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An Analysis of the Trade Regime in Bolivia in 2001: A Trade Policy Benchmark for Low Income Countries.

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Abstract

This note evaluates Bolivia's trade regime in 2001, using the methodology developed in Hinkle *et al.* (2003) in "*How Far Did Africa's First Generation Trade Reforms Go? An Intermediate Methodology for Comparative Analysis of Trade Polices.*" We find that Bolivia's trade policy regime in 2001 is the most open among the low-income countries analyzed to date using this methodology. Low maximum and average import duties; absence of tariff exemptions, non-tariff barriers, discriminatory domestic taxation, and export taxes; functioning duty suspension and drawback schemes; and timely VAT reimbursement for exporters' inputs make Bolivia an empirical benchmark of good practice trade policies for low income countries.

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AN ANALYSIS OF THE TRADE REGIME IN BOLIVIA IN 2001:

A TRADE POLICY BENCHMARK FOR LOW INCOME COUNTRIES

Francesca Castellani

Alberto Herrou-Aragon

Lawrence E. Hinkle

August 2004

Authors' Affiliations and Sponsorship

Francesca Castellani, Consultant
Consultant, The World Bank
Email:

Alberto Herrou-Aragon,
Economist, International Issues Foundation, Cordoba, Argentina
Email: aherrouaragon@hotmail.com

Lawrence E. Hinkle
Lead International Economist, AFTPM
Email: Lhinkle@worldbank.org

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EXECUTIVE SUMMARY

This note analyzes Bolivia's open trade regime in 2001, using the methodology developed by Hinkle *et al*. in *"How Far Did Africa's First Generation Reforms Go? An Intermediate Methodology for Comparative Analysis of Trade Policies"*. This methodology permits a quantitative assessment of each of the conventional border instruments of trade policy and leads to an estimate of the *B* index of anti-export bias originally proposed by Bhagwati (1978) and Krueger (1978). This note establishes an empirical benchmark for good practice trade policies in low-income countries for use in future applications of the methodology.

All elements of trade policy contribute to the openness of Bolivia's trade regime. On the import side, low tariff rates and absence of non-tariff barriers and discriminatory domestic taxation of imports lead to very low nominal and effective protections rates in Bolivia. On the export side, an efficient tariff suspension and VAT reimbursement schemes and the absence of export taxes eliminated disincentives to exporting.

The absence of distortions in Bolivia's trade regime is confirmed by the estimates of its anti-export bias. The *B* and the *B** indices, both estimated at 1.09 in 2001, are slightly lower than Chile's (2001) indices at 1.14 and 1.18, and significantly lower than Uganda's (1997), the best performer in the original sample analyzed by Hinkle *et al.* (2003) at 1.5 and 1.8. Bolivia's liberalization performance is remarkable for a least developed country as it comes within 10% of attaining the theoretical value of the B index of "1" that identifies commercial policies which are neutral between import-competing and exporting activities.

Trade liberalization contributed to the acceleration of real export growth in Bolivia throughout the 90s, but adverse terms of trade movements partially offset it. Bolivia's trade performance has not been as strong as Chile's, highlighting that other factors, besides conventional trade policies affect supply response in the tradable sector in the least developed economies. Bolivia's continuing reliance on traditional exports, in spite of some successful steps to diversify the economy still tightly links trade performance to terms of trade evolution. Further progress towards diversification seems to be hampered by structural constraints such as high transportation costs (Bolivia is land-locked), inadequate infrastructure, low-skilled human capital, and limited technology absorption. These similarities with many African countries make Bolivia an appropriate benchmark for good practice trade policies for low-income countries.

Basic Economic Data

	1980	1990	2000	2001	80-90	90-00	00-01
				levels		growth rates	
Population (mn)	5.4	6.6	8.3	8.5	2.1	2.4	2.2
GDP							
GDP at market prices (current US$, bn)	2.8	4.9	8.4	8.0	5.8	5.6	-4.6
GDP at market prices (current LC, bn)	0.1	15.4	51.7	52.7	63.8	12.8	1.9
GDP at market prices (constant 1995 US$, bn)	5.4	5.5	7.9	8.0	0.1	3.8	1.2
Per capita GDP (current US$)	519.3	740.6	1,003.3	935.9	3.6	3.1	-6.7
Per capita GDP (constant US$)	1,016.1	835.8	953.6	944.1	-1.9	1.3	-1.0
GNI per capita (current US$)	550.0	750.0	990.0	950.0	3.2	2.8	-4.0
GDP deflator Index (1990 = 100)	0.0	100.0	231.0	233.0	..	8.7	0.9
Exports							
Exports of goods and non-factor services f.o.b. (current US$, mn) *of which**	1,024.0	1,109.0	1,484.0	1,462.0	0.8	3.0	-1.5
Merchandise exports (current US$, mn) *	943.0	845.0	1,246.0	1,285.0	-1.1	4.0	3.1
Non-factor service exports (current US$, mn) *	81.0	264.0	238.0	177.0	12.5	-1.0	-25.6
Exports of goods and non-factor services (% of GDP)	36.8	22.8	17.8	18.3	..	..	..
Exports of goods and non-factor services *(constant 1995 US$, mn) of which*	867.0	1,055.0	1,640.0	1,720.0	2.0	4.5	4.9
Merchandise exports (constant 1995 US$, mn)	..	..	..	..	..	..	..
Non-factor service exports (constant 95 US$, mn)	..	..	..	..	..	..	..
Export as capacity to import (constant LC, bn)	3.0	3.5	4.2	4.3	1.7	1.7	4.5
Real growth of non-traditional exports	..	..	..	..	..	..	..
Share of top 3 commodities in merchandise exports	..	51.8	54.1	53.7	..	0.4	-0.7
Imports							
Imports of goods and services c.i.f. (current US$, mn)* *of which*	795.0	1,165.0	2,235.0	1,952.0	3.9	6.7	-12.7

Merchandise imports (current US$, mn)*	678.0	963.0	1,830.0	1,724.0	3.6	6.6	-5.8
Non-factor service imports (current US$, mn)*	117.0	202.0	405.0	228.0	5.6	7.2	-43.7
Imports of goods and non-factor services (% of GDP)	28.6	23.9	26.7	24.5	..	..	..
Imports of goods and non-factor services *(constant 1995 US$, mn) of which*	1,005.0	1,373.0	2,326.0	2,155.0	3.2	5.4	-7.4
Merchandise imports (constant 1995 US$, mn)	..	..	..	..	..	..	..
Non-factor service imports (constant 95 US$, mn)	..	..	..	..	..	..	..
Total Trade							
Total trade (current $, mn)	1,819.0	2,274.0	3,719.0	3,414.0	2.3	5.0	-8.2
Total trade (constant $, mn)	867.0	1,055.0	1,640.0	1,720.0	2.0	4.5	4.9
Total trade % GDP	65.4	46.7	44.5	42.8	..	..	..
Terms of trade (goods/non-factor services) (95 = 100)	128.0	124.0	94.0	94.0	-0.3	-2.7	0.0
Investment							
Gross fixed capital formation (% of GDP)	17.0	13.0	18.0	14.0	..	..	..
Gross fixed capital formation (constant 1995 US$, mn)	733.0	728.0	1,451.0	1,174.0	-0.1	7.1	-19.1
Official exchange rate (LCU per US$, period average)	0.0	3.0	6.0	7.0	..	7.2	16.7
Real effective exchange rate index (1990 = 100)	..	100.0	93.0	..	..	-0.7	..

Data for 1980 are from Balance of Payments Statistics, IMF..

Source: SIMA, Regional data base.

An Analysis of the Trade Regime in Bolivia in 2001 : A Trade Policy Benchmark for Low Income Countries

1 Introduction

Hinkle *et al*. (2003) in " *How Far Did Africa's First Generation Reforms Go?. An Intermediate Methodology for Comparative Analysis of Trade Policies*" develop an intermediate methodology for the evaluation of trade regimes and apply it to a sample of 13 countries, hereafter referred to as the original sample. This methodology permits a quantitative instrument-by-instrument assessment of the conventional border instruments of trade policy. By measuring the impact of each policy instrument on the average prices of import-competing and export goods, the methodology leads to an estimate of the B index of anti-export bias originally proposed by Bhagawati (1978) and Krueger (1978).

We applied this methodology first for analyzing Chile's trade regime in 2001 in "An Analysis of Chile's Trade Regime in 1998 and 2001: A Good Practice Trade Policy Benchmark". In this note, we apply the methodology to analyze the trade regime in Bolivia in 2001. Because of their trade liberalization records, Chile and Bolivia have been analyzed to provide empirical benchmarks for good practice trade policies in middle and low-income countries for use in future applications of the methodology.

The structure of this note generally follows that of the original paper by Hinkle et al. (2003) and the note on Chile. The paper starts with a brief overview of the trade reform process and trade performance in Bolivia. Then the various components of trade policy, namely: the foreign exchange regime, non-tariff barriers, discriminatory domestic taxation, the tariff regime, and export policies are discussed in order. The presentation of the overall measure of the restrictiveness of the trade regime (B and B* indices) follows this discussion. Readers are referred to the original paper for explanations of the methodology as well as for the derivations of the variables used in the evaluation. Tables summarizing the quantitative findings are in the appendix.

2. Trade Reform and Performance: An Overview

After a favorable evolution of Bolivia's terms of trade in the late 70s, high public spending and rapid debt accumulation, increasing international interest rates and falling export prices, especially of minerals and hydrocarbons, its two main exports, led Bolivia to a severe debt crisis in the early 80s. The revenue shortfalls caused by the adverse terms of trade shocks induced the government to finance a growing share of public expenditure directly through monetary expansion. The spiral of expansionary fiscal and monetary policies ended up with hyperinflation. Annual inflation rates reached an average rate of 1,200% between 1982 and 1986, peaking at 12,000% in 1985. Because of insufficient nominal devaluation, the real exchange rate appreciated and undermined the external competitiveness of the economy.

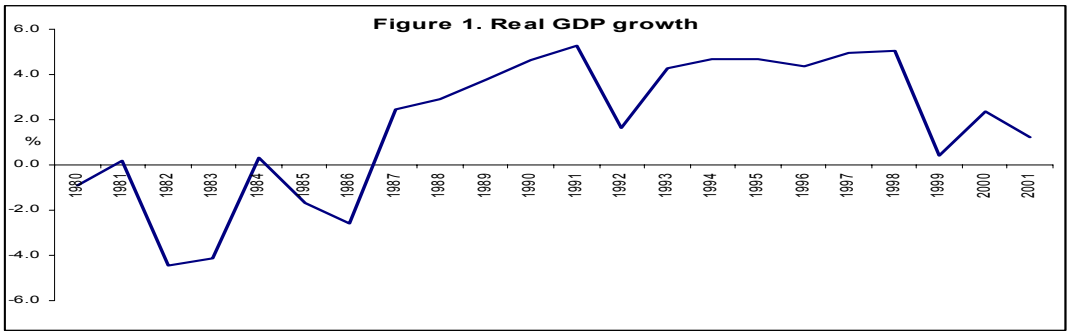
In 1985, faced with increasing economic difficulties, Bolivia embarked on a comprehensive stabilization plan, the New Economic Policy (NEP), to restore macroeconomic stability and

foster growth. Reforms encompassed fiscal adjustment, tax and pension reform, trade liberalization, public and financial sector reforms, and Central Bank independence.

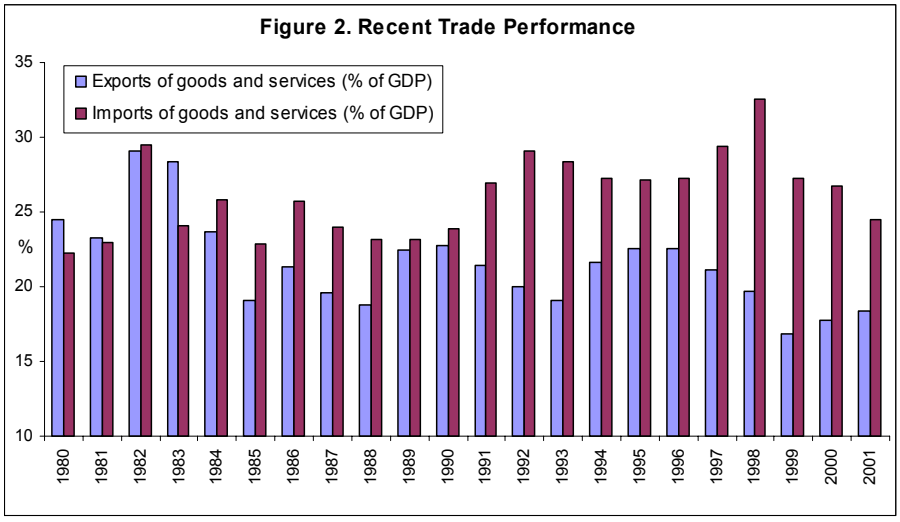
The trade liberalization component of the NEP involved elimination of non-tariff barriers and substantial reductions in tariff rates, which ranged from 0 to 180% before 1985. A uniform import duty of 20% was adopted in 1985, and further liberalization in the early 1990s led to tariff rates of 5% on capital goods and 10% on other imports. The government also embarked on a comprehensive reform to ease customs regulations and administrative procedures.

