.6%	0.2%	3.6%
Net Factor Income	-0.3%	34.8%	-12.0%	-5.3%	25.3%	-17.8%	-21.6%	-1.0%	-4.6%	-2.6%	-4.9%	-23.0%	5.6%
Current Transfers	-23.8%	43.0%	127.4%	-65.2%	19.8%	48.9%	-2.5%	-28.8%	69.3%	-0.5%	-2.0%	-3.0%	-2.7%
Gross National Savings	-56.8%	63.8%	-42.4%	6.3%	-136.3%	-155.9%	103.0%	148.5%	66.4%	45.3%	4.2%	9.0%	2.8%
Gross National Product	1.0%	-6.8%	-3.8%	-0.2%	-3.0%	-1.0%	4.6%	3.2%	3.3%	4.8%	5.1%	4.0%	4.0%
Gross Domestic Income	1.2%	-5.8%	-4.9%	-1.7%	-1.0%	-7.0%	1.4%	0.6%	0.8%	3.6%	3.7%	0.4%	3.1%
Gross National Income	1.3%	-8.3%	-4.2%	-1.4%	-3.1%	-5.9%	3.5%	0.7%	1.1%	4.3%	4.2%	1.6%	3.0%

Note: 1980-1989 based on 1980 National Accounts structure.
1990 on, based on 1990 National Accounts structure.

Source: National Institute of Statistics and staff estimates.

Table 2.1: BOLIVIA - Balance of Payments
In Millions of US\$

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Balance of Goods and NFS	228.2	-110.0	225.5	178.8	213.2	-85.5	-111.5	-266.9	-243.3	-157.3	-151.9	-254.7	-457.2	-504.6
Trade Balance	263.8	-63.0	252.4	178.1	231.2	-62.5	-86.5	-247.6	-225.3	-138.3	-132.0	-233.3	-447.1	-495.9
Exports (FOB)	942.2	912.4	827.7	755.1	719.7	628.3	587.5	518.7	542.4	723.4	830.7	760.3	643.1	709.9
Imports (CIF)	678.4	975.4	575.3	577.1	488.5	690.8	674.0	766.3	767.7	861.7	962.7	993.6	1090.2	1205.8
Balance of NFS	-35.6	-47.0	-26.9	0.7	-18.0	-23.0	-25.0	-19.3	-18.0	-19.0	-19.9	-21.4	-10.1	-8.7
Receipts	81.4	87.2	76.3	97.1	87.5	93.2	117.0	134.0	130.7	145.1	147.7	159.3	176.8	184.4
Payments	117.0	134.2	103.2	96.4	105.5	116.2	142.0	153.3	148.7	164.1	167.6	180.7	186.9	193.1
Factor services (Net)	-295.7	-403.1	-464.9	-425.1	-441.5	-422.6	-308.9	-258.8	-260.0	-249.3	-241.1	-242.5	-193.0	-204.6
Net Private Transfers	12.7	13.3	16.7	40.2	22.5	14.5	17.0	17.9	12.6	21.9	21.6	22.5	22.7	21.4
Current Account Balance	-54.8	-499.8	-222.7	-206.1	-205.8	-493.6	-403.4	-507.8	-490.5	-384.7	-371.4	-474.7	-627.5	-687.8
Capital Account	150.6	341.0	149.5	494.6	353.3	522.3	358.1	172.8	314.5	367.7	394.5	446.2	532.6	655.3
Net Official Transfers	46.8	26.3	28.8	66.0	66.0	59.8	82.0	103.2	123.9	133.9	153.4	160.0	223.9	216.6
Direct Foreign Investment	43.9	75.6	31.0	6.9	7.0	10.0	10.0	36.4	30.0	35.0	35.0	50.0	86.0	121.6
Net M & LT Capital	311.5	251.4	185.1	45.5	60.3	24.8	292.2	84.6	164.6	239.6	76.8	109.4	202.8	196.4
Disbursements 1/	456.8	379.6	309.0	152.2	210.7	199.3	395.8	376.2	404.7	451.5	373.4	359.5	454.2	414.8
Amortizations 2/	145.3	128.2	123.9	106.7	150.3	174.4	103.6	291.7	240.0	211.9	296.6	250.2	251.4	218.4
Other Flows 3/	-251.6	-12.2	-95.4	376.2	220.0	427.7	-26.1	-51.4	-4.0	-40.8	129.3	126.8	19.9	120.7
Exceptional Financing 4/	..	..	..	..	..	..	155.7	294.0	146.2	-122.8	75.8	118.4	132.0	179.1
Change in Reserves	-95.8	158.8	73.2	-288.5	-147.5	-28.7	-110.4	41.0	29.8	139.8	-98.9	-89.9	-37.1	-146.6
Memo:														
Exports of G&NFS as %GDP	20.4	14.4	15.4	14.5	12.7	14.1	18.1	15.1	13.4	19.4	21.8	18.4	15.6	16.6
Imports of G&NFS as %GDP	15.9	16.0	11.6	11.5	9.3	15.8	21.0	21.3	18.3	22.9	25.2	23.5	24.3	26.0
Current Account as %GDP	-1.1%	-7.2%	-3.8%	-3.5%	-3.2%	-9.6%	-10.4%	-11.8%	-9.8%	-8.6%	-8.3%	-9.5%	-11.9%	-2.8%

Note: These figures may differ from other sources due to definitional and methodological differences.

1/ Includes Capitalized Interest

2/ Amortization paid only

3/ Includes short-term, private non-guaranteed, errors and omissions, and arrears of Argentina.

4/ Includes unpaid amortization of bilateral creditors, change in arrears and debt writeoff.

Source: The Central Bank of Bolivia.

Table 2.2: BOLIVIA - Merchandise Exports
In Millions of US\$

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Minerals:	638.5	556.1	419.3	347.4	364.0	263.6	196.9	206.9	273.1	403.3	407.1	356.1	380.1	362.0

Tin Metallic	238.8	265.9	237.3	175.5	190.8	133.9	55.3	12.6	43.5	81.4	83.0	80.0	87.0	74.6
Tin Concentrated	139.3	77.2	41.0	32.4	57.0	52.7	48.8	56.2	33.4	45.1	23.5	19.7	20.3	8.8
Antimony	26.4	34.3	17.8	16.3	22.9	15.9	14.5	22.8	17.4	15.8	12.8	10.3	9.3	7.8
Tungsten	47.4	43.0	33.8	20.0	18.9	10.3	6.7	5.1	5.3	6.9	4.7	7.7	5.8	1.6
Zinc	36.7	40.4	38.4	33.4	37.3	29.5	28.0	32.7	60.1	132.0	146.0	139.7	172.8	119.5
Copper	3.5	4.4	3.1	3.0	1.8	1.7	0.8	0.0	0.1	0.0	1.1	0.1	0.2	0.2
Silver	118.3	71.7	37.1	58.3	21.4	10.2	27.3	33.3	45.1	58.5	50.8	43.1	44.8	56.0
Lead	14.5	11.5	6.5	4.0	1.0	0.5	5.0	4.2	5.9	11.2	15.3	10.9	10.9	9.8
Gold	..	..	..	..	..	5.5	7.2	37.5	59.8	44.5	64.6	39.1	22.0	76.3
Other 1/	13.5	7.7	4.3	4.5	12.9	3.4	3.3	2.5	2.5	7.9	5.3	5.5	7.0	7.4
Hydrocarbons:	245.1	346.5	398.4	420.1	388.9	376.3	334.1	256.1	218.6	213.9	226.9	241.2	125.4	96.5

Natural Gas	220.9	336.7	381.6	378.2	375.7	374.4	329.1	248.6	214.9	213.8	225.2	232.6	122.9	90.2
Other 2/	24.3	9.8	16.8	41.9	13.2	1.9	5.0	7.5	3.7	0.1	1.7	8.6	2.5	6.3
Non-Traditionals:	156.0	96.3	87.9	54.6	29.2	32.5	106.8	106.5	108.4	204.3	292.5	251.3	205.0	296.1

Sugar	51.2	5.7	8.1	12.3	6.6	1.8	5.2	8.6	6.3	19.3	31.7	30.8	25.3	18.5
Coffee	20.8	15.8	15.5	12.9	6.6	13.8	13.0	11.6	16.9	12.7	14.3	7.2	6.8	3.7
Timber	31.1	18.0	11.6	7.8	6.0	5.8	21.3	30.9	25.5	44.2	49.8	48.8	54.7	52.3
Soy	6.1	3.6	7.4	4.6	1.5	5.3	17.3	19.2	20.2	54.3	48.2	69.3	51.5	68.9
Other Non-Traditionals 3/	46.8	53.3	45.2	17.1	8.5	5.8	50.0	36.2	39.5	73.8	148.5	95.2	66.7	152.7
Memo: IBC's Other	194.5	147.5	106.4	64.4	60.1	49.8	104.7	141.3	181.6	270.2	398.3	307.0	314.1	405.1
Total Merchandise Exports (CIF)	1039.6	998.9	905.6	822.0	782.2	672.5	637.8	569.5	600.1	821.5	926.5	848.6	710.5	754.6
Freight and Insurance 4/	97.4	86.5	77.9	66.9	62.5	44.2	50.3	50.8	57.7	98.1	95.8	88.3	102.0	78.4
Re-exports													34.6	33.7
Total Merchandise Exports (FOB)	942.2	912.4	827.7	755.1	719.7	628.3	587.5	518.7	542.4	723.4	830.7	760.3	643.1	709.9
Non-Factor Services 5/	81.4	87.2	76.3	97.1	87.5	93.2	117.0	134.0	130.7	145.1	147.7	159.3	176.8	184.4
Total Exports and NPS (FOB)	1023.6	999.6	904.0	852.2	807.2	721.5	704.5	652.7	673.1	868.5	978.4	919.6	819.9	894.3

Note: 1/ Includes Bismuth and Alloys.
2/ Includes Gasoline, Diesel Oil, Propane,
3/ Includes Cotton, Leather, Castana, Goma, Meat, Ca
4/ Difference between CIF and FOB price of exports.
5/ Includes shipment, other transport, other goods, services and rent

Sources: The Central Bank of Bolivia and staff estimates.

