**FOR AGENDA**

SM/06/223
Correction 1

July 14, 2006

To: Members of the Executive Board

From: The Secretary

Subject: **Bolivia—Selected Issues**

The attached factual and editorial corrections to SM/06/223 (6/30/06) have been provided by the staff:

**Page 16, para. 19, lines 9–15:** for "Positive terms of...the currency). Also,"
read "The fall in consumption and government spending leads to a weaker demand for imported goods even though they are relatively cheaper (in absolute terms if the increase in hydrocarbons exports tends to appreciate the currency). Positive terms of trade shocks in Bolivia are generally associated with higher energy and commodity prices and benefits hydrocarbons' exports. On the other hand,"

**Page 28, line 7:** for "and Transredes in transportation"
read "and Transredes and Compañía Logística de Hidrocarburos Boliviana in transportation and distribution."

**line 12:** for "Petrobrás."
read "Petrobrás and the logistics company to a consortium of German and Peruvian investors."

**para. 8, line 6:** for "the net income tax rate was reduced,"
read "in the context of a wider tax reform, the net income tax was reduced from"

**Page 36, para. 21, line 6:** for "the time of the privatization" read "end-1995"

**line 8**: for "and the two Petrobrás refineries"
read "the two Petrobrás refineries, and Compañía Logística de Hidrocarburos Boliviana"

**footnote 7:** for "This transference has...a subsequent ruling."
read "This provision has already been implemented."

**Page 63, para. 18, lines 3 and 4:** for "bumpy diplomatic relations, as well as different views on the direction of coca eradication policies, suggest that ATPDEA"
read "as well as uncertainties about the future of ATPDEA in general, suggest that the current arrangement"

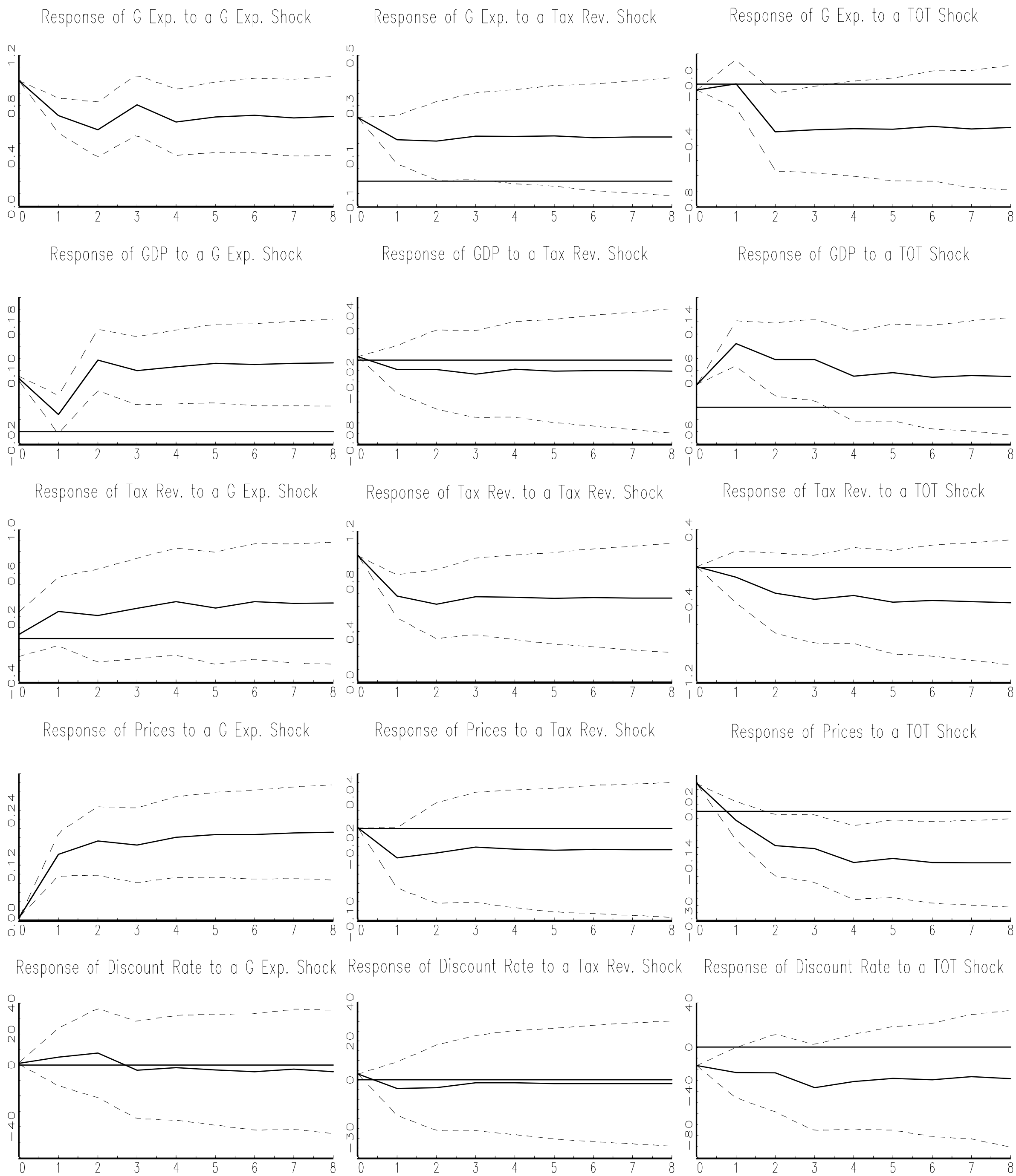
Questions may be referred to Mr. Furtado (ext. 38423), Mr. Mansilla (ext. 36644), Ms. L. Jaramillo (ext. 39946) in WHD.