While its good liberalization track record mainly consists of unilateral measures, Bolivia has also joined regional and bilateral trade initiatives. Bolivia has been a member of the Andean Community (AC) since 1969, and signed bilateral agreements with Chile, Mexico, MERCOSUR and Cuba in the 1990s. [1]

Following the adoption of the stabilization plan, Bolivia successfully subdued inflation, which averaged 16% between 1986 and 1990, and 9% throughout the 90s. After contracting at an average rate of 2%, between 1982 and 1986, economic activity resumed growing at the end of the 80s. As the recovery gathered momentum, real growth averaged 4% throughout the 90s. Per capita growth, negative in the 80s, turned positive at 1.3% during the 90s. The real investment rate also recorded a remarkable acceleration in the 90s with an average annual growth of 7.1% throughout the decade. Still, progress has not yet been sufficient to fully eliminate endemic poverty. According to UNDP Human Development Report (2001), in the late 90s about 30% of population lived with less than $1 a day. Figures 1 and 2 illustrate the real growth rate of the economy and the evolution of the export/GDP ratio.



[1] Other members of the Andean Community are Columbia, Ecuador, Peru and Venezuela.



Source: World Bank Development Indicators.

Exports of goods and non-factor services (GNFS) show a good volume performance in the 90s with an average real growth rate of 4.5% more than double the 2% growth of the 80s. Deteriorating terms of trade (in particular, declining prices of hydrocarbons and minerals), explain the less remarkable growth of exports in US dollar terms, 3% a year throughout the 90s. In 2001, mining and hydrocarbons represented 43% of merchandise exports, against a share of over 80% at the beginning of the 1980s. The contribution of non-traditional products - soya, wood, coffee, leather and sugar- to merchandise exports has steadily increased, passing from 8% in 1980 to 31% in 2001.[2] Still, manufacturing activities, other than processing of mining, agricultural and wood products, have lagged behind, constrained by high transportation costs (Bolivia is landlocked), low-skilled labor, and limited technological innovation.

Imports display strong growth in the 90s, both in constant and current US dollar terms at 5.4% and 6.7% respectively. Their decline in 2001 reflects sluggish economic activity. Goods and services have maintained constant shares of export value since the 90s at 85% and 15% respectively. Imports of services represented 25% of total import value in 2001, declining from 31% in 1980. The degree of openness of the Bolivian economy, measured as the ratio of the sum of GNFS imports and exports over GDP, has stabilized since 1990 at 44%, after falling from the 47% in the 80s because of higher export prices.

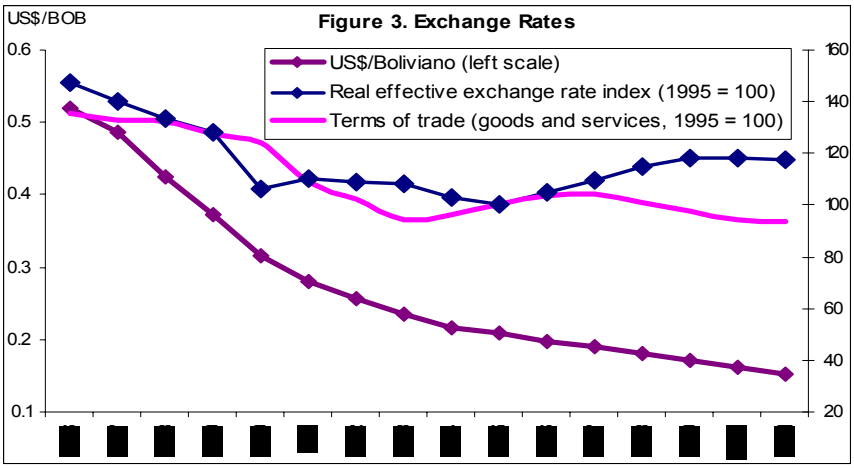
The analysis of Bolivia's trade regime in 2001, using the methodology by Hinkle *et al.* (2003) indicates that consistent with its liberalization record Bolivia has, along with Chile, the least distorted trade policy regime among the ones analyzed to date. The estimation of the degree of trade restrictiveness, the *B* index analyzed in terms of value added (*B**), shows that the anti-export bias of its trade regime at 1.10, is slightly lower than Chile's at 1.18, and substantially lower than the *B** estimated for Uganda (1.8), the best performer in the original sample.

[2] See Osvaldo et al. (2001) for details.

As reflected in the low value of its overall *B* index, Bolivia's trade regime has not discriminated against any productive sector of the economy. The benefits of its neutrality are visible, as the economy has slowly reduced its reliance on natural resource-based exports. Wise trade reforms, real effective exchange rate depreciation, brought about by declining inflation and nominal devaluations, and efforts to involve the private sector in economic activities through privatization programs have also played a crucial role in the export diversification process.

3. The Foreign Exchange Regime and Controls

The nominal and the real exchange rate, as well as trade policies, and its terms of trade played an important role in Bolivia's trade performance. Figure 3 shows the evolution of the real and the nominal exchange rate.[3]



After the substantial appreciation of the real exchange rate and the dismal growth performance in the first half of the 80s, lower inflation rates and repeated nominal (mini) devaluations helped restore Bolivia's external competitiveness: the real effective exchange depreciated by 32% between 1986 and 1995. In the second half of the 90s (1995-1999), increasing domestic inflation and aggressive devaluations by Bolivia's neighboring trading partners, especially in the aftermath of the Brazilian crisis in 1997-98, led to a 20% appreciation in the real effective exchange rate. During this period, cumulative nominal devaluations against the US dollar were 99% for Brazil, 28% for Chile, 50% for Peru and 21% for Bolivia. This appreciation, in the presence of declining terms of trade, negatively affected export performance and offset some of the effects of the trade reforms.

Since 1994, the official exchange rate follows a crawling peg to a trade-weighted currency basket of Bolivia's largest trading partners (Brazil, Chile, Germany, Japan, the United Kingdom and the United States). In 1997, Argentinian Peso and the Pervian Sol were added to the currency basket. The bilateral trade with each of these eight trading partners are adopted as the weights in the daily calculation of the official exchange rate. The official exchange rate is determined at auctions held daily by the Central Bank. Before each auction, the Central Bank determines the amount of foreign exchange to be auctioned and a floor price below which it will

[3] In view of the hyperinflation experience in Bolivia, we report exchange rate data starting from 1986 as hyperinflation was brought under control. The Bolivian peso was replaced by the new Bolivino at the rate of 1,000,000 to 1 in 1987.

not accept any bids. This floor price which follows a crawling peg to the trade-weighted currency basket and expressed in US Dollars is the official exchange rate which applies to all foreign exchange transactions.

There are no foreign exchange restrictions on current account transactions. Economic agents can buy and sell foreign exchange freely at the official exchange rate and there are no restrictions on payments for invisibles. There are no foreign exchange surrender or repatriation requirements for exporters and no foreign exchange budget for imports. However, there are controls on capital account transactions between Bolivia and the rest of the world.

4. Quantitative Restrictions and Other Non-Tariff Barriers (NTB) to Imports

There are no NTBs other than the import prohibitions on used cars[4], second-hand clothes, and medicines not registered with the Ministry of Health. There are no import or export monopolies.

5. Discriminatory Domestic Taxation

No discriminatory domestic taxation of imports exists. Value added (13%) and excise taxes are applied at equal rates on both domestic and imported commodities.

6. Tariff Regime

6.1. Preferential Trade Arrangements (PTA)

Bolivia is a member of the Andean Community (AC) together with Colombia, Ecuador, Peru and Venezuela. Created in 1969, the Andean free trade area (FTA) became a customs union with the establishment of the Common External Tariff (CET) in 1995.[5] The AC's CET structure encompasses five tariff rates of 0-5-10-15-20% and a series of tariff derogations that allow countries to move away from the basic tariff structure. The 5% rate applies to most raw materials and capital goods, the 10% or 15% rates to intermediate goods, and the 20% rate to most consumer goods. The AC's nominal average CET is 13.6. As Bolivia and Ecuador have the lowest income per capita among the AC countries, they enjoy special treatment and are allowed to maintain external tariff rates which are different from the ones in the CET.[6] To further liberalize their external trade, in 2002, all AC country signed the Declaration of Santa Cruz de la Sierra, according to which by December 2003, they will all implement a new CET, organized with four rates: 0-5-10-20%. Bolivia will not apply the 20% rate.

Bolivia also signed PTAs with Chile in 1993, with Mexico in 1994, with MERCOSUR (Brazil, Argentina, Uruguay, and Paraguay) in 1996, and with Cuba in 1997. Bolivia's PTA with Chile includes a limited number of items (mainly agricultural, agro-industrial and textile products) at zero tariff rates. Under Bolivia's PTA with Mexico 40% of Bolivia's imports from

[4] There is no production of automobiles in the country.
[5] Peru did not sign the commitments for the application of the CET.
[6] Source: Andean Community.

Mexico enter Bolivia duty-free. Under Bolivia's PTA with Cuba, Bolivia gives a tariff concession of 100% of the MFN rate to 110 Cuban products Cuba gives reciprocal tariff concession to 80 Bolivian items (mainly agricultural, textile and mining products). Bolivia's agreement with MERCOSUR envisages a free-trade area by 2006 through progressive reduction in tariffs. In 2001, Bolivia's imports from preferential trading partners amounted to 41% of their total import value.

The effect of preferential tariff rates on average tariffs depends upon which countries are supplying the goods concerned. For homogeneous goods, there would be only one price for an imported commodity. Thus, the country that is the marginal supplier of the good would determine its price. If a commodity is imported from a PTA only, we use the PTA rate as the relevant rate.[7] If substantial quantities of a homogeneous good are imported under both the MFN regime and at PTA rates, the tariff rate that will be reflected in domestic prices is the MFN rate, as the rest of the world is the marginal supplier. In these cases, we use the MFN rate as the relevant rate for computing average tariffs. For approximately 3% of the total number of goods we used the preferential tariff rate as the relevant rate for computing average tariffs.

6.2 Tariff Rates

Under its special status in the AC, in 2001 Bolivia applied four MFN tariff rates: 0 – 2 – 5 – 10%.. All imports from AC members (11% of total imports) receive duty-free treatment. The 0% MFN duty rate is applied on imports of capital goods not produced within the Andean Community; the 5% rate is applied on imports of capital goods competing with regionally produced ones; the 2% rate is applied on imports of printed materials and books; and the 10% rate on all other goods and inputs. Bolivia's tariffs are bound in the WTO at 40%, with the exception of sixteen items, mainly capital goods, which are bound at 30%.

[7] The percentage of imports coming only from PTA countries was 2.8% of Bolivia's imports in 2001.