Table 2.3: BOLIVIA - Merchandise Exports
Real Growth Rates

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Minerals:	-10.2	7.9	-13.9	-17.4	2.7	-22.5	24.7	-20.4	22.1	37.7	12.5	-5.3	-1.1	11.3

Metals														
Tin Metallic	-7.2	31.7	-0.4	-27.5	15.4	-25.0	-29.9	-78.0	232.9	55.8	39.8	8.3	-7.8	9.4
Tin Concentrated	-26.4	-33.6	-41.3	-22.5	85.8	-4.7	94.6	-4.8	-42.4	7.9	-27.1	-5.4	0.8	-53.0
Antimony	-24.1	39.9	-39.1	18.8	-18.6	-29.6	10.4	45.9	0.0	9.5	-8.8	-10.8	-0.6	-15.9
Tungsten	29.9	-10.0	5.8	-21.0	-4.3	-35.2	-6.3	-20.1	-13.8	32.6	-9.7	20.5	-40.9	-24.4
Zinc	-14.3	-3.2	-0.1	-8.4	-10.2	-7.9	4.8	11.3	36.3	49.0	22.7	29.4	-13.8	1.0
Copper	0.0	0.0	0.0	0.0	0.0	45.0	-54.9	-100.0		-99.9	528900.0	-95.5	9251.1	-98.5
Silver	-2.8	15.9	-26.0	4.7	-49.4	-34.9	203.9	-6.3	51.6	48.4	3.1	-5.6	14.7	-1.1
Lead	1.9	-1.5	-27.6	-16.2	-74.9	-41.1	819.5	-42.4	33.9	72.0	13.0	1.3	3.5	14.5
Gold	0.0	0.0	0.0	0.0	0.0	0.0	12.8	325.3	63.6	-15.2	43.3	-37.5	-5.0	252.9
Other 1/	27.3	-27.2	-37.8	11.1	177.7	-53.0	22.3	-22.6	-12.3	225.6	-32.6	22.5	-2.1	8.8
Hydrocarbons:	4.3	0.4	7.7	7.3	-11.0	-4.4	3.9	-0.7	1.4	-5.4	1.8	10.5	-13.0	47.1

Natural Gas	18.2	7.5	4.7	-3.2	-0.6	0.3	-0.1	-4.3	5.1	-0.9	-0.2	-1.2	-1.2	-0.4
Other 2/	-49.6	-64.3	89.7	165.7	-68.0	-84.8	457.1	71.5	-40.8	-95.8	960.0	537.7	-95.3	7026.0
Non-Traditionals:	-7.5	-51.8	27.1	-1.1	-43.1	64.4	10.3	41.7	-5.5	65.3	18.3	-8.6	-16.2	29.8

Sugar		-81.0	90.2	33.2	-59.9	-68.4	176.1	111.0	-36.2	91.0	77.5	6.5	-15.1	-37.3
Coffee	-27.1	-6.7	35.2	-3.6	-50.3	102.2	-22.2	14.9	21.9	-9.4	45.9	-50.5	124.4	-76.7
Timber	16.5	-60.6	-27.3	-6.0	-4.6	12.2	117.9	14.8	-8.1	57.7	10.8	0.2	14.2	-19.9
Soy	-100.0	-58.1	203.3	17.5	-61.5	134.7	159.2	10.7	-14.5	178.4	-8.5	51.0	-47.9	128.7
Other Non-Traditionals 3/	-8.4	-33.1	9.2	-20.5	-27.0	115.2	-33.8	81.2	-1.4	58.2	15.0	-35.3	-36.6	156.0

Total Merchandise Exports (CIF)	-8.5	-1.8	-5.6	-8.3	-6.0	-14.2	20.0	-8.3	12.0	24.6	11.6	-4.0	-5.2	17.4
Freight and Insurance 4/	-8.8	-11.6	-8.7	-11.8	-4.9	-29.8	-4.2	-8.8	4.9	68.7	7.9	-54.0	114.0	106.8
Total Merchandise Exports (FOB)	-8.4	-0.8	-5.3	-7.9	-6.1	-12.8	21.7	-8.3	12.4	22.3	11.9	-0.5	-9.0	10.6
Non-Factor Services 5/	-24.2	6.6	-11.3	30.7	-8.3	5.7	5.7	3.5	-10.0	8.5	-2.1	1.3	8.4	4.5
Total Exports and NPS (FOB)	-10.0	-0.2	-5.8	-4.8	-6.4	-10.7	19.6	-6.9	9.5	20.8	10.5	-0.4	-7.5	10.0

Note: 1/ Includes Bismuth and Alloys.

2/ Includes Gasoline, Diesel Oil, Propane, Butane, and Crude Petroleum.

3/ Includes Cotton, Leather, Castana, Goma, Meat, Cattle, Metal Products and Crafts.

4/ Difference between CIF and FOB price of exports.

5/ Includes shipment, other transport, other goods, services and rent as it appears in the Central Bank of Bolivia's balance of payments.

Sources: The Central Bank of Bolivia and staff estimates.

Table 2.4: BOLIVIA - Merchandise Exports
Price Indices, 1980=100

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Minerals:	100.0	80.7	70.7	70.9	72.3	67.6	40.5	53.5	57.8	62.0	55.7	51.4	55.5	47.5

Metals														
Tin Metallic	100.0	84.5	75.7	77.2	72.7	68.0	40.1	41.6	43.2	51.8	37.8	33.7	39.7	31.1
Tin Concentrated	100.0	83.4	75.5	77.1	72.9	70.7	33.7	40.7	42.0	52.6	37.6	33.3	34.0	31.4
Antimony	100.0	92.8	79.0	61.1	105.4	103.5	85.7	92.4	104.1	86.3	76.7	69.2	62.8	62.7
Tungsten	100.0	100.8	74.9	56.1	55.6	46.6	32.4	30.8	37.2	36.5	27.5	37.4	47.7	17.4
Zinc	100.0	113.9	108.3	102.8	127.8	109.7	99.4	104.3	140.7	207.3	186.9	138.2	198.4	135.9
Copper	100.0	81.3	68.8	72.9	64.6	64.2	64.8		75.2	0.0	207.9	420.1	9.0	593.3
Silver	100.0	52.3	36.5	54.9	39.9	29.1	25.7	33.5	29.9	26.1	22.0	19.8	17.9	22.6
Lead	100.0	80.5	63.4	46.3	46.3	42.0	42.6	61.9	65.0	71.7	86.7	61.0	58.9	46.3
Gold						85.1	98.4	120.8	117.7	103.2	104.6	101.3	60.0	58.9
Other 1/	100.0	78.4	70.4	66.2	68.0	38.7	30.3	29.8	33.9	32.9	32.8	27.8	36.1	35.1
Hydrocarbons:	100.0	140.7	150.3	147.7	153.6	155.5	132.9	102.6	86.3	89.3	93.0	89.5	53.5	28.0

Natural Gas	100.0	141.7	153.5	157.1	157.1	156.1	137.3	108.4	89.1	89.4	94.4	98.7	52.8	38.9
Other 2/	100.0	113.6	102.3	96.1	94.4	91.3	42.6	37.0	30.8	20.0	32.1	25.4	157.8	5.6
Non-Traditionals:	100.0	128.0	91.9	57.7	54.4	36.8	109.5	77.0	83.0	94.6	114.5	107.7	104.8	116.6

Sugar	100.0	58.3	43.5	49.8	67.2	56.5	60.4	47.2	54.2	86.9	80.5	73.4	71.0	82.9
Coffee	100.0	81.6	59.2	51.1	52.3	54.3	65.9	51.1	61.0	50.6	39.0	39.7	16.7	39.1
Timber	100.0	147.0	130.6	92.9	75.0	65.1	109.2	138.1	124.1	136.4	138.7	135.7	133.2	158.9
Soy	100.0	139.3	96.0	49.9	43.5	64.7	81.0	81.2	99.9	96.4	93.6	89.1	127.0	74.3
Other Non-Traditionals 3/	100.0	169.9	132.1	62.9	42.9	13.6	176.5	70.6	78.1	92.3	161.4	159.9	176.8	158.2

Total Merchandise Exports (CIF)	103.2	101.0	97.0	96.0	97.2	97.4	77.0	74.9	70.5	77.4	78.3	74.7	65.9	59.6
Freight and Insurance 4/	100.0	100.5	99.1	96.5	94.8	95.5	113.4	125.5	136.0	137.0	124.0	248.7	134.3	49.9
Total Merchandise Exports (FOB)	103.5	101.0	96.8	95.9	97.4	97.5	74.9	72.1	67.0	73.1	75.1	69.1	64.2	64.1
Non-Factor Services 5/	100.0	100.5	99.1	96.5	94.8	95.5	113.4	125.5	136.0	139.1	144.7	154.0	157.7	157.4
Total Exports and NFS (FOB)	103.2	101.0	97.0	96.0	97.1	97.2	79.4	79.0	74.4	79.4	81.0	76.4	73.6	73.0

Note: 1/ Includes Bismuth and Alloys.
2/ Includes Gasoline, Diesel Oil, Propane, Butane, and Crude Petroleum.
3/ Includes Cotton, Leather, Castana, Goma, Meat, Cattle, Metal Products and Crafts.
4/ Difference between CIF and FOB price of exports.
5/ Includes shipment, other transport, other goods, services and rent as it appears in the Central Bank of Bolivia's balance of payments.

Sources: The Central Bank of Bolivia and staff estimates.

Table 2.5: BOLIVIA - Merchandise Exports
Percentage Distribution

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total Merchandise Exports (CIF)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Minerals:	61.4	55.7	46.3	42.3	46.5	39.2	30.9	36.3	45.5	49.1	43.9	42.0	53.5	48.0

Tin Metallic	23.0	26.6	26.2	21.3	24.4	19.9	8.7	2.2	7.2	9.9	9.0	9.4	12.2	9.9
Tin Concentrated	13.4	7.7	4.5	3.9	7.3	7.8	7.7	9.9	5.6	5.5	2.5	2.3	2.9	1.2
Antimony	2.5	3.4	2.0	2.0	2.9	2.4	2.3	4.0	2.9	1.9	1.4	1.2	1.3	1.0
Tungsten	4.6	4.3	3.7	2.4	2.4	1.5	1.1	0.9	0.9	0.8	0.5	0.9	0.8	0.2
Zinc	3.5	4.0	4.2	4.1	4.8	4.4	4.4	5.7	10.0	16.1	15.8	16.5	24.3	15.8
Copper	0.3	0.4	0.3	0.4	0.2	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Silver	11.4	7.2	4.1	7.1	2.7	1.5	4.3	5.8	7.5	7.1	5.5	5.1	6.3	7.4
Lead	1.4	1.1	0.7	0.5	0.1	0.1	0.8	0.7	1.0	1.4	1.7	1.3	1.5	1.7
Gold						0.8	1.1	6.6	10.0	5.4	7.0	4.6	3.1	10.1
Other 1/	1.3	0.8	0.5	0.5	1.6	0.5	0.5	0.4	0.4	1.0	0.6	0.6	1.0	1.0
Hydrocarbons:	23.6	34.7	44.0	51.1	49.7	56.0	52.4	45.0	36.4	26.0	24.5	28.4	17.6	12.8

Natural Gas	21.2	33.7	42.1	46.0	48.0	55.7	51.6	43.7	35.8	26.0	24.3	27.4	17.3	12.0
Other 2/	2.3	1.0	1.9	5.1	1.7	0.3	0.8	1.3	0.6	0.0	0.2	1.0	0.4	0.8
Non-Traditionals:	15.0	9.6	9.7	6.6	3.7	4.8	16.7	18.7	18.1	24.9	31.6	29.6	28.9	39.2

Sugar	4.9	0.6	0.9	1.5	0.9	0.3	0.8	1.5	1.0	2.3	3.4	3.6	3.6	2.5
Coffee	2.0	1.6	1.7	1.6	0.8	2.0	2.0	2.0	2.8	1.5	1.5	0.8	1.0	0.5
Timber	3.0	1.8	1.3	0.9	0.8	0.9	3.3	5.4	4.2	5.4	5.4	5.8	7.7	6.9
Soy	0.6	0.4	0.8	0.6	0.2	0.8	2.7	3.4	3.4	6.6	5.2	8.2	7.2	9.1
Other Non-Traditionals 3/	4.5	5.3	5.0	2.1	1.1	0.9	7.8	6.4	6.6	9.0	16.0	11.2	9.4	20.2

Note: 1/ Includes Bismuth and Alloys.