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

Att: (4)

Other Distribution:
Department Heads

**Figure 5: Impulse Responses of Government Expenditure, Revenue and Terms of Trade**




Source: Author's Calculations

19. **Similarly, favorable terms of trade shocks have a positive but modest effect on real output, although it has an adverse effect on private consumption.** Relative to the effect of fiscal shocks, the effect on output is similar (around 0.10% in the long-run). Positive terms of trade shocks affect output through an improvement in the external current account. The effect on consumption is negative and large, with long-term elasticity around -0.2 (Figure 6). The fall in consumption and government spending leads to a weaker demand for imported goods even though they are relatively cheaper (in absolute terms if the increase in hydrocarbons exports tends to appreciate the currency). Positive terms of trade shocks in Bolivia are generally associated with higher energy and commodity prices and benefits hydrocarbons' exports. On the other hand, nonhydrocarbon exports, which are labor intensive, may also be negatively affected by the pressure for the exchange rate to appreciate when energy and commodity prices are high, negatively affecting income and hence consumption. Further evidence of the negative correlation between consumption and the terms of trade is presented in Figure 7 (correlation of -0.72).

**Figure 7: Consumption and the Terms of Trade**

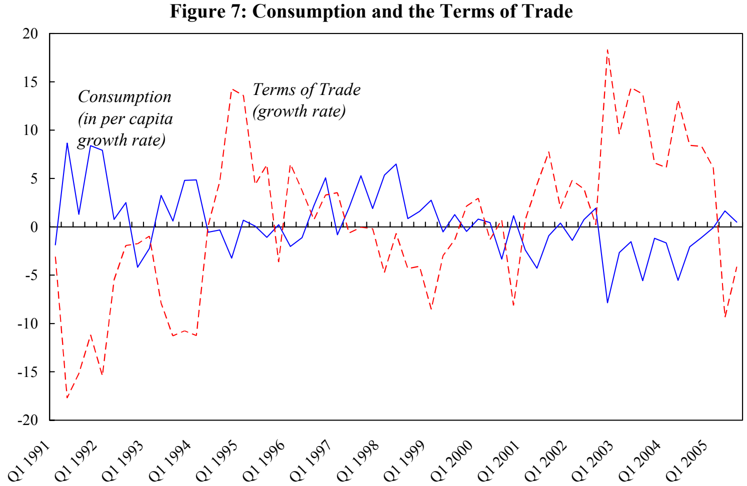
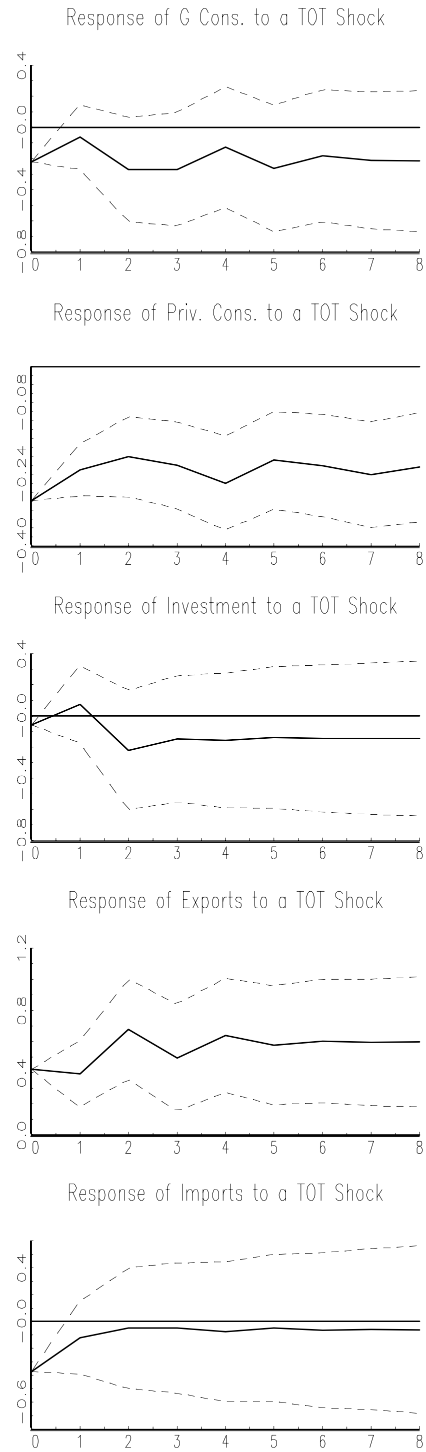