Table 1. Average Tariffs and Surcharges (Sc),

Maximum Tariff &sc	Unweighted average tariff and sc on dutiable imports				Import-Weighted average tariff and sc
	All Goods	Consumer Goods	Intermediate Goods	Capital Goods	
Bolivia (2001)	9.3	9.8	9.8	6.9	8.0
Other Benchmark Countries					
Chile (2001)	8.0	8.0	8.0	8.0	8.0
Uganda (1997)	7.1	20.4	5.6	2.1	9.3

Source: Authors' computations based on data obtained from authorities of the countries

The unweighted average tariff and surcharges (hereafter, tariff & sc) is estimated to be 9.3% in 2001 and the import-weighted average tariff, 8%[8]. Chile's average unweighted tariffs in 2001 at 8% were slightly lower than that of Bolivia's 9.3% in 2001. However, the import-weighted average tariffs were the same for both Chile and Bolivia in 2001. Bolivia's import-weighted average tariffs (8%) were lower than that of Uganda (1997)- the best performer in our original sample- although Bolivia's unweighted average tariff at 9.3% was higher than that of Uganda (1997) at 7.1%. Uganda's tariff structure had higher rates on consumer goods imports and lower rates on intermediate and capital goods as compared to Bolivia's tariff structure which had identical average tariffs on imports of consumer goods and intermediate goods. Tariff escalation (discussed below) hence was much lower in Bolivia than in Uganda (1997). We estimate the standard deviation (a measure of dispersion of tariff rates) in Bolivia at 2.5% or about 27% of their arithmetic mean.

6.2.1 Escalation of Tariffs and Nominal Protection Rates (NPRs)

As the 10% duty rate is applied to both final goods and inputs, the only sources of tariff escalation are the 0 and 5% duty rates applied on imports of capital goods, and the 2% duty rate on imports of books and publications. As a result of this tariff structure, the unweighted average tariff rates &sc on consumer and intermediate goods are the same in Bolivia (9.8%) and about 3-

[8] The reason why our 6.9% estimate of the average unweighted MFN tariff and the Nominal Protection Tax Rate on capital goods is higher than the 5% applied is due to the difference between the classification used here (Broad Economic Categories, BEC) to characterize goods by economic use and the one employed by the Customs authorities. As a result, we classify as capital goods some items that the Customs administrations considers final goods or inputs, on which the applied tariff rate is 10% than 5%.

percentage points higher than that (6.9%) on capital goods (Table 1). Tariff escalation in Bolivia is the same whether measured using unweighted average tariffs or measured using more inclusive measures of protection such as the Nominal Protection Tax Rates (NPTRs) or Nominal Protection Rates (NPRs).

The NPTR measure of protection takes into account in addition to the effects of import tariffs and surcharges, the impact of discriminatory domestic indirect taxes and reference prices on prices of imported goods. The NPTR measure does not take into account the protective effects of Quantitative Restrictions (QRs) and other Non-Tariff Barriers (NTBs).. The NPR measure takes into account in addition to the measures included in NPTR, the tariff equivalents of QRs and other NTBs as well In the absence of QRs, as was the case in Bolivia in 2001, the NPTR and the NPR are equivalent. Table 2a in the following page shows the average NPRs on domestically-produced Import-Competing goods in Bolivia in 2001.

Table 2a. Average NPRs on Domestically Produced Import-Competing Goods (%)*

Country	All Goods	Consumer Goods	Intermediate Goods	Capital Goods	Standard Deviation of overall NPTR
Unweighted					
Bolivia (2001)	9.4	10.0	10.0	7.0	1.9
Other Benchmark Countries					
Chile (2001)	10.7	12.6	9.3	8.0	9.3
Uganda (1997)	25.4	30.8	20.8	…..	10.3

Source: Authors' computations based on data obtained from authorities of the countries.

- In the case of Bolivia and Chile the NPTRs and NPRs are the same because of the absence of NTBs. In Uganda (1997) however they were different because of the quantitative restrictions on imports of selected goods.

Tariff escalation is the same in Bolivia whether measured using unweighted average tariffs or measured using NPTRs because there was no additional protection for import-competing goods from discriminatory domestic taxes. Tariff dispersion as indicated by the standard deviation of the NPTR (1.9%) is very small. The unweighted average NPTR also does not differ much from the output-weighted NPTR and NPR in Bolivia (Table 2b).

A comparison of Bolivia's tariff structure in 2001 with that of Chile (2001) and Uganda (1997) reveal the following: First, the computed NPTR for Bolivia compares favorably with that of Chile (2001). Second, the computed NPTR was significantly lower than that of Uganda (1997) due to the absence of discriminatory domestic taxes on imported goods in Bolivia.

Table 2b: Output weighted Average NPRs (%)*

Country	All Goods	Consumer Goods	Intermediate Goods	Capital Goods	Standard Deviation of overall NPTR
Unweighted					
Bolivia (2001)	10	10	10	7.4	1.9
Other Benchmark Countries					
Chile (2001)	9.5	10.2	8.9	8.0	----
Uganda (1997)	16.2	17.9	15.0	…..a	----

Note: a. Domestic production of capital goods in Uganda is not significant according to the index of manufacturing production (Base 1987=100).

6.3. Non-Dutiable Imports and Tariff Exemptions

Non-dutiable imports, that is, goods imported by government agencies, NGOs, embassies, etc., amounted to 3.6% of total imports in 2001, a much lower share than the median of the original sample estimated at 27.2. In contrast to the original sample for which exemptions amount on average to 18% of dutiable imports, Bolivia eliminated all tariff exemptions at the onset of its liberalization process to increase the transparency and efficiency of the customs administration.

6.4. Tariff Revenues

Bolivia's fiscal dependence on tariff revenue is low at 1.2% of GDP (see Table 3 in the following page). In addition to low tariff rates, the low level of tariff revenues relative to GDP is attributable to the fact that 41% of imports originate from preferential trading partners and are, as such, subject to lower or zero duties. Benin (1996) and Ghana (1996) in the original sample display tariff revenue/GDP ratios similar to Bolivia's. Chile has higher fiscal revenues from tariff (2.0% of GDP) than Bolivia, because of the higher degree of openness of its economy (in

2001, the ratio of merchandise imports to GDP was 26% in Chile and 20% in Bolivia). Bolivia's fiscal dependence on tariff revenue was however more than that of Uganda (1997).

The tariff collection rate on dutiable imports, estimated to be 5.5%, is substantially affected by Bolivia's preferential trade agreements and is the same as Chile's and lower than that of Uganda (1997). The collection percentage, calculated as the ratio between actual and potential revenue, is about 100% (as in Chile 2001).

Table 3. Tariff Revenues

Country	Tariff&sc revenues as % of GDP	Tariff&sc as % of tax revenues	Collection rate on all imports	Non-dutiable imports as % of total imports	Exemptions as % of dutiable imports	Collection rate on dutiable imports	Collection percentage
Bolivia (2001)	1.2	6.6	5.5	3.6	0.0	5.5	100
Other Benchmark Countries							
Chile (2001)	2.0	11.6	5.4	0.3	0.0	5.5	100
Uganda (1997)	0.8	7.5	8.0	2.8	14.8	8.3	89.0

Source: Authors' computations based on data obtained from authorities of the countries.
Notes.

a. The collection rate on all imports is the ratio of all tariff revenues to total value of all merchandise imports (cif).
b. The collection rate on dutiable imports is the ratio of tariff revenues from dutiable imports to total value of dutiable merchandise imports (cif).
c. The collection percentage is the ratio of actual to potential revenues where the potential revenue is the sum of foregone and actual revenues collected from dutiable imports. Foregone revenues are computed by multiplying the total value of exemptions by the import-weighted average tariff & sc rates (and subtracting any revenues collected from partially-exempt imports.

6.5. Effective Protection Rates (EPRs) for Import-Competing Goods.

In Hinkle et al. (2003), the measure of the effective protection for the import-competing sectors were computed in two ways. First, the EPRs were estimated using the Input-Output table (I-O) table when available. Second, EPRs were estimated using a standard assumption that

the domestic value added in manufacturing is 40% and in agriculture 88%, so that order of magnitude of estimates can be made for countries not having I-O tables. EPRs estimated under this standard assumption are referred to as *indicative* EPRs. The necessity to use this assumption was dictated by the fact that I-O tables were not available for all the original sample countries and might not be available for some Sub-Saharan countries to which the methodology might be applied in future. Here, we follow the original methodology and calculate both indicative EPRs and EPRs based on I-O tables (Table 4).

Table 4. Effective Protection Rates for Import-Competing Goods

Country	Manufactured				Agriculture			
	Indicative EPR (standard coefficents)		EPR based on IO Table		Indicative EPR (standard coefficents)		EPR based on IO Table	
	Unweighted	Output-weighted	Unweighted	Output-weighted	Unweighted	Output-weighted	Unweighted	Output-weighted
Bolivia (2001)	8.8	10.0	12.0	10.8	10.0	10.0	10.8	10.8
Other Benchmark Countries								
Chile (2001)	15.2	9.1	12.7	9.4	9.1	9.4	9.4	9.4
Uganda (1997)	72.6	22.4	na	na	22.4	na	22.4	Na

Source: Authors' computations based on data obtained from authorities of the countries.

The indicative output-weighted EPRs for the import-competing manufacturing and agricultural sectors estimated at 10%, is not very different from the EPRs calculated on the basis of 1998 input-output data, respectively 12.5% and 10.8%.[9]. The EPRs for Bolivia are similar to Chile's and are also substantially lower than those of the country with the best observed trade policy in the original sample (Uganda 1997) as shown in Table 4.

The EPRs reveal no significant anti-agricultural bias (that is, the difference between the EPR on manufactures and those on agriculture are minimal in Bolivia's trade regime). In contrast, the

[9] The unweighted indicative EPR for manufacturing, 8.8%, is lower than the unweighted average nominal protection tax rate, 9.4%, because the import-competing production of capital goods is protected at 5% while inputs used in manufacturing production are subject to a 10% tariff rate. The import-competing production of capital goods amounts to 0.8% of total import-competing manufactures and 0.5% of total import-competing production.

median anti-agricultural bias for the original sample is estimated at 64 percentage points.

6.6. Inefficiency and Corruption in Customs Administration

As noted in Hinkle et al. (2003), inefficiency and corruption in customs administration create distortions and restrict trade. Given the practical difficulty in obtaining data to quantify this effect, we simply report the measure of corruption used by Transparency International. The latter is a comprehensive indicator of the perception of government corruption by business enterprises, but it is not unreasonable to assume that it is positively correlated with the corruption and inefficiency in institutions affecting trade and use it as a rough proxy for them.

Bolivia ranks 84th with a score of 2.0 out of 91 countries surveyed by Transparency International in 2001. Bolivia's ranking is similar to Tanzania, the second worst performer in the original sample (see Table A12). Bolivia's ranking is much lower than Chile's (18th with a score of 7.5 in 2001) and South Africa's (32nd with a score of 5.2 in 1998), the best performer in the original sample. The government is putting a great emphasis on public sector reform, including customs administration, to enhance efficiency and transparency but these reforms, apparently had not had much impact by 2001

7. The Export Regime

No export taxes and monopolies existed in 2001. Measures giving exporters access to duty-free inputs encompassed duty drawback, duty suspension, and free trade zones for exports processing. We describe them below.

Fixed Duty Drawback. Export products with a total value (that is, for the whole tariff line) of US$ 3 million or less are eligible for a fixed rate duty drawback. Under this scheme, duty refunds are computed as

- 4% of the f.o.b. value for exports not exceeding US$ 1 million for the whole tariff line;
- 2% of the f.o.b. value for exports between US$ 1 and 3 million for the whole tariff line.[10]

It takes on average four months to claim reimbursement under this scheme.

Non-fixed drawback. Under this scheme, exporters of commodities with an export value higher than US$ 3 million for the whole tariff line receive reimbursement of duties on imported inputs. Reimbursements under this scheme are computed according to agreements negotiated between firms and the government regarding the imported inputs-output coefficients and take on average four months.

Reimbursement of VAT to exporters. The VAT rate is a uniform 13%, and exporters can claim the reimbursement of the VAT on purchases of inputs and capital goods. The government issues certificates for the reimbursement of the VAT on inputs that are transferable securities. Exporters can use them for paying other duties and taxes or sell them to other taxpayers at a discount. According to private sector sources, the reimbursement of the VAT takes on average three months.

Tariff and Indirect Taxes Suspension Regime. This scheme covers raw materials and inputs (RMI). Capital goods, electricity, and petroleum refinery products are excluded from the

[10] Only mining exports receive a fixed drawback of 5% of the export price.

suspension.

- If RMI are imported, the suspension of payments includes import duties, VAT, and specific consumption taxes.
- If RMI are domestically purchased. Suspension of payments includes VAT and specific consumption taxes.[11]

Reimbursements under this scheme are computed according to average input-output coefficients. The government requires a bank guarantee or insurance for 100% of the tax liabilities, but exporters can also sign agreements with the government recognizing their tax liability, instead. The latter are widely preferred given the costs entailed by the bank guarantee and the insurance. This scheme provides exporters timely, effective access to tariff and indirect tax-free imported inputs. Most of the exporting manufacturing firms, mainly soybean edible oil and soybean cakes, gold manufacturing, and textiles and wearing apparel, operate under the tariff and indirect taxes suspension regime.