2/ Includes Gasoline, Diesel Oil, Propane, Butane, and Crude Petroleum.

3/ Includes Cotton, Leather, Castana, Goma, Meat, Cattle, Metal Products and Crafts.

4/ Difference between CIF and FOB price of exports.

5/ Includes shipment, other transport, other goods, services and rent as it appears in the Central Bank of Bolivia's balance of payments.

Sources: The Central Bank of Bolivia and staff estimates.

Table 2.6: BOLIVIA - Merchandise Imports
In Millions of US\$

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Consumer Goods	172.2	248.4	100.0	66.0	94.9	133.8	133.7	190.3	128.3	137.5	143.3	206.0	204.8	242.7
Non Durable	106.6	123.3	59.2	46.4	42.0	46.1	61.9	92.8	57.4	70.2	59.3	96.3	97.9	116.0
Durable	65.6	125.2	40.8	19.6	52.9	87.7	71.8	97.5	70.9	67.3	84.0	109.7	106.9	126.7
Raw Materials and Intermediate Goods	255.4	363.6	258.9	282.3	203.1	278.7	235.3	306.5	228.3	258.0	267.2	375.4	384.6	422.8
Fuel	1.8	14.8	9.4	4.1	1.5	2.4	2.7	2.0	4.8	2.6	3.5	8.1	11.4	12.6
For Agriculture	11.4	15.7	7.7	11.2	17.5	18.4	15.8	11.2	8.3	9.7	10.9	22.1	12.2	13.5
For Industry	209.6	280.8	204.9	223.7	152.4	231.7	183.2	256.1	185.7	208.3	208.2	286.5	311.4	342.0
For Construction	32.6	52.4	37.0	43.3	31.7	26.2	33.6	37.2	29.5	37.4	44.6	58.7	49.6	54.7
Capital Goods	247.2	356.1	204.7	222.2	185.1	253.8	281.6	262.5	231.8	220.8	289.7	383.5	469.5	518.2
For Agriculture	13.8	21.7	5.4	7.3	13.5	27.4	40.1	24.2	13.4	13.9	17.1	24.7	18.6	20.5
For Industry	150.9	207.7	144.7	156.3	103.4	137.1	151.7	133.8	137.5	127.6	181.0	252.2	301.5	332.8
Transport and Equipment	82.5	126.6	54.6	58.6	68.2	89.3	89.8	104.5	80.9	79.3	91.6	106.6	149.4	164.9
Other Goods 1/ Unrecorded 2/	3.6	7.2	11.6	6.6	5.4	24.5	23.4	7.0	2.1	3.6	2.5	28.7	31.3	22.1
									177.2	241.8	260.0			

Total Merchandise Imports (CIF)	678.4	975.4	575.3	577.1	488.5	690.8	674.0	766.3	767.7	861.7	962.7	993.6	1090.2	1205.8
Freight and Insurance	102.0	138.9	58.2	93.1	79.3	125.8	110.1	120.0	85.9	98.4	83.3	117.8	125.9	139.2
Total Merchandise Imports (FOB)	576.4	836.5	517.1	484.0	409.2	565.0	563.9	646.3	681.8	763.3	879.4	875.8	964.3	1066.6
Non-Factor Services	117.0	134.2	103.2	96.4	105.5	116.2	142.0	153.3	148.7	164.1	167.6	180.7	186.9	193.1
Total Imports and NFS (CIF)	795.4	1109.6	678.5	673.5	594.0	807.0	816.0	919.6	916.4	1025.8	1130.3	1174.3	1277.1	1398.9

Note: 1/ Includes wheat and other government imports. It also includes unrecorded imports for the 1988-90 period.

2/ Balance of Payments adjustments.

Source: The Central Bank of Bolivia and staff estimates.

Table 2.7: BOLIVIA - Merchandise Imports
Price Indices, 1980 = 100

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Consumer Goods	100.0	104.3	108.5	93.5	99.1	93.7	102.2	106.3	119.0	139.5	142.7	156.7	159.1	161.7
Durable	100.0	97.7	104.4	94.5	87.1	89.2	99.9	104.6	119.4	140.3	143.6	177.1	179.8	164.4
Non Durable	100.0	108.6	110.5	91.1	102.6	83.4	85.9	88.6	96.9	114.1	116.7	143.9	146.1	159.3
Raw Materials and Intermediate Goods	100.0	105.9	114.5	115.4	127.2	154.5	139.1	155.0	154.9	195.4	245.1	291.7	314.0	311.6
Fuel	100.0	125.9	206.6	176.7	262.7	223.1	168.8	198.2						
For Agriculture	100.0	104.6	112.7	82.9	102.5	87.7	94.5	88.0	93.4	118.5	147.1	261.3	281.2	281.7
For Industry	100.0	104.1	109.8	114.7	131.4	164.9	146.8	165.5	166.2	219.6	269.6	479.0	515.6	511.1
For Construction	100.0	113.5	127.2	113.9	92.0	111.7	95.6	107.5	100.0	127.0	147.4	261.3	281.2	279.9
Capital Goods	100.0	110.0	119.1	120.7	112.0	111.3	104.4	109.8	116.9	112.9	116.3	118.0	128.2	127.9
For Agriculture	100.0	114.4	95.8	85.4	70.6	59.3	57.8	62.9	60.1	57.8	58.2	61.7	67.0	66.8
For Industry	100.0	112.1	124.9	128.1	114.8	114.4	105.9	110.2	123.2	119.0	122.6	130.0	141.2	140.9
Transport and Equipment	100.0	106.6	114.6	113.9	114.3	117.5	110.7	116.7	119.9	113.6	117.0	124.1	134.8	134.5
Other Goods	100.0	91.5	91.5	103.6	91.3	93.6	95.3	87.8	88.7	112.3	116.3	118.0	123.1	123.7
Unrecorded														

Total Merchandise Imports (CIF)	100.0	106.7	114.3	113.0	116.5	126.4	121.0	129.0	135.7	149.1	171.8	188.4	192.9	192.5
Freight and Insurance	100.0	100.6	97.6	96.4	94.7	94.2	111.4	122.3	130.1	135.3	138.0	138.1	142.2	
Total Merchandise Imports (FOB)	100.0	107.8	116.5	116.9	121.9	136.8	123.1	130.3	136.4	151.1	175.9	198.1	202.3	170.3
Non-Factor Services	100.0	100.6	97.6	96.4	94.7	94.2	111.4	122.3	130.1	135.3	138.0	138.1	142.3	
Total Imports and NFS (CIF)	100.0	105.9	111.4	110.3	111.9	120.5	119.2	127.8	134.8	146.7	165.8	178.4	183.4	223.4

Source: The Central Bank of Bolivia and staff estimates.

Table 2.8: BOLIVIA - Merchandise Imports
Real Growth Rates

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Consumer Goods	-22.2	40.3	-61.6	-22.7	41.9	51.1	-6.3	37.5	-40.1	-7.7	-0.2	17.9	-1.9	18.5
Durable														
Non Durable														
Raw Materials and Intermediate Goods	-29.4	34.4	-34.1	8.2	-34.7	13.0	-6.2	16.9	-25.5	-10.4	-17.4	18.0	-4.8	10.8
Fuel	-88.9	564.0	-61.3	-48.9	-75.6	90.4	48.7	-36.9	-100.0	-100.0	-100.0	-100.0		
Other Intermediate Goods	-26.7	36.8	-26.3	12.8	-26.2	37.8	-28.8	19.2	-31.0	9.9	1.2	39.1		
Capital Goods	-40.3	30.9	-46.9	7.1	-10.2	38.0	18.3	-11.4	-17.1	-1.4	27.4	30.5	12.7	10.6
Other Goods	-50.6	121.5	60.0	-49.7	-6.4	339.1	-6.2	-67.5	-70.3	35.4	-32.9	1031.5	4.6	-29.7
Total Merchandise Imports (CIF)	-32.5	34.8	-44.9	1.5	-17.9	30.3	1.9	6.6	-4.8	2.2	-3.0	-5.9	7.2	10.8
Freight and Insurance	-57.8	35.4	-56.8	61.9	-13.3	59.4	-26.0	-0.7	-32.7	10.1	-17.0	41.3	3.8	
Total Merchandise Imports (FOB)	-24.4	34.6	-42.8	-6.7	-19.0	23.1	10.9	8.2	0.8	1.1	-1.0	-11.6	7.8	31.4
Non-Factor Services	-14.1	14.0	-20.7	-5.5	11.4	10.7	3.4	-1.7	-8.8	6.1	0.1	7.7	0.4	
Total Imports and NFS (CIF)	-30.3	31.7	-41.9	0.3	-13.1	26.2	2.2	5.1	-5.5	2.8	-2.5	-3.5	5.8	-10.1

1/ Estimated using MUV only as surrogate for weighted MUV and Food indices.

2/ Estimated using MUV only in place of weighted MUV and Fuel indices.

Source: Central Bank of Bolivia, National Institute of Statistics, IMP and staff estimates.

Table 2.9: BOLIVIA - Merchandise Imports
Percentage Distribution

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total Merchandise Imports (CIF)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Consumer Goods	25.4	25.5	17.4	11.4	19.4	19.4	19.8	24.8	16.7	16.0	14.9	20.7	18.8	20.1
Raw Materials and Intermediate Goods	37.6	37.3	45.0	48.9	41.6	40.3	34.9	40.0	29.7	29.9	27.8	37.8	35.3	35.1
Fuel	0.3	1.5	1.6	0.7	0.3	0.3	0.4	0.3	0.6	0.3	0.4	0.8	1.0	1.0
For Agriculture	1.7	1.6	1.3	1.9	3.6	2.7	2.3	1.5	1.1	1.1	1.1	2.2	1.1	1.1
For Industry	30.9	28.8	35.6	38.8	31.2	33.5	27.2	33.4	24.2	24.2	21.6	28.8	28.6	28.4
For Construction	4.8	5.4	6.4	7.5	6.5	3.8	5.0	4.9	3.8	4.3	4.6	5.9	4.5	4.5
Capital Goods	36.4	36.5	35.6	38.5	37.9	36.7	41.8	34.3	30.2	25.6	30.1	38.6	43.1	43.0
For Agriculture	2.0	2.2	0.9	1.3	2.8	4.0	5.9	3.2	1.7	1.6	1.8	2.5	1.7	1.7
For Industry	22.2	21.3	25.2	27.1	21.2	19.8	22.5	17.5	17.9	14.8	18.8	25.4	27.7	27.6
Transport and Equipment	12.2	13.0	9.5	10.2	14.0	12.9	13.3	13.6	10.5	9.2	9.5	10.7	13.7	13.7
Other Goods 1/	0.5	0.7	2.0	1.1	1.1	3.5	3.5	0.9	0.3	0.4	0.3	2.9	2.9	1.8
Unrecorded 2/									23.1	28.1	27.0			

Note: 1/ Includes wheat and other government imports. It also includes unrecorded imports for the 1988-90 period.