**Figure 6: Impulse Response to a Terms of Trade Shock**




Source: Author's Calculations

## II. THE HYDROCARBONS SECTOR[1]

1. **Bolivia began developing its natural gas reserves and producing natural gas in the late 1960s**. Export volumes became significant in the early 1970s after export agreements with Argentina were activated.

2. **Over the last ten years, the hydrocarbons sector has become one of the most dynamic economic activities in the Bolivian economy and one of the main drivers of the improved performance in terms of exports and reserve accumulation**. Hydrocarbons represent about 7 percent of the GDP and are now Bolivia's main export (about US$1.3 billion in 2005 (half of total exports)—of which natural gas accounted for about 75 percent in 2005). Hydrocarbons contribute with almost one-third (9 percent of GDP) of government revenue. However, production is highly capital-intensive, hydrocarbons account directly for only a minor share (about 0.2 percent) of total employment.

3. **The hydrocarbons sector has been transformed, since the mid-1990s, by major foreign investment that has contributed to major increases in reserves and production of natural gas**. In the context of the capitalization and privatization process (see Box 2 of the staff report), the role of the public sector was refocused from direct ownership into regulation of downstream activities and partnership with private investors. At present, those reforms are being partially reversed and it is expected that the state oil company Yacimientos Petrolíferos Fiscales Bolivianos (YPFB) will regain a pivotal role. This will bring new challenges to the development of the sector over the medium term, especially because further development will require significant additional investments.

4. **This paper discusses the evolution of the hydrocarbons sector, its importance in the economy, and the recent reforms**. Section A describes the main institutional changes in the past decade; Section B discusses production and marketing; and Section C provides the highlights of the ongoing nationalization process.

### A. Reforms of the 1990s

5. **In the early 1990s, it became evident that the government was unable to meet the financing requirements for developing the hydrocarbons sector**. The deep debt crisis and the hyperinflation episode of the 1980s had left the capacity of the government to finance risky exploration activities significantly reduced. In particular, the priority was to correct severe macroeconomic imbalances and improve the provision of other public services.

6. In 1994, the Capitalization Law established the framework for the privatization of state-owned companies, including YPFB, until then the main player in the sector. Although YPFB represented one of the main sources of government income, its production