Export Processing Zones. Wood furniture firms operate in these zones. They mostly produce chairs to be exported to the US and Chile.

7.1. Effective Protection Rates for Exports

We calculated the effective protection rates for the exportable sector (Table 5 in the following page) on the basis of 1998 input-output data. When the tariff and indirect tax suspension regime[12] which grants duty-free access to imported and domestic inputs is taken into account, the output-weighted average EPRs for manufactured and agricultural exports are estimated at –2.6% and-0.2%. To highlight the importance of a well-functioning system of duty-free inputs, we also estimate what the EPRs would be, if duty suspension were not available to exporters. As shown in Table 5, the presence of the suspension regime results in a higher EPR for manufactured exports (-2.6 vs. –5.4 on an output-weighted basis).

[11] Firms providing package materials for exporters are also eligible for the suspension scheme.

[12] According to government sources, most of the manufacturers of exported goods operate under the suspension regime or free trade zones.

Table 5. Effective Protection Rates for Exports

Duty/tax free access to imported inputs	Overall Exports		Manufactured Exports [a]		Agricultural Exports	
	Unweighted	Output-weighted	Unweighted	Output-weighted	Unweighted	Output-weighted
With	-1.5	-1.8	-2.0	-2.6	-0.2	-0.2
Without	-6.8	-4.7	-7.6	-5.4	-1.1	-1.4
Other Benchmark Countries						
Chile (2001) With	-2.6	-2.1	-2.6	-2.1	-3.4	-3.5
Uganda (1997) With	-3.1	na	-1.7	na	-0.5	na

Source: Authors' computations based on data obtained from authorities of the countries.

Notes.

a. Mining activities are not included.
b. Duty free access to imported inputs is granted through the suspension regime.
c. Duty free access to imported inputs is granted through the suspension regime.

Bolivia's EPRs for overall exports are higher (that is, closer to "0", the neutral trade regime) than Chile's -2.6 in 2001 and Uganda's -3.1 in 1997 the best performer in the original sample..

Bolivian exports of vegetable oils and cakes (soy beans) enjoy preferential access to the AC. Such access is granted by trading partners on a unilateral basis. As Bolivia also exports these commodities to the rest of the world as well as under different regional preferential free trade agreements, the *marginal* price for its exports is the international fob price; this price has been used in the calculation of the B index (discussed below). Data on the fob prices of the relevant exports seem to support this view (see Annex 1).

8. The B Index of Relative Prices

In this section, we present a summary measure of Bolivia's overall trade orientation in 2001 using the *B* index and the B* index developed by Krueger (1978) and Bhagwati (1978). The B

index is probably the best single summary indicator of the impact of trade policies on the relative prices of importable and exportable goods, and hence, on the relative incentives for import substitution and export production. Our measure of the B index aggregates the estimated effects of the various trade policy instruments on the relative prices of import-competing and export production and summarizes most of the information that we have on the distortions caused by the foreign exchange, import and export regimes. The *B* index is computed as follows:

$$B = \frac{E_m}{E_x}\frac{(1+t+n+PR)}{(1+s-t_I+r)}$$

where:

- E_m/E_x is the ratio of nominal exchange rates applied to imports (*m*) and exports (*x*):
- *t* is the average import duty:
- , *n* is any additional differential domestic taxation of imports:
- *PR* is the differential between the domestic and border prices of importable commodities subject to NTBs:
- *s* is any export subsidy (s>0) or export taxes (s<0):
- t_I is the taxes and duties on tradable inputs used in production of exportable goods (that is, the tax rate on inputs multiplied by the share of that input in total production costs): 0 in 2001.
- *r* is any import duty rebate granted to producers of exportable goods.

The *B* index can be computed using nominal protection rates or value added prices. We call the first one the *B* index, and the second *B** index. For the B index, we use the NPTR on the manufacturing sector for *t+n.* The NPTR plus PR equals NPR. On the export side, there are no subsidies or taxes in Bolivia and we estimate an overall average for all exports for t_j (see Table A14c in the Appendix for details). For r, we assume that the tax free access to imported inputs is given through the suspension regime.[13] For the B* index, we use the EPR on the manufacturing sector for t+n+PR, and the EPR on the export sector for $s-t_j+r$.

The *B* and *B** indices are calculated using policies for imports competing with domestically manufactured goods in the numerator and export policies for all goods in the denominator. Alternative ways of computing the *B* (and *B**) indices are reported in Tables A14a and A15. A B index higher than one, as is usually the case, indicates the degree to which commercial policies favor import-substitution relative to exporting. If the *B* index is equal to one, then on average commercial policies are neutral between import-competing production and exporting. And, if *B* should turn out to be less than one, then the trade regime is partial to exporting rather than to import-competing activities.

The unweighted *B* and *B** indices for Bolivia, estimated at 1.09 and 1.10, are slightly lower than Chile's (2001) at 1.14 and 1.18.[14] (see Table 6 in the following page). The reason is that, in

[13] We assume that the prie of inputs is not affected by tariffs because of a well-functioning suspension regime.

[14] Unlike the original samples where B indices were estimated to one decimal place, here estimations at two decimal places are reported due to the better quality of data available for Chile and Bolivia, The use of two decimal places is also necessary for evaluating the smaller differences in the indicators between Chile and Bolivia than among the countries in the original sample.

the case of Chile, the presence of variable levies increases the protection of the import-competing sector. If variable levies are excluded and the duty drawback is taken into consideration, Chile's unweighted B indices, both estimated at 1.10, is virtually the same as Bolivia's.[15] Bolivia trade regime is also much less distorted than that of the best performer in the original sample, Uganda (1997), whose *B* and *B** are estimated respectively at 1.5 and 1.8.

[15] In the case of Chile, the reluctance of exporters to use the duty drawback which raises the costs of the exportable sector and increases the estimated B indices. This effect is however, of second order because of Chile's low tariff rates.

Table 6. B and B* Indices –Sensitivity Analysis

Duty/Tax Free Access to Imported Inputs [a]	B Index		B* Index Indicative EPRs [b]		B* Index I-0 EPRs	
	Unweighted	Output-Weighted	Unweighted	Output-Weighted	Unweighted	Output-Weighted
Bolivia (2001)						
With	1.09	1.10	1.10	1.12	1.14	1.15
Without	1.13	1.14	1.17	1.15	1.20	1.18
Other Benchmark Countries						
Chile (2001)	1.14	1.13	1.18	1.14	1.16	1.12
Uganda (1997)	1.5	na	1.8	na	na	na

Source: Authors' computations based on data obtained from authorities of the countries.

a. Duty free access to imported inputs as granted through the tariff and indirect tax suspension regime.
b. For import-competing sectors, (indicative) EPRs are estimated under the assumption that the domestic value added in manufacturing is 40% and in agriculture 88%.

To analyze the effect of a well-functioning duty suspension regime on the results, the *B* and *B** indices are also calculated without duty-free access to imported inputs. Table 6 shows that the lack of duty/tax-free access to inputs leads to an increase in the anti-export bias of the trade regime ranging between 4-6%. Because of Bolivia's low tariff rates, functioning drawback schemes do not lead to as large changes in the indicators, as they would in higher tariff countries such as those in the original sample.[16]

[16] The situation in Chile is similar.

9. Comparison with the IMF Methodology[17].

According to the IMF 1997 methodology, as a result of low tariff rates and the absence of NTBs, Bolivia's tariff regime in 2001 is classified as "Open," with a score of 1.

The IMF 2000 methodology encompasses a more comprehensive approach compared to the IMF 1997 methodology and evaluates trade regimes based on overall trade taxes. As in Hinkle *et al*. (2003), unweighted NPTRs for domestically produced import-competing goods, which include tariff barriers as well as discriminatory domestic taxation components, are used here instead of unweighted average MFN tariffs and surcharges used with the IMF 1997 methodology. When average unweighted NPTRs are considered, Bolivia keeps the same classification of 1 as most open.

Table 7. Trade Openness as Measured by the IMF Methodology

Year	IMF [a] 1997	IMF [a] 2000
2001	1	1

Source: Authors' computations based on data obtained from authorities of the countries.

a. Both IMF methodology scores range between 1 (least distorted regime) and 10 (most distorted regime). See Tables A16 and A17..

10. Conclusion

The estimates of the B index of anti-export bias confirms that Bolivia's trade regime in 2001 is the most open among the low-income countries analyzed to date. Absence of foreign exchange restrictions, tariff exemptions on dutiable imports, and discriminatory domestic taxation of imports together with efficient schemes for duty and tax-free access to imported inputs and very low tariffs are key features of Bolivia's trade policies. Moreover, Bolivia has made progress towards an open, more efficient, and transparent customs regime by eliminating exemptions and embarking on a comprehensive public sector reform.

Trade liberalization has contributed to the good volume performance of exports, but adverse terms of trade movements have had offsetting effects on export values. Bolivia's significantly improved but more modest trade performance than Chile's, despite the openness of Bolivia's trade regime, highlights the effects of the structural constraints that limit supply response in the tradable sectors in least developed economies. The terms of trade still strongly affect trade performance because of Bolivia's reliance on natural resource-based exports (40% of export value). Unfavorable geographic location, poor infrastructure, low human capital and low

[17] Hinkle et al (2003) and Herrou-Aragon and Kubota (2003) also discuss the Africa Competitiveness Report Methodology.

technology absorption are other factors still hindering more satisfactory export expansion and economic growth.

Given its strong resemblance to many African countries, Bolivia seems a suitable benchmark for good practice trade policies for low-income countries and an example of the kinds of medium-term returns that an improved trade regime may yield in the presence of typical structural constraints.

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ANNEX 1
Preferential Access for Bolivia's Soy Exports to the Andean Community Market

The trade agreement with other Andean countries (Peru, Ecuador, Colombia, and Venezuela) specifies the Bolivian products that are granted preferential access. In particular, vegetable oils and cakes (soy beans), representing about 20 percent of Bolivia's total export value are given varying degree of preferential treatment by AC country members on a unilateral basis. Colombia, for instance, grants a preferential margin of 34% [18] to imports of soy bean cakes but none for raw and refined soybean vegetable oils. Venezuela does not give Bolivia any preferential margin for these goods. Peru, on the other hand, gives a 15% preferential margin to imports of raw soybean vegetable oils and soybean cakes but not for imports of refined soybean vegetable oils.

As Bolivia exports these commodities under various different regional preferential trade agreements as well as to the rest of the world, the *marginal* price for its exports is probably the international FOB price because of competition among Bolivian suppliers in regional markets. A minimum export share of 15% is used to qualify a MFN country as the marginal market. Their exporters appear not to benefit from a higher export price resulting from Bolivia's membership in the AC. Estimations of the fob prices of Bolivia's exports of vegetable oils and cakes to AC members support this view (Table 8 in the following page).

Table 8. Estimated Prices of Bolivian Soy Exports

HS Code	Description	Country of Destination	Export value (% of total export value by tariff line)	Average Price[1]
150710	Raw soybean vegetable oil	Venezuela[a]	46.0	410
		Colombia[a]	45.9	360
150790	Refined soybean vegetable oil	Colombia[a]	28.3	570
		Peru[a]	26.6	610
		Venezuela[a]	22.2	760
		Chile	21.1	540
230400	Soybean cakes	Colombia[b]	63.8	220
		Venezuela[a]	27.9	230

Source: Authors' computations based on data from WITS.
Notes:
(1) Price in $ per metric ton.
(a) Excluded from preferential status.

[18] A Preferential margin of 100 percent is equivalent to a 0 percent duty rate.