2/ Balance of Payments adjustments.

Source: The Central Bank of Bolivia and staff estimates.

Table 3.1: BOLIVIA - External Debt, Disbursements and Repayments
In Millions of US\$

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
DISBURSEMENTS 1/													
Public & Publicly Guar. LT	440.8	373.2	244.2	152.2	210.7	199.3	395.8	376.2	404.7	451.5	373.4	359.5	454.2
Official Creditors	194.9	209.0	192.0	136.9	195.3	197.0	389.1	351.2	404.7	446.4	364.4	344.9	450.7
Multilateral	107.7	82.5	101.6	91.5	82.0	73.3	243.2	154.6	257.4	277.0	204.3	197.0	248.6
IBRD	72.6	31.3	18.6	9.6	13.6	10.5	3.3	1.9	0.0	0.0	0.0	0.0	0.0
IDA	1.8	14.9	11.5	3.3	2.1	1.7	4.0	41.3	111.5	78.8	48.7	47.9	55.3
IDB	28.5	34.9	36.7	22.1	39.0	54.5	117.3	82.8	96.1	127.9	90.8	100.0	157.6
CAF	0.6	0.9	1.5	1.5	23.2	1.5	8.6	18.2	33.7	61.4	58.1	38.4	23.8
Other	4.3	0.5	33.3	55.0	4.2	5.1	110.0	10.4	16.1	8.9	6.8	10.7	12.0
Bilateral	87.2	126.5	90.4	45.4	113.3	123.7	146.0	196.6	147.2	169.3	160.1	147.9	202.1
Private Creditors	245.9	164.2	52.2	15.3	15.3	2.3	6.7	25.0	0.0	5.1	9.1	14.6	3.5
Suppliers	21.8	14.4	12.8	1.7	12.6	0.8	6.7	0.0	0.0	1.5	9.1	2.4	1.8
Financial Inst.	57.8	6.6	7.8	9.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	6.6	1.4
Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Export Credit	166.3	143.2	31.6	4.6	2.7	1.5	0.0	0.0	0.0	3.6	0.0	5.6	0.3
Memo: IMF Purchases	96.4	0.2	27.0	19.1	0.0	0.0	134.7	0.0	91.3	56.9	30.8	31.0	51.1
REPAYMENTS 2/													
Public & Publicly Guar. LT	126.3	109.8	107.9	106.7	114.3	148.6	103.6	291.7	240.0	211.9	272.6	225.2	223.4
Official Creditors	41.1	47.9	53.3	61.3	94.4	135.9	92.4	284.9	208.9	205.1	266.9	219.6	215.8
Multilateral	7.2	10.4	14.1	17.2	35.4	72.7	71.3	60.8	71.3	110.1	116.9	81.2	86.8
IBRD	2.6	3.9	9.1	9.1	13.4	11.7	17.9	18.6	22.7	18.7	20.9	25.3	21.5
IDA	0.3	0.4	0.2	0.6	0.8	1.0	1.0	1.1	1.2	1.4	1.6	1.7	1.8
IDB	2.3	3.9	2.1	3.9	4.1	7.4	7.9	9.1	9.8	14.8	25.0	28.6	28.9
CAF	0.8	1.0	1.8	3.2	3.5	2.6	20.9	5.1	9.5	47.0	40.9	21.9	31.2
Other	1.2	1.2	0.9	0.4	13.6	49.9	23.6	26.9	28.2	28.3	28.6	3.6	3.3
Bilateral	33.9	37.5	39.2	44.1	59.0	63.3	21.1	224.1	137.6	95.0	150.0	138.4	129.1
Private Creditors	85.2	62.0	54.7	45.5	19.9	12.7	11.2	6.8	31.2	6.8	5.8	5.6	7.6
Suppliers	28.8	25.5	17.3	13.8	11.5	5.0	4.8	2.4	3.0	4.4	3.9	4.7	6.4
Financial Inst.	47.7	28.8	17.5	5.6	3.1	3.0	0.5	1.2	25.0	0.0	0.0	0.0	1.1
Bonds	0.9	0.0	15.3	1.8	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0
Export Credit	7.9	7.7	4.6	24.2	4.3	3.8	5.0	2.4	2.2	2.4	1.9	0.8	0.1
Memo: IMF Repurchases	0.0	2.2	8.3	11.5	24.0	23.5	38.2	34.5	59.0	12.0	45.6	44.1	37.0

Note: 1/ Beginning in 1985, figures includes capitalised interest to bilaterals.
2/ Beginning in 1987, figures include amortization not paid to bilaterals.

Source: The World Bank debt reporting system.

Table 3.2: BOLIVIA - External Debt, Interest and Debt Outstanding
In Millions of US\$

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
INTEREST													
Public & Publicly Guar. LT	163.8	170.7	180.8	183.9	190.4	161.9	120.9	195.6	167.6	163.1	190.2	179.7	159.8
Official Creditors	42.2	49.9	66.1	64.6	137.1	139.3	117.6	192.0	162.7	157.9	187.8	177.1	156.7
Multilateral	21.2	26.1	31.8	29.3	42.6	35.9	43.2	51.4	61.1	67.7	69.0	74.5	77.7
IDA	0.5	0.5	0.5	0.7	0.6	0.8	0.7	1.2	1.7	2.0	2.5	3.0	3.4
IBRD	10.5	14.6	15.3	13.6	17.8	15.6	19.6	20.2	19.8	17.9	15.3	16.3	13.5
IDB	8.9	10.0	9.3	9.8	11.2	13.4	13.1	19.4	25.7	32.5	36.9	42.4	46.1
CAP	0.8	0.7	1.4	1.2	3.4	1.4	7.6	2.3	6.7	8.1	8.7	9.5	10.6
Other	0.5	0.4	5.3	4.0	9.5	4.8	2.1	8.3	7.2	7.1	5.6	3.3	4.1
Bilateral	21.0	23.7	34.2	35.3	94.5	103.4	74.4	140.6	101.6	90.3	118.8	102.6	79.0
Private Creditors	121.6	120.9	114.7	119.3	53.3	22.6	3.3	3.6	4.9	5.2	2.4	2.6	3.0
Suppliers	13.2	7.7	4.1	4.3	4.1	0.6	1.2	0.8	0.8	2.0	1.6	1.2	1.8
Financial Inst.	94.8	85.3	71.8	79.5	23.1	0.3	0.1	0.0	1.7	0.0	0.6	0.9	1.0
Bonds	3.4	1.5	1.6	4.6	1.9	1.1	1.1	1.9	1.9	0.0	0.0	0.0	0.0
Export Credit	10.2	26.3	37.2	30.8	24.3	20.6	0.9	1.0	0.6	3.2	0.2	0.6	0.2
Memo: IMF Service Charges	2.5	6.5	7.3	7.8	7.1	5.4	4.3	8.8	8.5	12.2	13.0	9.4	4.3
DEBT OUTSTANDING & DISB (DOD) 1/													
Public & Publicly Guar. LT	2181.6	2724.5	2837.3	3254.9	3371.9	3573.6	4199.8	4869.9	4459.4	3818.2	4144.5	4070.3	4279.7
Official Creditors	1095.8	1392.2	1514.0	1931.4	2002.3	2150.0	2879.2	3753.1	3929.6	3467.8	3819.4	3765.8	4005.1
Multilateral	447.2	519.5	605.8	678.2	686.6	724.1	941.5	1104.6	1291.4	1440.0	1592.4	1718.1	1831.2
IBRD	175.3	202.7	212.2	212.7	175.5	207.0	234.7	270.1	227.9	199.2	193.7	171.9	145.5
IDA	63.8	78.3	89.7	92.4	93.7	94.4	97.4	141.0	249.3	324.9	393.3	443.2	464.1
IDB	186.6	217.6	251.2	267.3	301.5	352.2	464.2	549.8	635.8	742.1	834.7	908.3	1025.9
CAP	15.0	14.9	14.6	12.9	32.7	31.6	19.2	33.1	80.3	95.4	112.6	129.1	121.9
Other	6.5	6.0	38.2	92.9	83.1	38.9	126.0	110.7	98.0	78.5	58.1	65.5	73.8
Bilateral	648.6	872.7	908.2	1253.2	1315.7	1425.8	1937.8	2648.4	2638.2	2027.8	2227.0	2047.7	2174.0
Private Creditors	1085.7	1332.4	1323.3	1323.5	1369.6	1423.6	1320.6	1116.8	529.8	350.4	325.2	304.5	274.6
Suppliers	152.8	122.6	112.8	93.3	85.0	110.0	85.9	86.4	55.4	40.9	42.1	26.3	17.1
Financial Inst.	608.0	764.2	780.9	836.5	903.1	901.6	895.1	919.8	392.2	233.6	213.3	209.7	190.3
Bonds	73.4	73.4	44.1	39.5	38.6	37.7	36.8	35.9	35.0	35.0	35.0	35.0	35.0
Export Credit	251.5	372.1	385.5	354.2	342.9	374.4	302.9	74.7	47.2	40.9	34.8	33.6	32.2
Memo: Use of IMF Credit	126.3	113.3	126.0	127.1	96.1	82.2	192.3	185.7	209.0	237.0	256.8	243.7	257.8

Note: 1/ From 1985, figures includes capitalized interest and amortization not paid to bilateral creditors.

Source: The World Bank debt reporting system.

Table 3.3: BOLIVIA - The Stock of Debt by Type of Creditor
Percentage Distribution

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Public & Publicly Guar. LT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Official Creditors	50.2	51.1	53.4	59.3	59.4	60.2	68.6	77.1	88.1	90.8	92.2	92.5	93.6
Multilateral	20.5	19.1	21.4	20.8	20.4	20.3	22.4	22.7	29.0	37.7	38.4	42.2	42.8
IBRD	8.0	7.4	7.5	6.5	5.2	5.8	5.6	5.5	5.1	5.2	4.7	4.2	3.4
IDA	2.9	2.9	3.2	2.8	2.8	2.6	2.3	2.9	5.6	8.5	9.5	10.9	10.8
IDB	8.6	8.0	8.9	8.2	8.9	9.9	11.1	11.3	14.3	19.4	20.1	22.3	24.0
CAF	0.7	0.5	0.5	0.4	1.0	0.9	0.5	0.7	1.8	2.5	2.7	3.2	2.8
Other	0.3	0.2	1.3	2.9	2.5	1.1	3.0	2.3	2.2	2.1	1.4	1.6	1.7
Bilateral	29.7	32.0	32.0	38.5	39.0	39.9	46.1	54.4	59.2	53.1	53.7	50.3	50.8
Private Creditors	49.8	48.9	46.6	40.7	40.6	39.8	31.4	22.9	11.9	9.2	7.8	7.5	6.4
Suppliers	7.0	4.5	4.0	2.9	2.5	3.1	2.0	1.8	1.2	1.1	1.0	0.6	0.4
Financial Institutions	27.9	28.1	27.5	25.7	26.8	25.2	21.3	18.9	8.8	6.1	5.1	5.2	4.4
Bonds	3.4	2.7	1.6	1.2	1.1	1.1	0.9	0.7	0.8	0.9	0.8	0.9	0.8
Export Credit	11.5	13.7	13.6	10.9	10.2	10.5	7.2	1.5	1.1	1.1	0.8	0.8	0.8

Source: The World Bank debt reporting system.