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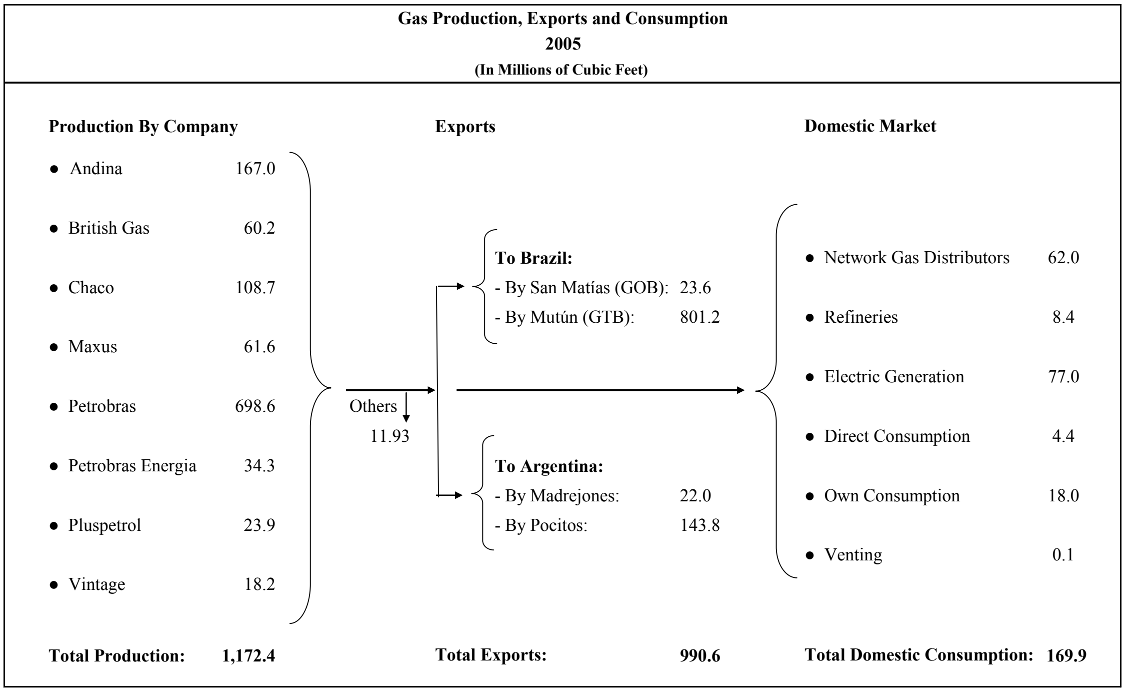
[1] Prepared by Mario Mansilla, with comments from staff of the Unidad de Análisis de Políticas Sociales y Económicas.

was modest, the company remained undercapitalized and its capacity to invest very limited.[2] In addition, the total government take from the sector was decreasing as percentage of the GDP, from 8 percent in 1990 to less than 6 percent in the middle of the decade. To implement the privatization/capitalization, YPFB was divided into several business units: two upstream units, two transport units, and two refining units. The upstream and transportation units were privatized in 1996–97—giving rise to Petrolera Chaco and Petrolera Andina in upstream activities, and Transredes and Compañía Logística de Hidrocarburos Boliviana in transportation and distribution. The scheme allowed the effective transfer of management and significant shareholding stakes to private companies in exchange for investment commitments (which is why it is termed "capitalization"). The auctions were won by three groups of companies, from the United States and Argentina. The refining units were later sold to the Brazilian state-controlled company Petrobrás and the logistics company to a consortium of German and Peruvian investors. Thus, as a result of the privatization/capitalization process, most activities related to the hydrocarbons sector were transferred to foreign energy companies.

7. **In the hydrocarbons sector, the Capitalization Law was complemented in 1996 by a new Hydrocarbons Law**. That law established the responsibilities of the newly created Superintendenccy of Hidrocarbons and the regulatory mechanisms governing exports and the domestic market. The role of YPFB was also redefined, enabling it to participate in joint venture projects with other parties, national or foreign, in all the stages of hydrocarbons production. The state retained its role in wholesale marketing activities.

8. **Along with the changes in the institutional setup, the new law established new tax incentives for investment in both upstream and downstream activities**. Regarding upstream activities, new hydrocarbons projects (that is, in fields that were not in production at the time of the law) would now pay royalties of only 18 percent of the value of gross production, compared with the royalties of 50 percent paid by existing fields. At the same time, in the context of a wider tax reform, the net income tax rate was reduced from 40 percent to 25 percent, while new taxes of 12.5 percent on dividend repatriation and extraordinary net income were introduced. Other provisions included profit repatriation guarantees and acceptance of international arbitration.

[2] In 1994 Bolivia produced only 572 thousand cubic feet of natural gas and its annual investment (including exploration) was around US$60 million.




Sources: Transredes, Y.P.F.B., GTB, J.V. Chaco/Andina, Pluspetrol, GOB, Oro Negro, Reficruz, Chaco, Transierra and Transportadora San Marcos

18. **There is a potential for use of natural gas in new industrial activities, for instance in the petrochemical sector**. Given the large scales of production needed in most cases, viability might hinge on the scope for servicing the regional market. Provided the necessary conditions are met, production of methane, ammonia, and hydrogen, would be possible new sources of exports and inputs for domestic industries. Another possible use of gas is in transportation, in the form of compressed natural gas, an application that has had growing acceptance in the region but is still incipient in Bolivia.