Annex 2: Standard Tables

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Table A 1: Foreign Exchange Regime and Controls

Country	Year	Foreign Exchange Restrictions (a)	Premium in the Foreign Exchange Parallel Market (b)
		Currency Convertibility: Full convertibility into the FF at a fixed rate of CFAF100 per FF; current transactions free of exchange controls; capital transactions free between Benin and France but require approval between Benin and the rest of world.	
Benin	1996	Import Restrictions: No restrictions on import financing. No foreign exchange budget.	0
		Export Restrictions: Repatriation of foreign exchange earnings within 180 days.	
Côte d'Ivoire	1996	Currency Convertibility: Full convertibility into the FF at a fixed rate of CFAF100 per FF; current transactions free of exchange controls; capital transactions free between Cote d'Ivoire and France but require approval between Cote d'Ivoire and the rest of world.	0
		Import Restrictions: No restrictions on import financing. No foreign exchange budget.	
		Export Restrictions: Repatriation of foreign exchange earnings within 120 days. Exports of lumber and certain metals are subject to quantitative restrictions.	
		Currency Convertibility: Full convertibility into the FF at a fixed rate of CFAF100 per FF; current transactions free of exchange controls; capital transactions free between Burkina and France but require approval between Burkina and the rest of world.	
Burkina Faso	1996	Import Restrictions: No restrictions on import financing. No foreign exchange budget.	0
		Export Restrictions: Repatriation of foreign exchange earnings within 120 days. Exports and re-exports of certain products may require prior official authorization from relevant ministries.	
		Currency Convertibility: Full convertibility into the FF at a fixed rate of CFAF100 per FF; current transactions free of exchange controls; capital transactions free between Mali and France but require approval between Mali and the rest of world.	
Mali	1997	Import Restrictions: No restrictions on import financing. No foreign exchange budget.	0
		Export Restrictions: Repatriation of foreign exchange earnings within 120 days.	

		Currency Convertibility: Full convertibility into the FF at a fixed rate of CFAF100 per FF; current transactions free of exchange controls; capital transactions free between Senegal and France but require approval between Senegal and the rest of world.	
Senegal	1996	Import Restrictions: No restrictions on import financing. No foreign exchange budget	0
		Export Restrictions: Exports do not require prior authorization with a few exceptions (precious metals, sugar, and groundnut oil). Repatriation of foreign exchange earnings within 120 days.	
Cameroon	1996	Currency Convertibility: Full convertibility into the FF at a fixed rate of CFAF100 per FF; current transactions free of exchange controls; capital transactions free between Cameroon and France but require approval between Cameroon and the rest of world.	0
		Import Restrictions: No restrictions on import financing. No foreign exchange budget.	
		Export Restrictions: Repatriation of foreign exchange earnings within 30 days.	
		Currency Convertibility: The exchange rate is determined in the inter-bank foreign exchange market. Free convertibility for current transactions, restrictions on capital transactions.	
Ghana	1996	Import Restrictions: No foreign exchange budget.	1.1
		Export Restrictions: Exports proceeds should be remitted to the country within 60 days of shipment. Traditional exports are not subject to surrender requirements. Non-traditional export proceeds can be sold at market rates upon receipt in the banks. Cocoa must be exported through Cocoa Board and is subject to an export tax.	
		Currency Convertibility: The exchange rate is determined in the foreign exchange market. Free convertibility for current transactions; approval is needed by the Reserve Bank for capital transactions.	
South Africa	1996	Export Restrictions: Exports proceeds should be remitted to the country within seven days of accruals. Exporters may retain export proceeds for 180 days after accrual or date of shipment, whichever comes first, in foreign currency accounts with authorized dealers. A limited number of products require export permits.	5.3
		Currency Convertibility: The exchange rate is determined in the interbank market. Current transactions are free of exchange controls, but capital transactions are subject to approval by the Bank of Tanzania.	
Tanzania	1996	Import Restrictions: No foreign exchange budget	6
		Export Restrictions: Export proceeds must be repatriated within 180 days of the date of exportation. Export licensing required for health or sanitary reasons.	

Malawi		Currency Convertibility: The exchange rate is determined in the foreign exchange market. Free convertibility for current transactions. Not fully convertible for capital transactions as residents' accounts cannot be converted into foreign currencies.	
	1995	Import Restrictions: No foreign exchange budget.	8.2
		Export Restrictions: Repatriation of 60% of foreign exchange received from exports is required immediately. The remaining 40% can be held in the exporter's foreign currency account. Exports of agricultural products subject to licensing.	
		Currency Convertibility: Domestic currency is convertible into foreign currencies at a freely floating exchange rate for both current and capital transactions.	
Uganda	1997	Import Restrictions: No restrictions on import financing. No foreign exchange budget.	8.9
		Export Restrictions: Exports of coffee are subject to a quota under ICO rules.	
		Currency Convertibility: The exchange rate is market determined and freely convertible for both current and capital transactions.	
Mauritius	1996	Import Restrictions: Importers must be licensed. No foreign exchange budget	10.4
		Export Restrictions: No repatriation requirements.Quotas on textiles and clothing to the US and Canada subject to bilateral export-restraint agreements. Sugar exports to the EU and US are restricted. Exports of certain foodstuffs controlled.	
		Currency Convertibility: The external value of the currency is determined in the foreign exchange market. Foreign exchange transactions are subject to control by the Reserve Bank of Zimbabwe	
Zimbabwe	1997	Import Restrictions: The Central Bank establishes import priorities to which commercial banks have to allocate their foreign exchange.	12.4
		Export Restrictions: Export licensing required for a variety of products. Export proceeds must be converted to local currency in the market within a specified period.	
Chile (c)	1998	Currency Convertibility: The official exchange rate is kept withing a crawling band around the US dollar. Free convertibility for current transactions. Controls on capital transactions.Dual foreign exchange structure.	9.3
		Import Restrictions: No restrictions on import financing. No foreign exchange budget.	
		Export Restrictions: No repatriation requirements.	
Chile	2001	Currency Convertibility: The exchange rate is market determined and freely convertible for both current and most capital transactions.Unified exchange rate.	0
		Import Restrictions: No restrictions on import financing. No foreign exchange budget.	
		Export Restrictions: No repatriation requirements.	

Bolivia	2001	Currency Convertibility: Crawling peg to a trade-weighted basket of currencies. The official exchange rate is determined at auctions held daily by the Central Bank. Before each auction, the Central Bank determines the amount to be auctioned and a floor price below which it will not accept any bids. This floor price which follows a crawling peg to a trade- weighted basket of currencies of leading trade partners and expressed in US dollars is the official exchange rate. Free convertibility of currencies for current account transactions. Importers and exporters can buy and sell freely but capital controls exist.	0
		Import Restrictions: No restrictions on import financing. No foreign exchange budget.	
		Export Restrictions: No repatriation requirements.	
		Currency Convertibility: Fixed peg to Euro. Full convertibility into the euro at a fixed rate of CFAF 655.957 per euro; current transactions free of exchange controls; capital transactions free between Senegal and France but require approval between Senegal and the rest of world.	
Senegal	2001	Import Restrictions: No restrictions on import financing. No foreign exchange budget	0
		Export Restrictions: Exports do not require prior authorization with a few exceptions (precious metals, sugar, and groundnut oil). Repatriation of foreign exchange earnings required within 120 days.	
		Currency Convertibility: Same as Senegal (2001)	
Senegal	2001	Import Restrictions: Same as Senegal (2001)	0
(UEMOA)		Export Restrictions: Same as Senegal (2001)	

Note: (a) Source: Exchange Arrangements and Exchange Restrictions, IMF, for the year concerned.

(b) Source: Global Currency Report and International Financial Statistics for the year concerned.

(c) Source: Reinhart, C. and K. Rogoff (2003).

Table A 2: Summary of Quantitative Restrictions (QRs)

Country	Year	Products Subject to QRs	Share of imports covered by QRs	Share of import competing sector output covered by QRs	Estimated effect of QR on prices of products concerned (%)	Estimated effect of QR on average price of all ICI output (a)
Benin	1996	Portland Cement	na	12	10	1
Burkina Faso (b)	1997	Edible Cotton Oil Powdered Milk Yogurt Wheat Flour Rice Sugar Electrical Batteries Tires Inner Tubes for Tires	12	23	26	6
Cameroon	1995	Wheat Flour Meats Fisheries Edible Oils Sugar Refining Soap Insecticides Medicines Guns	9	21	12	3
Côte d'Ivoire	1997	Only for health or security reasons	0	0	0	0
Ghana	1999	Only for health or security reasons	0	0	0	0
Malawi	1999	Only for health or security reasons	0	0	0	0
Mali	1997	Cigarettes Tobacco Matches	1.5	15	13	2
Mauritius (c)	1999	Imports of sugarcane are are prohibited	0	0	0	0
Senegal	1999	Only for health or security reasons	0	0	0	0
South Africa	1999	Black Tea	0	0	0	0
Tanzania	1999	Only for health or security reasons	0	0	0	0
Uganda	1999	Only for security purposes	0	0	0	0
Zimbabwe (d)	1997	Animal Oils Meats Live Cattle Dairy Products Fruits Honey and Ice Cream Corn and Corn Meal Sugar	3	11	9	1
mean			2.1	6.3	5.4	1.0
median			0	0	0	0

Chile	1998	Only for health or security reasons.	0	0	0	0
Chile	2001	Only for health or security reasons.	0	0	0	0
Bolivia	2001	Used passenger cars Worn clothing Health and security reasons.	0	0	0	0
Senegal	2001	Canned and preserved, and other consumer goods must be labeled in French. Several products are subject to inspection for health reasons.	0	0	0	0
Senegal (UEMOA)	2001	Only for health or security reasons.	0	0	0	0

Sources: For Cameroon, UNCTAD-TRAINS data, 1995; for the rest of the countries, data obtained by Bank staff for the year concerned.

Note:

a) ICI: import-competing industry
b) Excluding sugar on which there is also an important monopoly and which is included in Table A3.
c) Sugar cane is assumed to be non-traded because of its perishability and high transport costs.
d) Excluding corn and corn meal for which there is also an important monopoly and which are included in Table A3.

Table A 3: Summary of Import Monopolies.

Country	Year	Import monopolies	Share of import competing sector output covered by monopolies %	Effect of monopolies on average price on products concerned %	Effect of monopolies on average price of all import competing sector output %
Benin	1998	Petroleum products can be imported only by a state company and licenses private enterprises (a)	0	0	0
Burkina Faso	1998	Private monopoly for imports of sugar (b)	10	30	3
Cameroon	1998	The extent of the oil refinery import monopoly was reduced to 80% in 1998.	7	40	3
te d'Ivoire	1998	None	0	0	0
Ghana	1998	None	0	0	0
Malawi	1998	None	0	0	0
Mali	1998	None	0	0	0
Mauritius Domestic Industry	1998	None	0	0	0
Senegal	1998	None	0	0	0
South Africa	1998	None	0	0	0
Tanzania	1998	None	0	0	0
Uganda	1998	None	0	0	0
Zimbabwe	1998	Corn can be imported only by the Grain Marketing Board or by others with permission of the Board (c)	3	26	1
Mean			1.5	7.4	0.5
Median			0	0	0
Chile	1998	None	0	0	0
Chile	2001	None	0	0	0
Bolivia	2001	None	0	0	0
Senegal	2001	None	0	0	0
Senegal (UEMOA)	2001	None	0	0	0

Source: Authors' computations based on data obtained from authorities of the countries.

Notes: (a) No domestic production. Import monopoly is a fiscal device for generating revenues for the public sector.

(b) There is also a QR on sugar. Estimate is for the combined effects.

(c) There is also a QR on corn and corn meal. Estimate is for the combined effects.

Table A 4: Discrimination against Import through Domestic Indirect Taxation

Country	Year	Product subject to discriminatory indirect taxes	Resulting percentage increase in prices of imports
Benin	1996	None	0 0
Mali	1997		0
Cameroon	1996		0
Urganda	1997		0
Malawi	1995		0
Ghana	1996		0
Zimbabwe	1997		0
South Africa	1996	Mineral Waters	na
		Lemonade	na
		Beer	3.2
Côte d'Ivoire	1996	Soft Drinks	10.0
		Fruit Drinks	10.9
		Averae Rate	8.0
Senegal	1996	Cigarettes	13.0
		Beer	42.8
		Whisky	6.8
		Margarine	6.9
		Vegetable Oil	5.9
		Wheat Flour	5.8
		Sugar	6.1
Tanzania	1996	Blankets	42.0
		Bed Sheets	42.0
		Cement	16.8
		Iron Sheets	6.5
		Tires	24.8
		Inner Tubes	24.8
		Bicycles	6.5
		Average Rate	18.3
Burkina Faso	1996	Cigarettes	70.3
		Beer	124.3
		Wine	36.0
Mauritius	1996	Alcohol	360.0
		Cigarettes	113.0
		Cigars	461.09
		Average Rate	219.0
Chile	1998	None	0
Chile	2001	None	0
Bolivia	2001	None	0
Senegal	2001	Cigarettes	13.0
Senegal (UEMOA)	2001	None	0

Source: Data collected by Bank staff from the countries concerned.