Table 4.1: BOLIVIA - The Capital Account of The Central Bank
End Year Stock in Bolivianos 1/

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
A. ASSETS														
Total Assets	26.2	36.5	246.9	735.6	13,751.2	1,126.6	3,132.6	3,596.2	4,077.1	5,853.6	7,113.7	7,874.1	10,007.2	12,841.9
Gross International Reserves	3.1	3.7	39.1	95.7	2,454.2	455.0	971.7	914.5	999.1	1,108.7	1,273.7	1,469.8	1,678.4	2,209.4
Gold	0.8	0.8	7.1	18.5	324.5	64.0	72.6	83.5	93.9	112.7	128.5	147.8	161.6	177.2
Foreign Exchange	2.1	2.2	26.3	62.8	2,032.6	282.7	510.2	360.3	569.6	678.4	913.0	925.4	1,174.2	1,688.8
Other 2/	0.3	0.6	5.7	14.4	97.1	108.3	388.8	470.7	335.7	317.5	232.2	396.6	342.6	343.4
Net Contributions of I. Organization	0.6	1.0	14.8	41.6	809.3	193.8	149.0	193.5	213.7	290.0	346.9	425.3	374.1	432.4
Contributions	0.8	1.1	15.2	44.1	886.2	209.0	269.2	309.7	345.7	412.7	530.2	612.4	716.4	647.2
Obligations	0.2	0.1	0.4	2.5	76.9	15.2	120.2	116.2	132.0	122.7	183.4	187.0	342.3	214.7
Net Credit to The Public Sector	12.6	16.1	81.5	275.8	2,926.5	(205.6)	(504.9)	(393.0)	(130.1)	421.0	583.7	684.5	1,936.3	2,500.7
Credit	32.2	43.3	241.5	725.6	13,115.1	2,443.6	2,713.9	3,020.1	3,532.3	4,219.8	5,414.9	6,495.0	4,863.0	5,533.4
Deposits	19.6	27.2	160.1	449.8	10,188.6	2,649.3	3,218.7	3,413.2	3,662.4	3,798.7	4,831.1	5,810.5	2,926.7	3,032.6
Credit to Banking System	4.0	4.8	21.0	54.0	981.1	129.9	358.8	541.4	827.1	1,296.2	1,497.0	1,610.3	1,544.0	1,483.5
Other Unclassified Assets 3/	5.9	11.0	90.6	268.5	6,580.1	553.6	2,158.1	2,339.8	2,167.2	2,737.7	3,412.4	3,684.2	4,474.3	6,215.9
B. LIABILITIES														
Total Liabilities	26.2	36.5	246.9	735.6	13,751.2	1,126.6	3,132.6	3,596.2	4,077.1	5,853.6	7,113.7	7,874.1	10,007.2	12,841.9
Base Money	13.7	16.2	63.7	194.8	3,344.7	201.2	384.2	533.5	874.9	1,143.0	1,495.1	1,891.5	2,024.5	2,639.4
Money Issued	9.8	11.2	41.9	133.0	3,070.9	183.6	307.0	414.1	541.9	530.5	668.1	775.4	931.2	1,050.9
Reserve Deposits of Banks 4/	3.9	5.0	21.8	61.8	273.8	17.6	77.2	119.3	333.0	612.5	827.0	1,116.0	1,093.3	1,588.5
Short-Term External Obligations	5.6	10.1	106.3	131.0	1,804.3	303.4	497.3	496.3	601.6	1,053.4	825.2	720.6	723.6	551.6
IMF	2.0	1.9	16.9	44.6	546.0	86.8	320.7	367.4	492.1	743.6	871.1	915.2	971.4	932.8
Other Banks & Other Org. 5/	3.6	8.2	89.4	86.4	1,258.3	216.6	176.6	129.0	109.5	309.8	(45.9)	(194.7)	(247.8)	(381.1)
Medium and LT External Obligations	1.4	3.0	24.5	270.4	4,412.4	391.1	507.5	743.2	1,075.5	1,690.7	2,222.3	2,649.2	3,174.9	3,690.1
Other Liabilities	5.4	7.2	52.5	139.3	4,189.9	230.9	1,743.7	1,823.1	1,525.1	1,966.5	2,571.1	2,612.9	4,084.2	5,960.8

Note: 1/ 1980 - 1984 : In Thousands of Bolivianos.
1985 - 1991 : In Millions of Bolivianos.
2/ Includes all external accounts, such as titles, SDR, Andean Pesos, unpaid Argentinean Gas, etc.
3/ Includes investments and fixed assets, and exchange rate adjustment to foreign exchange.
4/ Includes reserves requirements and sight deposits in the Central Bank.
5/ Includes some variation in 1989 due to a new accounting system.

Source: The Central Bank of Bolivia.

Table 4.2: BOLIVIA - The Capital Account of The Central Bank
Changes in Stock in Bolivianos 1/

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
A. ASSETS													
Total Assets	10.3	210.5	488.7	13,015.6	1,112.9	2,006.0	463.5	480.9	1,776.5	1,260.1	760.4	2,133.0	2,834.7
Gross Inter. Reserves	0.5	35.4	56.6	2,358.5	452.5	516.7	(57.2)	84.6	109.6	165.0	196.1	208.6	531.1
Gold	0.1	6.2	11.4	306.0	63.6	8.7	10.9	10.3	18.9	15.8	19.3	13.8	15.6
Foreign Exchange	0.1	24.1	36.5	1,969.9	280.7	227.5	(150.0)	209.3	108.9	234.6	12.4	248.8	514.6
Other 2/	0.3	5.1	8.7	82.6	108.2	280.5	81.9	(135.0)	(18.1)	(85.4)	164.4	(54.0)	0.8
Net Contributions of I. Organisation	0.4	13.8	26.8	767.8	193.0	(44.8)	44.6	20.2	76.2	56.9	78.5	(51.2)	58.3
Contributions	0.4	14.1	28.9	842.1	208.1	60.2	40.5	36.1	67.0	117.5	82.1	104.0	(69.2)
Obligations	(0.1)	0.3	2.1	74.3	15.1	105.0	(4.0)	15.8	(9.3)	60.7	3.7	155.2	(127.5)
Net Credit to The Public Sector	3.5	65.4	194.3	2,650.7	(208.6)	(299.3)	111.8	263.0	551.1	162.7	100.7	1,251.8	564.4
Credit	11.1	198.2	484.0	12,389.5	2,430.5	270.2	306.3	512.2	687.4	1,195.1	1,080.1	(1,631.9)	670.3
Deposits	7.6	132.8	289.7	9,738.9	2,639.1	569.5	194.4	249.2	136.3	1,032.4	979.4	(2,883.8)	105.9
Credit to Banking System	0.8	16.3	33.0	927.0	128.9	229.0	182.6	285.7	469.1	200.8	113.4	(66.3)	(60.6)
Other Unclassified Assets 3/	5.1	79.6	177.9	6,311.7	547.1	1,604.4	181.7	(172.6)	570.4	674.8	271.8	790.1	1,741.6
B. LIABILITIES													
Total Liabilities	10.3	210.5	488.7	13,015.6	1,112.9	2,006.0	463.5	480.9	1,776.5	1,260.1	760.4	2,133.0	2,834.7
Base Money	2.5	47.5	131.1	3,149.8	197.8	183.0	149.3	341.4	268.1	352.1	396.4	133.0	614.9
Money Issued	1.4	30.7	91.1	2,937.8	180.5	123.4	107.1	127.8	(11.5)	137.7	107.3	155.8	119.7
Reserve Deposits	1.0	16.9	40.0	212.0	17.3	59.6	42.2	213.7	279.5	214.5	289.0	(22.8)	495.2
Short-Term External Obligations	4.4	96.2	24.8	1,673.2	301.6	193.9	(0.9)	105.2	451.9	(228.2)	(104.7)	3.1	(172.0)
IMF	(0.2)	15.0	27.7	501.4	86.3	233.9	46.7	124.7	251.5	127.5	44.1	56.1	(38.6)
Other Banks & Other Org. 4/	4.6	81.2	(3.0)	1,171.9	215.4	(40.0)	(47.7)	(19.5)	200.4	(355.7)	(148.8)	(53.1)	(133.4)
Medium and LT External Obligations	1.7	21.5	245.9	4,142.0	386.7	116.4	235.7	332.3	615.2	531.6	426.9	525.7	515.2
Other Liabilities 5/	1.7	45.3	86.9	4,050.5	226.7	1,512.8	79.4	(298.1)	441.4	604.6	41.9	1,471.3	1,876.5

Note: 1/ 1980 - 1984 : In Thousands of Bolivianos.

1985 - 1991 : In Millions of Bolivianos.

2/ Includes all external accounts, such as titles, SDR, Andean Pesos, unpaid Argentinean Gas, etc.

3/ Includes investments and fixed assets, and exchange rate adjustment to foreign exchange.

4/ Includes reserves requirements and sight deposits in the Central Bank.

5/ Includes some variation in 1989 due to a new accounting system.

Source: The Central Bank of Bolivia.