19. **Given the level of existing reserves and the limited domestic market size, the development of new external markets would appear to be an essential component of the strategy for the sector**. Bolivia's reserve-to-production ratio remains well above the average in South America (162 years versus 57 years in 2002, respectively), reflecting a faster increase in proven reserves than in production since the reforms of the 1990s. While this suggests a massive potential for growth and development in the sector.[4] Success will

[4] According to estimates, if gas consumption in Bolivia reached penetration levels similar to other gas-producing economies in the region, and it if doubled in the next ten years, exploitation of existing reserves under prudent reserve/production ratios would still leave about 40 billion of cubic meters per year available for exports.

require appropriate planning, and a significant level of investment in maintenance, production,[5] and transportation—hence, maintenance of conditions that retain and attract investors.

### C. The Nationalization of Hydrocarbons

20. **Despite their success in terms of investment and export performance, the political support for hydrocarbons reforms of the 1990s eroded sharply in recent years**. The growing opposition led to a national referendum in mid-2004, which indicated widespread public support for nationalization. A new hydrocarbons law was enacted in May 2005, which was broadly in line with the results of the referendum. The key elements of the new law were: (i) taxes on production (royalties and a direct hydrocarbons tax,), were raised to 50 percent;[6] (ii) the role of the state energy company, YPFB, was restored into that of a more active market participant that would also intermediate all contracts to export natural gas and become the only importer and wholesale distributor of fuel products; and (iii) existing contracts for hydrocarbons production would be renegotiated for compliance with the new law.

21. **On May 1, 2006 the government issued a decree implementing the new hydrocarbons law, which reverses the privatization process of the 1990s in the sector**. The decree established that the private oil companies (Andina and Chaco) would return to government control through the reallocation to YPFB of the shares previously given in trust to private managers to generate a retirement pension supplement for all Bolivians at least 21 years old at end-1995;[7] and the acquisition of the necessary shares to reach the 50 percent plus one share necessary for company control. In addition, other companies in the sector's downstream (Transredes, the two Petrobrás refineries, and Compañía Logística de Hidrocarburos Boliviana) would also become state-owned through the mandatory sale of 50 percent plus one share to the government. In terms of the participation of the nationalized companies in the total production and reserves, and given Andina's participation in the ownership of the two mega fields, the decree leads to a direct and indirect government control of 81 percent of total gas production and 56 percent of gas reserves (Appendix I). The nationalization decree also established that YPFB would become again the main player in the sector, which includes regulation of prices and production volumes, as well as the terms of exports and distribution.

22. **The nationalization decree established a six month period (May 1–October 31, 2006) for the negotiation of new hydrocarbons production contracts—a provision of the May 2005 law that had not yet been implemented.** During this negotiation period, the

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[5] The cost of drilling a natural gas well is in the range of US$20-30 million, and the investment needed to maintain production levels in the next few years would be around US$80 million per year.

[6] The regime provided for a more favorable treatment of smaller (less profitable) fields, but this has not yet been regulated.

[7] This provision has already been implemented.

increased by 33 percent (See Figure 5). Nonetheless, Bolivia only holds a tiny fraction of the U.S. market, 0.1 percent in the case of apparel, and 0.2 percent in the case of jewelry.

18. **The expiration of ATPDEA at end 2006 raises concern about the future of nontraditional exports to the U.S. market.** Bilateral FTA agreements between the U.S. and other ATPDEA beneficiaries, as well as uncertainties about the future of ATPDEA in general, suggest that the current arrangement may not be extended. Also, negotiations of a bilateral free trade agreement between Bolivia and the U.S. are not in the pipeline. Losing ATPDEA trade preferences could serve a significant blow to NT exports, especially as competitor countries- such as Peru in the case of apparel- consolidate their access to the U.S. market. Furthermore, Bolivia is already facing increased competition from cheaper Asian producers, such as China, India, and Thailand. Despite its small size, already in 2005 Bolivia lost 5–6 percent of its share in the U.S. market for apparel and jewelry to these countries.[7]

## D. Measures to Strengthen Competitiveness

19. **To maintain competitiveness of the exchange rate, the authorities will need to exercise prudent fiscal and monetary policies, and ensure continued openness of the exchange rate system.** To prevent excessive monetary expansion that could lead to inflationary pressures, the government will need to keep under restraint its overall fiscal balance excluding revenues from hydrocarbons. The central bank will also need to maintain a cautious monetary stance to forestall upward pressures on domestic prices. Any type exchange controls would result in implicit taxes on exporters, and should be avoided.