Table A 5: Structure of Tariff Regime

Country	Year	Unweighted ave. MFN tariff rate	Maximum Tariffs & sc	Unweighted ave. tariff & sc rate on dutiable imports	Import-weighted ave. tariff & sc rate on duti-able imports	Standard deviation of tariff &sc on dutiable imports	Collection rates on all imports	Unweighted ave. NPTR on all import-competing goods	Indicative Effective Protection Rates on import-competing domestic goods		Tariff &sc revenues as % of GDP	Tariff &sc revenues as % of tax revenues
			(a)	(b)			(c)	(d)	Agriculture	Manufactures		
Benin	1996	na	21.0	10.1	7.2	7.0	5.1	14.2	12.7	34.6	1.1	8.3
Burkina Faso	1996	na	119.0	28.9	19.6	11.6	14.8	32.9	23.4	83.7	3.3	28.0
Cameroon	1996	na	50.0	11.5	10.5	10.8	9.6	30.6	34.2	68.8	1.3	10.2
Côte d'Ivoire	1996	na	273.8	14.7	14.5	13.6	9.4	34.7	21.9	92.4	1.8	11.0
Ghana	1996	na	42.5	11.2	7.3	15.6	6.9	29.7	27.9	67.2	1.1	7.0
Malawi	1995	na	45.0	16.3	10.9	35.1	8.2	38.0	1.4	89.8	3.0	18.8
Mali	1997	na	30.0	20.2	12.9	13.2	8.8	30.2	na	50.5	2.2	15.8
Mauritius	1996	na	80.0	26.4	20.3	30.4	16.2	65.4	21.4	149.0	6.2	32.9
Senegal	1996	na	75.0	19.5	14.6	17.4	14.2	46.6	32.1	103.3	4.2	25.6
South Africa	1996	na	57.5	12.2	5.2	15.2	4.9	27.3	0.0	67.6	0.8	3.3
Tanzania	1996	na	66.0	21.6	13.3	23.9	8.0	42.9	28.9	84.2	2.0	20.0
Uganda	1997	na	60.0	7.1	9.3	9.6	8.0	25.4	22.4	72.6	0.8	7.5
Zimbabwe	1997	na	160.9	23.8	16.2	42.6	7.1	40.8	14.0	107.0	6.1	23.2
Mean		na	83.1	17.2	12.4	0.4	9.3	35.3	20.0	82.4	2.6	16.3
Median		na	60.0	16.3	12.9	15.2	8.2	32.9	22.1	83.7	2.0	15.8
Chile	1998	11.0	11.0	11.0	10.9	0.4	9.4	12.7	12.4	15.4	2.2	13.5
Chile	2001	8.0	8.0	8.0	8.0	0.3	5.4	10.7	9.1	15.2	2.0	11.6
Bolivia	2001	9.4	10.0	9.3	8.0	2.5	5.5	9.4	10.0	8.8	1.2	6.6
Senegal	2001	14.8	52.0	14.4	11.2	10.1	9.6	26.4	23.4	51.1	3.7	20.7
Senegal (UEMOA)	2001	14.8	22.0	14.8	11.7	7.0	10.4	19.7	13.4	35.1	4.0	21.9

Source: Authors' computations based on data obtained from authorities of the countries.
Notes:

a) Includes tariffs, surcharges, and the ad-valorem equivalents of specific duties.

b) Tariff rates averaged over HS8 digit-level tariff lines, except for Senegal and Mali where the averages are over HS10 digit.

c) Total revenues from tariffs and surcharges divided by total value of imports.

d) NPTR (Nominal Protection Tax Rate) includes tariffs, surcharges, and discriminatory domestic taxes (but not the effects of NTBs) which protect import-competing goods.

Table A 6: Tariff Regimes

Country	Year	Import Tariff Rates (in %)	Import Surtaxes[a] (in %)
Benin	1996	Fiscal duties: 0-5-10-15-20	A 1% surtax is applied on imports from non preferential regional trade agreements
Burkina Faso	1996	Customs duties: 0-5 Fiscal duties: 0-5-10-15-25-30 Statistical tax: 5	Special Intervention Tax (TSI) of 2.0% applied over all dutiable imports
Cameroon	1996	0-5-10-20-30	Wheat Flour: 19.3 (50.0) Portland Cement: 14.2 (35.4) Detergents: 15.4 (46.6) Maize Meal: 29.6 (40.7)
Côte d'Ivoire	1996	Customs duties: 0-5 Fiscal duties: 0-5-10-15-25-30 Statistical tax: 5	Meats 14.3 (37.1) Tomato Preserves 5.6 (33.2) Vegetable Oils 9.6 (41.7) Cigarettes 236.2 (273.8) Cigars 14.8 (52.5) Smoking Tobacco 56.1 (93.7)
Ghana	1996	Fiscal duties: 0-10-25. Specific duties on milk, wheat flour, vegetable oils, sugar confectionery, fruit juices, sauces, soft drinks, beer, spirits, cigarettes, soaps, fabrics, worn clothing, iron and steel bars and rods, and petroleum products.	A 17.5% surcharge is applied mostly on imports of consumer goods
Mali	1997	Customs duties: 0-5 Fiscal duties: 0-10-25 Statistical tax: 0-5	None
Malawi	1995	Customs duties: 0-5-7.5-10-15-20-25-30-35-40-45	None
Mauritius	1996	Customs duties: 0-5-10-15-20-30-40-55-80	A 20% surcharge is applied on imports from several countries including Japan, South Korea and Switzerland.
Senegal	1996	Fiscal Duties: 0-10-20-30-50 Customs Duties: 0-10 Statistical Tax: 0-5	A 20% surcharge is applied on imports of several luxury goods. A reference price is applied on imports of refined sugar.
South Africa	1996	Customs duties are in 45 bands ranging from 0 to 57.5. Specific and a combination of specific and ad-valorem duties apply on several items.	None
Tanzania	1996	Fiscal duties: 5-20-25-30-40-50	None
Uganda	1997	0-5-10-20-30-60	None
Zimbabwe	1997	0-5-10-15-20-25-30-35-40-45-50-55-60-65-70-75-80-85-90-95-100	Mostly on consumer goods 10.0 Specific duties on Textiles 50.9 (160.9)
Chile	1998	Customs duties: 0-11	*Variable levies on:* Wheat (25.1) Wheat Flour (27.4)

			Vegetable oils	(11.0)
			Sugar	(49.0)
Chile	2001	Customs duties: 0-8	*Variable levies on:*	
			Wheat	(22.0)
			Wheat Flour	(28.0)
			Vegetable oils	(55.0)
			Sugar	(35.0)
Bolivia	2001	Customs duties: 0-2-5-10	None	
Senegal	2001	Common external tariffs: 0-5-10-20	A 20% surcharge is levied on onions, potatoes, bananas, cigarettes, and rice. A 10% surcharge is levied on some cereals.	
		Statistical tax: 1		
		Community tax: 1		
Senegal (UEMOA)	2001	Common external tariffs: 0-5-10-20 Statistical tax: 1 Community tax: 1	None	

Source: Data obtained by Bank staff from the countries in the study.

Note: (a) The numbers in parentheses are NPTR (tariff plus the surcharges and any discriminatory excise taxation).

Table A 7: Unweighted Vs Output-Weighted Average NPTRs.

Country	Year	Unweighted average NPTR on all import-competing goods	Output-weighted average NPTR on import-competing goods	Difference (%)
Benin	1996	14.2	14.9	4.9
Côte d'Ivoire	1996	34.7	44.4	28.0
Ghana	1996	29.7	na	Na
Mali	1997	30.2	31.0	2.6
Senegal	1996	46.6	44.9	-3.6
South Africa	1996	27.3	32.9	20.5
Mean		30.6	33.6	9.9
Median		30.2	32.9	8.9
Chile	1998	12.7	12.2	-3.9
Chile	2001	10.7	9.5	-11.2
Bolivia	2001	9.4	10.0	6.4
Senegal	2001	26.4	27.6	4.5
Senegal (UEMOA)	2001	19.7	19.8	0.5

Source: Authors' computations based on data obtained from authorities of the countries.

Table A 8: Escalation of Trade Barriers by Economic Use

		Unweighted average tariff &sc on dutiable imports						Unweighted NPTR on import-competing goods				
Country	Year	consumer goods	intermediate goods	capital goods	all dutiable imports	std deviation (all dutiable imports)		consumer goods	intermediate goods	capital goods	all import-competing goods	std deviation (all import-competing goods)
Benin	1996	14.4	8.5	8.0	10.1	7.0		13.7	15.4	na	14.2	4.6
Burkina Faso	1996	34.9	28.2	20.2	28.9	11.6		43.8	32.5	na	32.9	16.1
Cameroon	1996	26.7	9.8	7.4	11.5	10.8		30.9	30.6	21.2	30.6	4.9
Côte d'Ivoire	1996	28.7	12.6	7.3	14.7	13.6		43.0	25.2	27.6	34.7	30.6
Ghana	1996	27.6	5.7	3.1	11.2	15.6		33.0	24.3	10.0	29.7	22.7
Malawi	1995	38.3	12.3	11.1	16.3	35.1		43.1	27.0	40.0	38.0	18.2
Mali	1997	29.8	18.0	12.6	20.2	13.2		33.6	29.0	5.0	30.2	9.7
Mauritius	1996	52.7	19.5	19.0	26.4	30.4		63.8	70.0	na	65.4	80.1
Senegal	1996	35.6	16.0	12.4	19.5	17.4		51.7	31.9	35.0	46.6	18.9
South Africa	1996	22.0	9.8	7.2	12.2	15.2		39.0	17.6	11.8	27.3	22.1
Tanzania	1996	33.5	18.2	12.3	21.6	23.9		50.3	33.5	5.0	42.9	25.8
Uganda	1997	20.4	5.6	2.1	7.1	9.6		30.8	20.8	na	25.4	10.3
Zimbabwe	1997	55.4	17.7	10.5	23.8	42.6		68.4	28.6	37.5	40.8	24.8
Mean		32.3	14.0	10.2	17.2	18.9		41.9	29.7	21.5	35.3	22.2
Median		29.8	12.6	10.5	16.3	15.2		43.0	28.6	21.2	32.9	18.9
Chile	1998	11.0	11.0	11.0	11.0	0.4		13.4	12.3	11.0	12.7	6.9
Chile	2001	8.0	8.0	8.0	8.0	0.3		12.6	9.3	8.0	10.7	9.3
Bolivia	2001	9.8	9.8	6.9	9.3	2.5		10.0	10.0	7.0	9.4	1.9
Senegal	2001	23.3	12.6	8.8	14.4	10.1		28.6	21.9	23.0	26.4	9.2
Senegal (UEMOA)	2001	20.3	13.3	10.1	14.8	7.0		21.4	15.6	22.0	19.7	5.3

Source: Authors' computations based on data obtained from authorities of the countries.

Table A 9: Revenue Collection

Country	Year	Tariff &sc revenues as % of GDP	Tariff & sc revenues as % of tax revenues	Collection rates on all imports	Nondutiable imports as % of total imports	Exemptions as % of dutiable imports	Collection rates on dutiable imports (a)	Collection percentage (b)
Benin	1996	1.1	8.3	5.1	48.4	14.1	7.2	89.7
Burkina Faso	1996	3.3	28.0	14.8	27.2	15.0	19.6	93.5
Cameroon	1996	1.3	10.2	9.6	8.8	19.1	10.5	84.7
Côte d'Ivoire	1996	1.8	11.0	9.4	29.7	10.3	13.4	91.4
Ghana	1996	1.1	7.0	6.9	14.7	50.0	7.7	74.9
Malawi	1995	3.0	18.8	8.2	9.1	32.1	9.0	73.0
Mali	1997	2.2	15.8	8.8	48.3	14.1	12.9	90.6
Mauritius Domestic Industry	1996	6.2	32.9	16.2	33.3	12.4	18.9	90.7
Senegal	1996	4.2	25.6	14.2	2.2	16.8	14.5	88.6
South Africa	1996	0.8	3.3	4.9	7.1	4.3	5.2	96.2
Tanzania	1996	2.0	20.0	8.0	36.6	21.8	11.4	80.7
Uganda	1997	0.8	7.5	8.0	2.8	14.8	8.3	89.0
Zimbabwe	1997	6.1	23.2	7.1	67.7	13.8	16.2	88.2
Mean		2.6	16.3	9.3	25.8	18.4	11.9	87.0
Median		2.0	15.8	8.2	27.2	14.8	11.4	89.0
Chile	1998	2.2	13.5	9.4	1.4	0.0	9.4	100.0
Chile	2001	2.0	11.6	5.4	0.3	0.0	5.5	100.0
Bolivia	2001	1.2	6.6	5.5	3.6	0.0	5.7	100.0
Senegal	2001	3.7	20.7	9.6	13.0	16.5	11.2	83.4
Senegal (UEMOA)	2001	4.0	21.9	10.4	13.0	0.0	11.4	100.0

Source: Authors' computations based on data obtained from authorities of the countries.
Note: (a) Total revenues from tariffs and surcharges divided by the total value of dutiable imports.