Table 4.3: BOLIVIA - The Capital Account of Consolidated Banking System
End-Year Stocks in Bolivianos 1/

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
A. ASSETS														
Total Assets	39.7	50.7	240.6	892.4	15,804.3	1,542.8	3,884.0	4,908.4	5,574.3	7,493.5	9,973.9	12,725.6	16,974.3	22,995.0
Total Reserves (Net)	(3.4)	(7.7)	(81.8)	(64.2)	38.8	68.6	416.0	357.8	364.5	178.7	532.4	788.7	842.5	917.1
Gross Reserves	4.3	4.7	43.3	106.1	2,660.6	492.5	1,066.3	1,008.3	1,106.9	1,270.7	1,446.4	1,672.7	1,968.4	2,496.7
Less: ST Obligations	7.7	12.4	125.1	170.3	2,621.8	423.9	650.3	650.5	742.4	1,092.0	914.0	884.0	1,125.9	1,579.6
Net Domestic Assets	31.5	44.5	234.4	670.2	9,454.7	851.7	1,162.3	1,670.9	2,496.3	3,885.9	5,167.6	7,267.4	9,710.8	12,862.1
Net Contributions of IOs	0.6	1.0	14.8	41.6	809.3	193.8	149.0	193.5	213.7	290.0	346.9	425.3	374.1	432.4
Contributions of IOs	0.8	1.1	15.2	44.1	886.2	209.0	269.2	309.7	345.7	412.7	530.2	612.4	716.4	647.2
Obligations	0.2	0.1	0.4	2.5	76.9	15.2	120.2	116.2	132.0	122.7	183.4	187.0	342.3	214.7
Net Credit to the Pub. Sector	12.4	15.9	80.6	272.4	2,846.6	(215.9)	(508.1)	(408.3)	(150.5)	408.2	569.4	672.3	1,911.3	2,482.8
Credit to the Pub. Sector	32.2	43.3	241.5	725.6	13,115.1	2,443.6	2,713.9	3,020.4	3,532.5	4,226.4	5,419.7	6,503.4	4,876.8	5,564.9
Less: Pub. Sector Deposits	19.7	27.4	161.0	453.2	10,268.5	2,659.5	3,221.9	3,428.7	3,683.0	3,818.3	4,850.3	5,831.1	2,965.5	3,082.1
Credit to the Private Sector	18.5	23.4	91.2	191.8	2,624.0	409.7	947.5	1,375.8	1,851.9	2,629.3	3,710.2	5,483.5	7,992.0	11,128.6
Other Net	(0.1)	4.2	47.8	164.5	3,174.8	464.1	573.9	509.8	581.1	558.4	541.1	686.3	(566.7)	(1,181.7)
Existing Mineral Assets	0.8	0.7	5.1	23.1	374.9	40.8	26.6	28.6	76.4	34.5	23.8	21.6	23.0	7.5
Other Assets	10.6	17.3	130.3	425.2	9,033.8	1,030.5	2,732.9	3,244.8	3,086.3	3,830.1	4,607.8	5,147.2	5,489.2	7,811.9
Other Liabilities 2/	(11.5)	(13.8)	(87.6)	(283.8)	(6,233.9)	(607.3)	(2,185.5)	(2,763.6)	(2,581.5)	(3,306.2)	(4,090.5)	(4,482.5)	(6,078.8)	(9,001.0)
B. LIABILITIES														
Total Liabilities	28.1	36.8	152.6	606.0	9,493.6	920.3	1,578.3	2,028.6	2,860.9	4,064.6	5,700.0	8,056.1	10,553.3	13,779.3
Broad Money	23.1	29.6	98.5	266.1	3,985.7	290.3	822.1	1,174.5	1,682.7	2,244.6	3,338.5	5,171.0	7,092.1	9,675.2
Medium of Circulation (M1)	14.2	17.2	56.6	175.1	3,295.5	198.7	363.3	508.4	684.8	706.3	988.4	1,446.8	1,924.0	2,499.5
Currency in Circulation	9.5	10.9	38.9	124.8	2,870.9	173.8	294.4	397.5	526.1	500.3	638.8	753.7	887.0	1,033.6
Sight Deposits 3/	4.8	6.3	17.7	50.4	424.6	24.9	68.9	110.9	158.7	206.0	349.5	693.1	1,037.0	1,465.9
Quasi-Money	8.9	12.4	42.0	91.0	690.2	91.6	458.8	666.1	997.9	1,538.3	2,350.2	3,724.3	5,168.2	7,175.7
Denominated in Local Currency	6.0	9.2	40.5	90.1	679.8	57.3	168.8	132.9	137.6	118.6	146.3	159.3	127.9	138.1
Savings	4.3	6.7	18.7	52.4	307.6	34.3	88.2	109.7	121.4	97.5	116.8	95.7	75.5	82.7
Fixed	0.8	1.3	17.3	25.5	243.4	14.3	64.5	17.4	11.5	9.1	13.5	44.9	25.2	24.4
Other	0.9	1.2	4.5	12.2	128.8	8.7	16.0	5.8	4.8	12.0	16.0	18.8	27.1	31.0
Denominated in Foreign Curr.	2.8	3.2	1.4	0.9	10.4	34.3	254.9	518.5	787.5	1,287.2	2,020.3	3,222.6	4,670.3	6,481.3
Savings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	18.9	95.4	244.0	411.3	635.6	949.1
Fixed	2.3	3.0	0.0	0.0	0.0	29.9	230.2	516.9	768.0	1,189.1	1,771.9	2,800.9	4,007.5	5,477.9
Other	0.5	0.2	1.4	0.9	10.4	4.4	24.7	0.3	0.6	2.6	4.5	10.5	27.3	54.3
Indexed Account	0.0	0.0	0.0	0.0	0.0	0.0	35.1	14.7	72.8	132.6	183.5	342.3	370.0	556.3
Savings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	5.0	8.6	2.5	10.8	12.6
Fixed	0.0	0.0	0.0	0.0	0.0	0.0	35.1	14.7	71.5	127.2	174.7	339.7	359.1	543.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.3
Long-term External Obligations	5.0	7.2	54.0	339.9	5,507.8	630.0	756.2	854.1	1,178.2	1,820.0	2,361.5	2,885.0	3,461.1	4,104.1

Note: The Consolidated Banking System is defined as the Central Bank, the Commercial Banks and the Specialized Banks.

1/ 1980 - 1984 : In Thousands of Bolivianos.

1985 - 1991 : In Millions of Bolivianos.

2/ Includes restricted deposits and discrepancies with regard to asset accounts.

3/ Before November, 1987, this account is made up of checking account only. After that period, sight deposits and CD's were included.

Source: The Central Bank of Bolivia.

Table 4.4: BOLIVIA - The Capital Account of Consolidated Banking System
Changes in Stock in Bolivianos 1/

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
A. ASSETS													
Total Assets	11.0	189.9	651.7	14,911.9	1,527.0	2,341.2	1,024.4	665.9	1,919.2	2,480.4	2,751.7	4,248.7	6,020.6
Total Reserves (Net)	(4.3)	(74.1)	17.6	103.0	68.6	347.4	(58.2)	6.8	(185.8)	353.7	256.3	53.9	74.6
Gross Reserves	0.4	38.6	62.8	2,554.5	489.8	573.8	(58.0)	98.6	163.8	175.7	226.3	295.7	528.3
Less: ST Obligations	4.7	112.7	45.2	2,451.5	421.3	226.4	0.2	91.9	349.6	(178.0)	(30.0)	241.9	453.7
Net Domestic Assets	13.0	189.9	435.8	8,784.6	842.3	310.6	508.6	825.4	1,389.5	1,281.7	2,099.8	2,443.3	3,151.4
Net Contributions of IOs	0.4	13.8	26.8	767.8	193.0	(44.8)	44.6	20.2	76.3	56.8	78.5	(51.2)	58.3
Contributions of IOs	0.4	14.1	28.9	842.1	208.1	60.2	40.5	36.1	67.0	117.5	82.1	104.0	(69.2)
Obligations	(0.1)	0.3	2.1	74.3	15.1	105.0	(4.0)	15.8	(9.3)	60.7	3.7	155.2	(127.5)
Net Credit to the Pub. Sector	3.5	64.6	191.8	2,574.2	(218.7)	(292.2)	99.8	257.8	558.6	161.3	102.9	1,239.0	571.5
Credit to the Pub. Sector	11.1	198.2	484.0	12,389.5	2,430.5	270.2	306.5	512.1	693.9	1,193.2	1,083.7	(1,626.6)	688.2
Less: Pub. Sector Deposits	7.6	133.6	292.3	9,815.3	2,649.2	562.5	206.7	254.3	135.3	1,032.0	980.8	(2,865.6)	116.6
Credit to the Private Sector	4.8	67.8	100.6	2,432.2	407.1	537.8	428.3	476.1	777.3	1,080.9	1,773.3	2,508.6	3,136.5
Other Net	4.2	43.6	116.7	3,010.4	460.9	109.8	(64.1)	71.3	(22.7)	(17.3)	145.2	(1,253.0)	(615.0)
Existing Mineral Assets	(0.1)	4.4	18.1	351.7	40.5	(14.3)	2.1	47.8	(41.8)	(10.7)	(2.2)	1.3	(15.5)
Other Assets	6.7	113.0	294.8	8,608.6	1,021.5	1,702.3	512.0	(158.6)	743.9	777.7	539.3	342.0	2,322.7
Other Liabilities 2/	(2.4)	(73.8)	(196.2)	(5,950.0)	(601.1)	(1,578.2)	(578.1)	182.1	(724.7)	(784.3)	(391.9)	(1,596.3)	(2,922.2)
B. LIABILITIES													
Total Liabilities	8.7	115.8	453.4	8,887.6	910.8	658.0	450.4	832.2	1,203.7	1,635.4	2,356.1	2,497.2	3,226.0
Broad Money	6.5	69.0	167.5	3,719.7	286.3	531.8	352.4	508.2	561.9	1,093.9	1,832.5	1,921.1	2,583.0
Medium of Circulation (M1)	2.9	39.4	118.6	3,120.4	195.4	164.6	145.1	176.3	21.5	282.1	458.4	477.2	575.5
Currency in Circulation	1.4	28.0	85.9	2,746.2	170.9	120.6	103.1	128.6	(25.8)	138.5	114.9	133.3	146.6
Sight Deposits 3/	1.5	11.4	32.7	374.2	24.4	44.1	42.0	47.7	47.3	143.5	343.5	343.9	428.9
Quasi-Money	3.6	29.6	49.0	599.3	91.0	367.2	207.2	331.9	540.4	811.8	1,374.1	1,443.9	2,007.6
Denominated in Local Currency	3.2	31.4	49.5	589.7	56.6	111.5	(35.9)	4.7	(19.0)	27.8	13.0	(31.5)	10.3
Savings	2.4	11.9	33.7	255.2	34.0	53.9	21.5	11.6	(23.8)	19.3	(21.2)	(20.2)	7.2
Fixed	0.5	16.0	8.2	217.9	14.0	50.3	(47.2)	(5.9)	(2.4)	4.4	31.4	(19.7)	(0.9)
Other	0.3	3.4	7.7	116.6	8.6	7.3	(10.2)	(1.0)	7.2	4.0	2.8	8.3	3.9
Denominated in Foreign Curr.	0.4	(1.8)	(0.5)	9.5	34.3	220.6	263.5	269.0	499.7	733.1	1,202.4	1,447.7	1,810.9
Savings	0.0	0.0	0.0	0.0	0.0	0.0	1.2	17.7	76.5	148.6	167.4	224.3	313.5
Fixed	0.6	(3.0)	0.0	0.0	29.9	200.3	286.7	251.1	421.1	582.7	1,029.0	1,206.6	1,470.4
Other	(0.3)	1.2	(0.5)	9.5	4.4	20.3	(24.4)	0.3	2.0	1.8	6.0	16.8	27.0
Indexed Account	0.0	0.0	0.0	0.0	0.0	35.1	(20.4)	58.1	59.7	51.0	158.7	27.7	186.4
Savings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.7	3.6	(6.2)	8.3	1.8
Fixed	0.0	0.0	0.0	0.0	0.0	35.1	(20.4)	56.8	55.7	47.5	165.0	19.4	184.4
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	(0.1)	(0.2)	0.0	0.2
Long-term External Obligations	2.2	46.9	285.8	5,167.9	624.5	126.1	98.0	324.0	641.8	541.5	523.6	576.1	642.9

Note: The Consolidated Banking System is defined as the Central Bank, the Commercial Banks and the Specialized Banks.