20. **To diversify its export base, Bolivia should seek to expand access to international markets, while taking full advantage of existing trade agreements.** The extension of current trade benefits to Andean countries and the U.S. is not entirely in the hands of the Bolivian authorities. Nonetheless, they could remain open to options that may facilitate a continuation of preferential access. The country should explore further other markets in the region, especially as the Bolivia has already signed a number of trade agreements within the framework of the Latin American Integration Association, including with Chile, Mercosur, and Mexico. Bolivia's sponsor of an agreement between the Andean Community and the European Union is a move in the right direction.

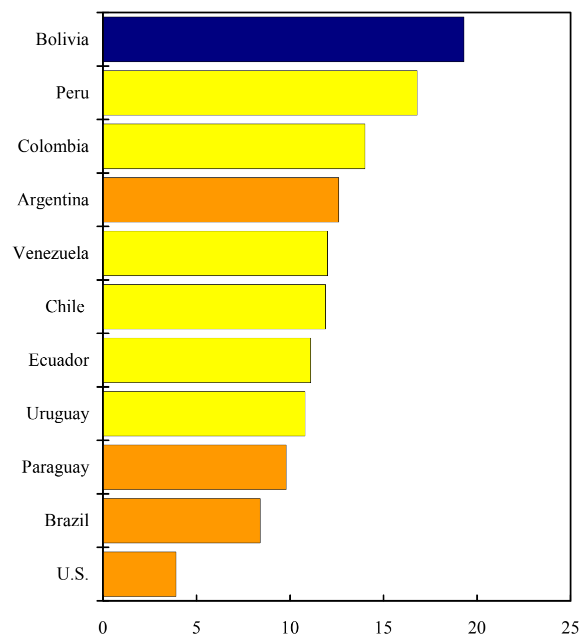
21. **The government will also need to address structural issues to enhance private investment in the export sector.** It will be important that the authorities avert investor uncertainty by ensuring stability of the legal framework, including in taxation and protection of property rights. Other structural issues also need to be tackled, including those identified by several international agencies The World Economic Forum (2005) placed Bolivia at the bottom of the list of its growth competitiveness index, with a rank of 101 out

[7] In the case of apparel, Bolivia is likely to retain its niche of specialized products made from indigenous materials, such as alpaca. However, this is only a fraction of current exports.

of 117 countries. According to this report, the most problematic factors for doing business were political instability, access to financing, corruption and inefficient government bureaucracy, inadequate supply of infrastructure, and the inadequately educated workforce. Property rights and judicial independence were also considered problematic. Similar issues were identified by the World Bank/IFC Doing Business indicators, which ranked Bolivia low compared to the region for a number of factors, in particular registration of property, the costs of trading across borders, and enforcing contracts.

22. **Among structural issues, particular attention should be paid to Bolivia's deficient transportation infrastructure.** The total cost of transporting goods in Bolivia, as a percentage of import value, is the highest in South America, and the cost of transporting a product to a port is about ¼ of the export price (See Figure 6).[8] Almost half of nontraditional exports are transported by truck to seaports; however roads are in poor conditions and less than 7 percent of Bolivia's 60,000 km of roads are paved. The government should take steps to ensure proper maintenance of existing roadways and make greater investments in transportation infrastructure that would benefit export shipments.

Figure 6. Freight ratios
(In percent of import value)




Sources: UNCTAD (2005), and Orcullo Cossio (2005)

## E. Conclusions

23. **In recent years, Bolivia's export competitiveness for nontraditional products has hinged on preferential access to regional markets, low labor costs and a depreciated real exchange rate.** Bolivia's nontraditional exports have increasingly been going to the Andean Community countries and the U.S., which have provided duty-free

[8] In 2004, the cost of ground transportation of soy products to the Pacific (Santa Cruz-Arica in Chile) was US$56-64 per ton, and the cost of the maritime freight from Arica to Buenaventura in Colombia was US$50 per ton. The cost of exporting though the Atlantic (Santa Cruz-Rosario in Argentina) was about US$52 per ton, and US$60 per ton for the maritime freight to Buenaventura. These transportation costs are expensive compared to the freight cost to Colombia from the US gulf coast (US$45 per ton) and Rosario in Argentina (US$72 per ton) See Kreidler Guillaux (2004).