(b) Actual to potential revenues where potential revenue is the sum of foregone and actual revenues collected from dutiable imports.

Foregone revenues are computed by multiplying total value of exemptions by the import-weighted average tariff & sc rates (minus any revenues collected from partially-exempt imports).

Table A 10: Composition of Nominal Protection Rates.

Country	Year	Tariff &sc component (a)		Discriminatory domestic taxes		NPTR (b)		Monopoly		QRs		NPR (c)	
		manuf	ag	manuf	ag	manuf	ag	manuf	ag	manuf	ag	manuf	ag
Benin	1996	14.9	11.8	0	0	14.9	11.8	0	0	4.0	0	18.9	11.8
Burkina Faso	1996	36.7	22.6	5.1	0	41.8	22.6	3.0	0	5.6	0	50.4	22.6
Cameroon	1996	29.1	31.2	0	0	29.1	31.2	3.0	0	1.3	0	33.4	31.2
Côte d'Ivoire	1996	44.5	20.5	0	0	44.5	20.5	0	0	0	0	44.5	20.5
Ghana	1996	30.3	25.0	0	0	30.3	25.0	0	0	0	0	30.3	25.0
Malawi	1995	43.3	1.3	0	0	43.3	1.3	0	0	0	0	43.3	1.3
Mali	1997	29.0	non-traded	0	0	29.0	none	0	0	2.0	0	31.0	non-traded
Mauritius Domestic Industry	1996	60.2	19.3	11.1	0	71.3	19.3	0	0	0	0	71.3	19.3
Senegal	1996	49.2	30.1	1.7	0	50.9	30.1	0	0	0	0	50.9	30.1
South Africa	1996	32.9	exportable	0.0	0	32.9	exportable	0	0	0	0	32.9	exportable
Tanzania	1996	34.9	26.7	9.7	0	44.6	26.7	0	0	0	0	44.6	26.7
Uganda	1997	32.4	20.0	0.0	0	32.4	20.0	0	0	0	0	32.4	20.0
Zimbabwe	1997	52.4	11.5	0.0	0	52.4	11.5	0	1	1	0	53.4	12.5
Mean		37.7	20.0	2.1	0	39.8	20.0	0.5	0.1	1.1	0	41.3	20.1
Median		34.9	20.5	0	0	41.8	20.5	0	0	0	0	43.3	20.5
Chile	1998	12.7	12.3	0.0	0	12.7	12.3	0	0.0	0.0	0	12.7	12.3
Chile	2001	10.9	9.0	0.0	0	10.9	9.0	0	0.0	0.0	0	10.9	9.0
Bolivia	2001	9.4	10.0	0.0	0	9.4	10.0	0	0.0	0.0	0	9.4	10.0
Senegal	2001	26.3	21.8	1.7	0	28.0	21.8	0	0.0	0.0	0	28.0	21.8
Senegal (UEMOA)	2001	20.3	12.8	1.7	0	22.0	12.8	0	0.0	0.0	0	22.0	12.8

Source: Authors' computations based on data obtained from authorities of the countries.

Notes: (a) The tariff rates averaged (unweighted) **only** over the lines with import-competing domestic production.
(b) The NPTR (Nominal Protection Tax Rate on import-competing industry) is the sum of tariffs, surcharges, and discriminatory indirect taxes.
(c) The NPR (Nominal Protection Rate on import-competing industry) is the sum of NPTR and NTBs.

Table A 11: Effective Protection Rates (EPRs)

		Import-competing									Exportable	
Country	Year	Tariff &sc on inputs (a)	NPR	EPR (indicative) (b)	EPR based on I-O table	Tariff & sc on fertilizers	Tariff & sc on non fertilizer inputs	NPR	EPR (indicative) (c)	EPR based on I-O table	EPR based on I-O table (d)	
		manufacturing				agriculture					manufac	agric
Benin	1996	8.5	18.9	34.6	33.2	10.0	3.5	11.8	12.7	12.4	-10.6	-52.5
Burkina Faso	1996	28.2	50.4	83.7	na	9.0	20.7	22.6	23.4	na	none	-31.6
Cameroon	1996	9.8	33.4	68.8	na	5.8	10.5	31.2	34.2	na	-16.4	-47.8
Côte d'Ivoire	1996	12.6	44.5	92.4	41.3	6.0	12.6	20.5	21.9	17.0	-11.2	-42.2
Ghana	1996	5.7	30.3	67.2	na	0.0	5.7	25.0	27.9	na	-21.9	-34.3
Malawi	1995	12.3	43.3	89.8	na	0.0	0.4	1.3	1.4	na	-3.3	none
Mali	1997	18.0	31.0	50.5	na	5.0	18.2	non-traded	na	na	none	-28.8
Mauritius Domestic Industry	1996	19.5	71.3	149.0	na	9.0	1.4	19.3	21.4	na	none	none
Senegal	1996	16.0	50.9	103.3	72.2	5.0	20.2	30.1	32.1	31.1	-14.2	-3.4
South Africa	1996	9.8	32.9	67.6	48.9	0.0	0.6	exportable	0.0	exportable	-5.5	-8.3
Tanzania	1996	18.2	44.6	84.2	na	3.7	13.6	26.7	28.9	na	-11.3	-3.7
Uganda	1997	5.6	32.4	72.6	na	0.0	4.0	20.0	22.4	na	-3.1	-1.7
Zimbabwe	1997	17.7	53.4	107.0	na	3.5	0.0	12.5	14.0	na	-4.7	none
Mean		14.0	41.3	82.4	48.9	4.4	8.6	20.1	20.0	20.2	-10.2	-25.4
Median		12.6	43.3	83.7	45.1	5.0	5.7	20.5	22.1	17.0	-10.9	-30.2
Chile (b)	1998	11.0	12.7	15.4	14.3	11.0	12.3	12.3	12.4	12.1	-2.6	-3.8
Chile (b)	2001	8.0	10.9	15.2	12.7	8.0	9.0	9.0	9.1	9.4	-1.9	-2.8
Bolivia (c, d)	2001	9.8	9.4	8.8	12.0	10.0	10.0	10.0	10.0	10.8	-2.0	-0.2
Senegal	2001	12.6	28.0	51.1	40.8	5.4	12.3	21.8	23.4	35.2	-19.9	-2.2
Senegal (UEMOA)	2001	13.3	22.0	35.1	27.5	7.0	9.3	12.8	13.4	21.8	-11.7	-1.8

Source: Authors' computations based on data obtained from authorities of the countries.

Notes: (a) We use the tariff & surcharges on dutiable intermediate goods as a proxy.

(b) Computed using a standard coefficient of 0.60 for tradable inputs.

(c) Computed using standard coefficients of 0.04 for fertilizer (tradable) and 0.08 for non-fertilizer tradable inputs.

(d) Assuming the VAT on inputs is reimbursed at the rate indicated in Table A13.

Table A 12: Perception of Corruption Index

Country	Year	TI Peceptions of Corruption Index (a)	TI Rank	TI Perceptions of Corruption Index with the Scale Reversed (b)	Normalized Rescaled TI Perceptions of Corruption Index (c)
South Africa	1998	5.2	32	4.8	0.0
Mauritius domestic industry	1998	5.0	33	5.0	0.5
Zimbabwe	1998	4.2	43	5.8	2.6
Malawi	1998	4.1	45	5.9	2.9
Ghana	1998	3.3	55	6.7	5.0
Senegal	1998	3.3	55	6.7	5.0
Cote d'Ivoire	1998	3.1	59	6.9	5.5
Uganda	1998	2.6	73	7.4	6.8
Tanzania	1998	1.9	81	8.1	8.7
Cameroon	1998	1.4	85	8.6	10.0
Benin	1998	na	na	na	na
Burkina Faso	1998	na	na	na	na
Mali	1998	na	na	na	na
Mean		3.4	56	6.6	4.7
Median		3.3	55	6.7	5.0
Chile	1998	6.8	20	3.2	na
Chile	2001	7.5	18	2.5	na
Bolivia	2001	2.0	84	8.0	na
Senegal	2001	2.9	65	7.1	na
Senegal (UEMOA)	2001	2.9	65	7.1	na

Source: Transparency International, Berlin (for the year concerned)

Notes:

a) For the TI Corruption Index: 0 = most corrupt, 10 = cleanest

b) Reversed scale. The scale of the TI index has been reversed by subtracting the original values from 10 so that the scale will be consistent with the other indicators used in this study where 0 is the least distortionary value of an indicator and 10 is the most distortionary value.

c)) The reversed scale index normalized so the lowest observed value in the sample group is 0 and the highest observed value in the sample is 10.

Table A 13 Export Regime

Country	Year	Overall average tax on export industry output (estimate, %)	Tariffs &sc on inputs to exports (estimate)		Duties on inputs exempted for exports (estimate, %)	VAT on inputs to exports			VAT reimbursement rate (estimate, %)
			manufac	agric		manufac	fertilizer	non fert. ag	
Benin	1996	23.0	14.4	5.7	0	15.2	1.2	17.8	0
Burkina Faso	1996	14.0	34.9	16.8	0	8.8	0	0.2	0
Cameroon	1996	4.0	26.7	8.9	0	15.0	0	15.0	0
Côte d'Ivoire	1996	7.0	28.7	10.4	0	15.5	0	5.9	0
Ghana	1996	9.0	27.6	3.8	na	15.0	0	15.0	0
Malawi	1995	0	38.3	0.3	na	15.0	0	15.0	0
Mali	1997	8.0	29.8	13.8	0	5.8	0	12.7	0
Mauritius Domestic Industry	1996	0	52.7	3.9	probably moderate but delayed	0	0	0	0
Senegal	1996	0	16.0	15.1	0	15.0	0	15.0	80.0
South Africa	1996	0	9.8	0.4	probably moderate but delayed	15.0	0	15.0	0
Tanzania	1996	0	18.2	10.3	probably low and arbitrary	15.0	0	15.0	0
Uganda	1997	0	5.6	2.7	probably low and arbitrary	15.0	0	15.0	0
Zimbabwe	1997	0	17.7	1.2	probably low and arbitrary	15.0	0	15.0	15
Mean		5.0	24.6	7.2		12.7	0.1	12.0	7.3
Median		0	26.7	5.7		15.0	0	15.0	0
Chile	1998	0	11.0	11.9	100	19.0	19.0	19.0	100
Chile	2001	0	8.0	8.7	100	19.0	19.0	19.0	100
Bolivia	2001	0	9.8	10.0	100	13.0	13.0	13.0	100
Senegal	2001	0	12.6	11.7	0	15.0	0.0	15.0	80
Senegal (UEMOA)	2001	0	13.3	12.4	0	15.0	0.0	15.0	80

Source: Authors computations based on data obtained from authorities of the countries. Exchange Arrangements and Restrictions (IMF for the year concerned). Cotton policies in Francophone Africa (Pursell 1998).