1/ 1980 - 1984 : In Thousands of Bolivianos.

1985 - 1991 : In Millions of Bolivianos.

2/ Includes restricted deposits and discrepancies with regard to asset accounts.

3/ Before November, 1987, this account is made up of checking account only. After that period, sight deposits and CD's were included.

Source: The Central Bank of Bolivia.

Table 4.5: BOLIVIA- Liquidity and Base Money
End-Year Stocks in Bolivianos 1/

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
The Origins of Monetary Base														
Total (= Stock of Base Money)	13.7	16.2	63.7	194.8	3344.7	201.2	384.2	533.5	874.9	1143.0	1495.1	1891.5	2024.5	2639.4
Net International Reserves	-2.5	-6.4	-67.2	-35.3	649.9	151.6	474.4	418.2	397.5	55.3	448.5	749.2	954.8	1657.8
Net Credit	16.6	20.8	102.5	329.9	3,907.5	(75.8)	(146.1)	148.3	697.0	1,717.2	2,080.7	2,294.8	3,480.3	3,984.2
Net Credit to Public Sector	12.6	16.1	81.5	275.8	2,926.5	(205.6)	(504.9)	(393.0)	(130.1)	421.0	583.7	684.5	1,936.3	2,500.7
Credit to Comm. Banks	4.0	4.8	21.0	54.0	981.1	129.9	358.8	541.4	827.1	1,296.2	1,497.0	1,610.3	1,544.0	1,483.5
Net Other	-0.3	1.8	28.4	-99.7	-1212.8	125.4	55.8	-33.0	-219.6	-629.5	-1034.1	-1152.6	-2410.6	-3002.6
The Destination of Monetary Base														
Money Issuance	9.8	11.2	41.9	133.0	3070.9	183.6	307.0	414.1	541.9	530.5	668.1	775.4	931.2	1050.9
Cash in Public Hands	9.5	10.9	38.9	124.8	2,870.9	173.8	294.4	397.5	526.1	500.3	638.8	753.7	887.0	1,033.6
Vault Cash	0.3	0.4	3.0	8.3	199.9	9.8	12.6	16.6	15.8	30.2	29.3	21.7	44.2	17.3
Bank Deposits	3.9	5.0	21.8	61.8	273.8	17.6	77.2	119.3	333.0	612.5	827.0	1116.0	1093.3	1588.5
Memo: Bank Reserves	4.3	5.3	24.8	70.1	473.7	27.4	89.8	136.0	348.8	642.7	856.3	1,137.8	1,137.5	1,605.8
The Origins of Liquidity														
Total Liquidity (= M2)	23.1	29.6	98.5	266.1	3,985.7	290.3	822.1	1,174.5	1,682.7	2,244.6	3,338.5	5,171.0	7,092.1	9,675.2
Net International Reserves	(3.4)	(7.7)	(81.8)	(64.2)	38.8	68.6	416.0	357.8	364.5	178.7	532.4	788.7	842.5	917.1
Gross International Reserves	4.3	4.7	43.3	106.1	2,660.6	492.5	1,066.3	1,008.3	1,106.9	1,270.7	1,446.4	1,672.7	1,968.4	2,496.7
External Obligations	7.7	12.4	125.1	170.3	2,621.8	423.9	650.3	650.5	742.4	1,092.0	914.0	884.0	1,125.9	1,579.6
Net Credit	31.0	39.3	171.8	464.2	5,470.6	193.9	439.4	967.5	1,701.5	3,037.4	4,279.6	6,155.8	9,903.3	13,611.4
Net Credit to Public Sector	12.4	15.9	80.6	272.4	2,846.6	(215.9)	(508.1)	(408.3)	(150.5)	408.2	569.4	672.3	1,911.3	2,482.8
Credit to Private Sector	18.5	23.4	91.2	191.8	2,624.0	409.7	947.5	1,375.8	1,851.9	2,629.3	3,710.2	5,483.5	7,992.0	11,128.6
Other Accounts Net	(4.5)	(2.0)	8.5	(133.9)	(1,523.7)	27.9	(33.3)	(150.8)	(383.3)	(971.5)	(1,473.5)	(1,773.4)	(3,653.7)	(4,853.3)
The Destination of Liquidity														
Broadly Defined Money (M2)	23.1	29.6	98.5	266.1	3,985.7	290.3	822.1	1,174.5	1,682.7	2,244.6	3,338.5	5,171.0	7,092.1	9,675.2
Narrowly Defined Money (M1)	14.2	17.2	56.6	175.1	3,295.5	198.7	363.3	508.4	684.8	706.3	988.4	1,446.8	1,924.0	2,499.5
Cash in Public Hands	9.5	10.9	38.9	124.8	2,870.9	173.8	294.4	397.5	526.1	500.3	638.8	753.7	887.0	1,033.6
Sight Deposits	4.8	6.3	17.7	50.4	424.6	24.9	68.9	110.9	158.7	206.0	349.5	693.1	1,037.0	1,465.9
Quasi-Money	8.9	12.4	42.0	91.0	690.2	91.6	458.8	666.1	997.9	1,538.3	2,350.2	3,724.3	5,168.2	7,175.7

Note: 1/ 1980 - 1984 : In Thousands of Bolivianos.
1985 - 1991 : In Millions of Bolivianos.

Source: The Central Bank of Bolivia.

Table 4.6: BOLIVIA- Liquidity and Base Money
Changes in Stock in Bolivianos 1/

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Base Money													

Total (= Stock of Base Money)	2.45	47.53	131.11	3149.82	197.85	182.97	149.31	341.44	268.06	352.13	396.36	133.00	614.91
Net International Reserves	-3.89	-60.82	31.86	685.25	150.91	322.85	-56.24	-20.64	-342.25	393.20	300.73	205.55	703.02
Net Credit	4.3	81.7	227.4	3577.7	-79.7	-70.30	294.4	548.7	1020.2	363.5	214.1	1185.5	503.8
Net Credit to Public Sector	3.5	65.4	194.3	2650.7	-208.6	-299.25	111.8	263.0	551.1	162.7	100.7	1251.8	564.4
Credit to Comm. Banks	0.8	16.3	33.0	927.0	128.9	228.95	182.6	285.7	469.1	200.8	113.4	-66.3	-60.6
Net Other	2.08	26.68	-128.10	-1113.13	126.62	-69.58	-88.87	-186.58	-409.92	-404.54	-118.49	-1258.07	-591.94
Stock of Base Money	2.45	47.53	131.11	3149.82	197.85	182.97	149.31	341.44	268.06	352.13	396.36	133.00	614.91
Money Issuance	1.43	30.68	91.10	2937.84	180.52	123.41	107.14	127.79	-11.48	137.67	107.31	155.76	119.72
Cash in Public Hands	1.4	28.0	85.9	2746.2	170.9	120.55	103.1	128.6	-25.8	138.5	114.9	133.3	146.6
Vault Cash	0.0	2.6	5.2	191.7	9.6	2.86	4.0	-0.8	14.3	-0.9	-7.6	22.5	-26.9
Bank Deposits	1.03	16.85	40.01	211.98	17.33	59.56	42.16	213.66	279.54	214.46	289.05	-22.77	495.19
Memo: Bank Reserves	1.1	19.5	45.3	403.7	26.9	62.42	46.2	212.9	293.8	213.6	281.5	-0.3	468.3
Total Liquidity													

Total Liquidity (= M2)	6.5	69.0	167.5	3719.7	286.3	531.81	352.4	508.2	561.9	1093.9	1832.5	1921.1	2583.0
Net International Reserves	-4.3	-74.1	17.6	103.0	68.6	347.38	-58.2	6.8	-185.8	353.7	256.3	53.9	74.6
Gross International Reserves	0.4	38.6	62.8	2554.5	489.8	573.83	-58.0	98.6	163.8	175.7	226.3	295.7	528.3
External Obligations	4.7	112.7	45.2	2451.5	421.3	226.45	0.2	91.9	349.6	-178.0	-30.0	241.9	453.7
Net Credit	8.3	132.5	292.4	5006.4	188.4	245.57	528.1	733.9	1336.0	1242.2	1876.2	3747.5	3708.1
Net Credit to Public Sector	3.5	64.6	191.8	2574.2	-218.7	-292.24	99.8	257.8	558.6	161.3	102.9	1239.0	571.5
Net Credit to Private Sector	4.8	67.8	100.6	2432.2	407.1	537.81	428.3	476.1	777.3	1080.9	1773.3	2508.6	3136.5
Other Accounts Net	2.5	10.5	-142.4	-1389.8	29.4	-61.15	-117.5	-232.5	-588.3	-501.9	-299.9	-1880.3	-1199.6
Broadly Defined Money (M2)	6.5	69.0	167.5	3719.7	286.3	531.81	352.4	508.2	561.9	1093.9	1832.5	1921.1	2583.0
Narrowly Defined Money (M1)	2.9	39.4	118.6	3120.4	195.4	164.63	145.1	176.3	21.5	282.1	458.4	477.2	575.5
Cash in Public Hands	1.4	28.0	85.9	2746.2	170.9	120.55	103.1	128.6	-25.8	138.5	114.9	133.3	146.6
Sight Deposits	1.5	11.4	32.7	374.2	24.4	44.07	42.0	47.7	47.3	143.5	343.5	343.9	428.9
Quasi-Money	3.6	29.6	49.0	599.3	91.0	367.18	207.2	331.9	540.4	811.8	1374.1	1443.9	2007.6

Note: 1/ 1980 - 1984 : In Thousands of Bolivianos.
1985 - 1991 : In Millions of Bolivianos.

Source: The Central Bank of Bolivia.

Table 4.7: BOLIVIA - Major Monetary Indicators

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Multipliers & Their Determinants														
Currency Ratio	1.981	1.722	2.203	2.477	6.761	6.992	4.271	3.583	3.315	2.429	1.828	1.087	0.855	0.705
Reserve Ratio 1/	0.314	0.285	0.416	0.496	0.425	0.235	0.170	0.175	0.302	0.368	0.317	0.258	0.183	0.186
Quasi-Money Ratio	1.853	1.971	2.377	1.806	1.626	3.686	6.656	6.004	6.289	7.467	6.724	5.374	4.984	4.895
M1 Multiplier	1.036	1.059	0.887	0.899	0.985	0.988	0.946	0.953	0.783	0.618	0.661	0.765	0.950	0.947
M2 Multiplier	1.681	1.826	1.546	1.366	1.192	1.443	2.140	2.202	1.923	1.964	2.233	2.734	3.503	3.666
Liquidity Preference														
Narrowly Defined Money	0.664	0.633	0.688	0.712	0.871	0.875	0.810	0.782	0.768	0.708	0.646	0.521	0.461	0.414
Broadly Defined Money	0.410	0.367	0.395	0.469	0.720	0.599	0.358	0.338	0.313	0.223	0.191	0.146	0.125	0.107
Quasi-Money:														
Foreign Currency as %QM	0.32	0.26	0.03	0.01	0.02	0.37	0.56	0.78	0.79	0.84	0.86	0.87	0.90	0.90
Indexed National Currency as %QM	0.68	0.74	0.97	0.99	0.98	0.63	0.37	0.20	0.14	0.08	0.06	0.04	0.02	0.02
Unindexed National Currency as %QM	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.02	0.07	0.09	0.08	0.09	0.07	0.08
MEMO: For. currency as % of M2	38.34	42.00	42.60	34.18	17.32	31.57	55.81	56.71	59.31	68.53	70.39	72.02	72.87	74.17
Nominal Interest Rates 2/														
On Assets:														
Unindexed National Money	0.21	0.30	0.38	0.62	1.50	2.31	0.65	0.39	0.35	0.34	0.33	0.32	0.44	0.44
Effective Rate								43.17%	39.58%	39.43%	38.94%	37.91%	58.83%	59.62%
Indexed National Money	0.00	0.00	0.00	0.00	0.00	0.16	0.21	0.27	0.23	0.24	0.21	0.19	0.17	0.16
Effective Rate								30.06%	26.08%	26.61%	24.49%	19.45%	17.13%	16.17%
Foreign Denominated Currency	0.00	0.00	0.00	0.00	0.00	0.17	0.22	0.26	0.22	0.22	0.20	0.18	0.17	0.16
Effective Rate								28.45%	24.40%	24.44%	22.21%	19.05%	18.60%	17.85%
On Liabilities (Time Deposits):														
Unindexed Time Dep. (Nat. Curr.)	0.18	0.23	0.32	0.45	1.40	1.10	0.33	0.29	0.25	0.19	0.19	0.18	0.22	0.18
Effective Rate								32.71%	27.80%	20.78%	20.45%	19.04%	23.99%	19.65%
Indexed Time Deposits (Nat. Curr.)	0.00	0.00	0.00	0.00	0.00	0.12	0.14	0.14	0.13	0.15	0.13	0.10	0.10	0.09
Effective Rate								15.43%	14.21%	15.46%	13.67%	10.56%	10.40%	9.70%
Time Deposit (Foreign Currency)	0.11	0.20	0.00	0.00	0.00	0.11	0.15	0.16	0.15	0.15	0.14	0.11	0.11	0.10
Effective Rate								17.77%	15.84%	16.06%	14.42%	11.42%	11.65%	10.15%
Percent Change in Stocks														
Broad Money (M2)	28.1%	233.2%	170.0%	1398.0%	7184.0%	183.2%	42.9%	43.3%	33.4%	48.7%	54.9%	37.2%	36.4%	
Narrow Money (M1)	20.5%	229.7%	209.7%	1781.8%	5928.8%	82.9%	39.9%	34.7%	3.1%	39.9%	46.4%	33.0%	29.9%	
Quasi-Money	40.3%	238.0%	116.7%	658.9%	13177.1%	400.7%	45.2%	49.8%	54.2%	52.8%	58.5%	38.8%	38.8%	
Currency in Circulation	14.7%	258.4%	220.7%	2201.2%	5954.5%	69.4%	35.0%	32.3%	-4.9%	27.7%	18.0%	17.7%	16.5%	
Base Money	17.9%	293.5%	205.7%	1616.6%	5915.4%	90.9%	38.9%	64.0%	30.6%	30.8%	26.5%	7.0%	30.4%	
Net Credit to Public Sector	28.1%	405.7%	238.0%	945.1%	-7682.8%	-135.4%	19.6%	63.1%	371.2%	39.5%	18.1%	184.3%	29.9%	

Note: 1/ Defined as Bank Reserves over the sum of sight deposits and quasi-money.
 2/ Excluding taxes.
 3/ GDP over average of two periods.
 4/ Average of two period over GDP.

Source: The Central Bank of Bolivia and staff estimates.

Table 5.1: BOLIVIA - Consumer Price Indices
1980 = 100

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
January	551	2,571	90,172	5,875,784	7,513,711	8,079,479	9,909,049	11,614,706	14,356,598	15,933,274.8	17,451,116.0
February	607	3,162	254,981	6,345,991	7,606,141	8,236,643	9,963,469	11,603,827	14,396,367	16,290,413.9	17,621,568.8
March	679	3,831	318,575	6,347,167	7,659,071	8,305,778	10,047,175	11,644,335	14,484,743	16,379,698.7	17,613,452.0
April	736	6,243	356,112	6,575,259	7,781,063	8,699,116	10,058,483	11,682,266	14,555,443	16,420,282.6	17,629,685.6
May	804	9,178	483,130	6,638,900	7,807,518	8,822,071	10,121,320	11,746,964	14,670,331	16,533,917.8	17,767,671.1
June	830	9,552	862,203	6,921,661	7,790,476	9,003,568	10,103,142	11,982,566	14,780,801	16,639,436.2	17,921,890.3
July	913	10,046	1,433,870	7,045,114	7,786,314	9,363,126	10,149,804	12,196,555	14,908,945	16,769,305.0	18,124,810.3
August	1,150	11,552	2,386,832	7,090,030	7,863,645	9,587,707	10,467,853	12,330,631	15,059,184	16,923,524.1	18,441,365.4
September	1,339	15,866	3,735,650	7,251,553	7,909,042	9,552,210	10,857,471	12,475,886	15,125,465	16,931,640.9	18,538,767.0
October	1,493	25,245	3,665,998	7,297,314	8,074,203	9,750,597	11,083,097	12,906,426	15,271,285	17,020,925.7	18,636,168.5
November	1,863	33,211	3,783,340	7,286,594	8,051,253	9,732,132	11,276,474	13,272,497	15,395,010	17,102,093.7	18,668,635.7
December	2,346	53,432	4,419,096	7,334,083	8,116,051	9,861,384	11,494,614	13,564,825	15,534,497	17,158,911.3	18,757,920.5
Year Average	1,109	15,324	1,815,830	6,834,121	7,829,874	9,082,818	10,460,996	12,251,790	14,878,222	16,675,285	18,097,754.3
Percent Change	275.6%	1281.4%	11749.6%	276.4%	14.6%	16.0%	15.2%	17.1%	21.5%	12.1%	8.5%

Source: The Central Bank of Bolivia

Table 5.2: BOLIVIA - Interest Rates on Assets

	1986	1987	1988	1989	1990	1991	1992	1993
1. Foreign Currency								
January	20.03	21.88	28.04	23.76	24.84	23.02	19.63	18.94
February	20.13	21.71	26.90	23.40	23.94	22.88	19.74	19.12
March	20.22	21.88	27.06	23.09	23.95	22.83	19.29	18.52
April	21.29	22.72	26.39	23.22	23.10	21.98	19.04	18.86
May	22.42	24.16	26.09	22.98	22.94	22.31	19.36	18.27
June	22.62	25.03	25.56	23.64	22.84	21.82	18.76	18.28
July	22.32	25.31	25.49	23.91	22.84	21.97	18.88	18.73
August	22.27	31.06	24.77	26.50	22.35	21.38	19.17	18.22
September	22.20	30.50	24.42	26.08	22.72	20.96	19.15	18.48
October	21.34	29.32	24.69	25.92	22.15	20.12	19.03	18.04
November	22.17	28.71	24.24	25.16	22.49	19.75	18.91	18.16
December	22.01	28.45	24.40	24.44	22.21	19.05	18.60	17.85
2. Domestic Currency								
January	241.80	58.65	39.70	38.45	42.15	43.32	27.63	53.74
February	239.57	55.19	42.03	34.25	41.73	46.41	31.79	54.62
March	223.48	48.84	42.61	37.93	35.83	44.37	29.77	58.87
April	157.63	47.33	41.97	36.82	41.72	41.92	35.63	47.69
May	101.20	48.84	41.53	36.11	45.66	46.50	45.00	46.54
June	96.53	48.41	37.63	37.15	43.75	40.91	49.00	49.49
July	88.49	46.07	36.98	39.04	43.79	41.61	56.99	53.94
August	81.53	54.50	38.74	35.52	43.52	41.23	51.38	60.02
September	78.57	50.98	39.78	39.15	38.54	37.55	51.40	56.95
October	66.61	47.44	40.57	41.75	42.95	35.15	53.93	44.48
November	65.66	37.71	36.41	34.68	42.82	36.89	54.79	60.56
December	64.78	43.17	39.58	39.43	38.94	37.91	58.83	59.62

Note: For the period January 1986 - June 1987, nominal rates are presented.
For the period of July 1987 onwards effective rates are presented.

Source: The Central Bank of Bolivia

Table 5.3: BOLIVIA - Interest Rates on Liabilities

	1986	1987	1988	1989	1990	1991	1992	1993
1. Foreign Currency								
January	11.8	15.3	17.4	15.5	15.9	14.3	11.4	11.7
February	11.8	15.2	16.9	15.3	15.5	14.5	11.4	11.7
March	12.2	15.1	17.4	14.8	15.0	14.5	11.2	11.5
April	13.7	15.3	17.2	15.0	14.6	14.3	11.2	11.5
May	14.5	15.4	19.9	15.0	14.5	13.7	11.3	11.6
June	14.7	15.5	17.2	15.2	14.5	13.2	11.2	11.3
July	14.5	15.5	17.0	15.6	14.4	12.8	11.4	11.3
August	14.3	16.8	16.6	16.6	14.4	12.1	11.6	11.2
September	15.0	18.3	16.4	16.7	14.4	11.6	11.5	11.2
October	14.8	18.1	16.1	16.4	14.5	11.5	11.5	10.7
November	14.9	18.0	16.1	16.1	14.4	11.3	11.6	10.4
December	14.9	17.8	15.8	16.1	14.4	11.4	11.7	10.2
2. Domestic Currency								
January	130.2	32.8	28.1	26.6	21.1	26.5	24.2	24.9
February	137.9	31.2	29.0	23.4	19.6	28.1	20.9	26.7
March	127.7	28.9	29.3	22.7	21.2	20.8	24.6	22.7
April	84.6	27.9	28.1	23.1	29.2	29.6	20.9	21.6
May	54.9	27.5	27.3	21.1	25.8	21.7	22.5	23.4
June	48.9	27.3	28.9	24.5	29.0	25.7	22.9	22.3
July	43.6	27.1	28.1	23.7	27.7	22.9	24.2	22.5
August	39.7	28.2	26.2	24.0	20.3	25.7	23.3	20.7
September	39.7	34.2	27.8	26.8	20.3	25.2	24.7	20.2
October	35.2	37.2	25.7	21.0	26.5	19.0	22.8	21.6
November	33.7	33.7	26.6	26.4	24.9	21.1	23.7	19.9
December	33.4	32.7	27.8	20.8	20.5	19.0	24.0	19.7

Note: For the period January 1986 - June 1987, nominal rates are presented.
For the period of July 1987 onwards effective rates are presented.

Source: The Central Bank of Bolivia

MAP SECTION