Table A14a: B Index

Country	Year	man imports/ all exports	all imports/ all exports	all imports/ man exports	all imports/ ag exports	man imports/ man exports	ag imports/ ag exports
Benin	1996	1.7	1.7	1.4	2.0	1.4	1.9
Burkina Faso	1996	2.1	1.9	1.9	2.8	2.0	2.4
Cameroon	1996	1.5	1.6	1.7	1.5	1.7	1.5
Côte d'Ivoire	1996	1.7	1.6	1.6	1.8	1.8	1.7
Ghana	1996	1.6	1.6	1.5	2.0	1.5	1.9
Malawi	1995	1.6	1.6	1.7	1.5	1.8	1.1
Mali	1997	1.6	1.6	1.6	2.2	1.5	na
Mauritius Domestic Industry (a)	1996	1.9	1.9	2.0	1.7	2.0	1.3
Senegal	1996	1.6	1.6	1.7	1.5	1.7	1.3
South Africa	1996	1.5	1.4	1.6	1.3	1.6	na
Tanzania	1996	1.7	1.7	1.9	1.5	1.9	1.3
Uganda	1997	1.5	1.4	1.5	1.3	1.6	1.3
Zimbabwe	1997	1.8	1.7	1.9	1.5	2.0	1.2
Mean		1.7	1.6	1.7	1.7	1.7	1.5
Median		1.6	1.6	1.7	1.5	1.7	1.3
Chile	1998	1.2	1.2	1.3	1.2	1.3	1.2
Chile	2001	1.1	1.1	1.2	1.1	1.2	1.1
Bolivia	2001	1.1	1.1	1.1	1.1	1.1	1.1
Senegal	2001	1.4	1.3	1.4	1.3	1.4	1.2
Senegal (UEMOA)	2001	1.3	1.3	1.3	1.2	1.4	1.1

Source: Authors' computations based on data obtained from authorities of the countries
Note: (a) For domestic firms without preferential access to the EU sugar market, the EU and US garment markets, or to foreign exchange

Table A14b: Components of the B Index (Numerator)

			manufacturing		agriculture		overall	
Country	Year	Em/Ex	NPTR on import-competing goods	Effect of NTBs on average price on import-competing goods	NPTR on import-competing goods	Effect of NTBs on average price on import-competing goods	NPTR on import-competing goods	Effect of NTBs on average price on import-competing goods
			"t+n"	"PR" (b)	"t+n"	"PR" (b)	"t+n"	"PR" (a)
Benin	1996	1	14.9	4.0	11.8	0	14.2	1.0
Burkina Faso	1996	1	41.8	8.6	22.6	0	32.9	9.0
Cameroon	1996	1	29.1	4.3	31.2	0	30.6	6.0
Côte d'Ivoire	1996	1	44.5	0	20.5	0	34.7	0
Ghana	1996	1.01	30.3	0	25.0	0	29.7	0
Malawi	1995	1.04	43.3	0	1.3	0	38.0	0
Mali	1997	1	29.0	2.0	none	0	30.2	2.0
Mauritius Domestic Industry (a)	1996	1.05	71.3	0	19.3	0	65.4	0
Senegal	1996	1	50.9	0	30.1	0	46.6	0
South Africa	1996	1	32.9	0	exportable	0	27.3	0
Tanzania	1996	1	44.6	0	26.7	0	42.9	0
Uganda	1997	1	32.4	0	20.0	0	25.4	0
Zimbabwe	1997	1	52.4	1	11.5	1	40.8	2
Mean		1.02	39.8	1.5	20.0	0	35.3	1.5
Median		1.01	41.8	0	20.5	0	32.9	0
Chile	1998	1.05	12.7	0.0	12.3	0	12.7	0.0
Chile	2001	1.00	10.9	0.0	9.0	0	10.7	0.0
Bolivia	2001	1.00	9.4	0.0	10.0	0	9.4	0.0
Senegal	2001	1.00	28.0	0.0	21.8	0	26.4	0.0
Senegal (UEMOA)	2001	1.00	22.0	0.0	12.8	0	19.7	0.0

Source: Authors' computations based on data obtained from authorities of the countries

Note: (a) For domestic firms without preferential access to the EU sugar market, the EU and US garment markets, or to foreign exchange

(b) The sum of estimated effects of QRs and import monopolies on the average price of import-competing goods (Tables A2 & A3)

Table A14c: Components of the B Index (Denominator)

-			manufacturing				agriculture						overall		
Country	Year	VAT reimbursment rate for exporters % (estimate)	Average tax on industry output (%) (estimate)	(Duties and taxes on inputs) * (share of tradable inputs)	Tariff & sc on inputs	Estimated import-weighted average VAT on traded inputs (a)	Average tax on industry output (%) (estimate)	(Duties and taxes on inputs) * (share of tradable inputs) (b)	Tariff &sc on fertilizers	Estimated average VAT on fertilizers	Tariff & sc on non fertilizer inputs	Estimated average VAT on tradable non fertilizer inputs (a)	Tax on industry output (%) (estimate) (c)	(Duties and taxes on inputs) *(share of tradable inputs)	Estimated import-weighted average VAT on traded inputs (a)
-			"-s"	"t_I"			"-s"	"t_I"					"-s"	"t_I" (d)	
Benin	1996	0	0	15.0	8.5	15.2	38.9	2.2	10.0	1.2	3.5	17.8	23.0	8.6	15.2
Burkina Faso	1996	0	0	23.7	28.2	8.8	46.5	2.0	9.0	0.0	20.7	0.2	14.0	12.9	8.8
Cameroon	1996	0	5.0	15.8	9.8	15.0	9.1	2.4	5.8	0.0	10.5	15.0	4.0	9.1	15.0
Côte d'Ivoire	1996	0	0	18.0	12.6	15.5	25.3	1.8	6.0	0.0	12.6	5.9	7.0	9.9	15.5
Ghana	1996	0	0	12.9	5.7	15.0	33.0	1.7	0.0	0.0	5.7	15.0	9.0	7.3	15.0
Malawi	1995	0	0	17.5	12.3	15.0	0.0	1.2	0.0	0.0	0.4	15.0	0.0	9.4	15.0
Mali	1997	0	0	14.9	18.0	5.8	38.0	2.9	5.0	0.0	18.2	12.7	8.0	8.9	5.8
Mauritius Domestic Industry	1996	0	0	11.7	19.5	0.0	0.0	0.5	9.0	0.0	1.4	0.0	0.0	6.1	0.0
Senegal	1996	80	0	11.7	16.0	15.0	0.0	2.1	5.0	0.0	20.2	15.0	0.0	6.9	15.0
South Africa	1996	0	0	15.8	9.8	15.0	0.0	1.3	0.0	0.0	0.6	15.0	0.0	8.5	15.0
Tanzania	1996	0	0	21.6	18.2	15.0	0.0	2.6	3.7	0.0	13.6	15.0	0.0	12.1	15.0
Uganda	1997	0	0	12.9	5.6	15.0	0.0	1.6	0.0	0.0	4.0	15.0	0.0	7.2	15.0
Zimbabwe	1997	15	0	19.6	17.7	15.0	0.0	1.2	3.5	0.0	0.0	15.0	0.0	10.4	15.0
Mean		7.3	0.4	16.2	14.0	12.7	14.7	1.8	4.4	0.1	8.6	12.0	5.0	9.0	12.7
Median		0	0	15.8	12.6	15.0	0.0	1.8	5.0	0.0	5.7	15.0	0.0	8.9	15.0
Chile	1998	100	0	6.6	11.0	19.0	0.0	1.4	11.0	19.0	12.3	19.0	0.0	4.0	19.0

Chile	2001	100	0	4.8	8.0	19.0	0.0	1.0	8.0	19.0	9.0	19.0	0.0	2.9	19.0
Bolivia	2001	100	0	5.9	9.8	13.0	0.0	1.2	10.0	13.0	10.0	13.0	0.0	3.5	13.0
Senegal	2001	80	0	9.6	12.6	15.0	0.0	1.5	5.4	0.0	12.3	15.0	0.0	5.5	15.0
Senegal (UEMOA)	2001	80	0	10.0	13.3	15.0	0.0	1.3	7.0	0.0	9.3	15.0	0.0	5.7	15.0

Source: Authors' computations based on data obtained from authorities of the countries

Note: (a) For countries for which we do not have actual VAT information for the relevant years (Uganda, Tanzania, South Africa, Malawi, Zimbabwe), we assume a uniform 15% VAT rate, except for fertilizers, which we assume were 0 rated as they were mostly imported duty free as bilateral aid. We use average tariffs and VAT on all tradable intermediate goods as a rough approximation for those on inputs to manufacturing.

(b) Weight on fertilizers = 0.04, weight on other inputs = 0.08.

(c) From Table A13.

(d) Unweighted average of "t_I" man and "t_I" ag

			Effective Protection Rates (EPR)						B*Index					
Country	Year	E_m/E_x (a)	Import-competing			Exports								
			Indicative rates on manuf.	Indicative rates on agric.	Unweighted average indicative rates (b)	Manuf.	Agric.	Unweighted average rates	man imp/ all exp	all imp/ all exp	all imp/ man exp	all imp/ ag exp	man imp/ man exp	ag imp/ ag exp
Benin	1996	1	34.6	12.7	23.6	-10.6	-52.5	-31.6	2.0	1.8	1.4	2.6	1.5	2.4
Burkina Faso	1996	1	83.7	23.4	53.5	none	-31.6	-31.6	2.7	2.2	na	2.2	na	1.8
Cameroon	1996	1	68.8	34.2	51.5	-16.4	-47.8	-32.1	2.5	2.2	1.8	2.9	2.0	2.6
Côte d'Ivoire	1996	1	92.4	21.9	57.2	-11.2	-42.2	-29.8	2.7	2.2	1.8	2.7	2.2	2.1
Ghana	1996	1.01	67.2	27.9	47.5	-21.9	-34.3	-25.0	2.2	2.0	1.9	2.3	2.2	2.0
Malawi	1995	1.04	89.8	1.4	45.6	-3.3	None	-3.3	2.0	1.6	1.6	na	2.0	na
Mali	1997	1	50.5	na	50.5	none	-28.8	-28.8	2.1	2.1	na	2.1	na	na
Mauritius Domestic Industry (c)	1996	1.05	149.0	21.4	85.2	none	None	na	na	na	na	na	na	na
Senegal	1996	1	103.3	32.1	67.7	-14.2	-3.4	-10.2	2.3	1.9	2.0	1.7	2.4	1.4
South Africa	1996	1.03	67.6	0.0	33.8	-5.5	-8.3	-7.7	1.9	1.5	1.5	1.5	1.8	1.1
Tanzania	1996	1.03	84.2	28.9	56.6	-11.3	-3.7	-8.8	2.1	1.8	1.8	1.7	2.1	1.4
Uganda	1997	1.04	72.6	22.4	47.5	-3.1	-1.7	-1.7	1.8	1.6	1.6	1.6	1.9	1.3

Zimbabwe	1997	1.06	107.0	14.0	60.5	-4.7	None	-4.7	2.3	1.8	1.8	na	2.3	na
Mean		1.02	82.4	20.0	52.4	-10.2	-25.4	-17.9	2.2	1.9	1.7	2.1	2.0	1.8
Median		1.01	83.7	22.1	51.5	-10.9	-30.2	-17.6	2.2	1.8	1.8	2.2	2.1	1.8
Chile	1998	1.05	15.4	12.4	13.9	-2.6	-3.8	-2.6	1.2	1.2	1.2	1.2	1.2	1.2
Chile	2001	1	15.2	9.1	12.2	-1.9	-2.8	-1.9	1.2	1.1	1.1	1.2	1.2	1.1
Bolivia	2001	1	8.8	10.0	9.4	-2.0	-0.2	-1.5	1.1	1.1	1.1	1.1	1.1	1.1
Senegal	2001	1	51.1	23.4	37.3	-19.9	-2.2	-16.4	1.8	1.6	1.7	1.4	1.9	1.3
Senegal (UEMOA)	2001	1	35.1	13.4	24.2	-11.7	-1.8	-9.7	1.5	1.4	1.4	1.3	1.5	1.2

Source: Authors' computations based on data obtained from authorities of the countries

a) Unweighted average of the parallel and official exchange rates (in domestic currency terms) divided by the official exchange rate (Table A1)

b) Unweighted average of the indicative EPRs on manufactured and agricultural goods.

c) For domestic firms without preferential access to EU sugar market, EU and US garment markets, or to foreign exchange. For these firms a meaningful EPR on exports could not be computed because these exports were neglible

Table A16. IMF 1997 Classification Scheme for Overall Trade Restrictiveness

Tariffs[a]	Non-Tariff Barriers			
	Open	Moderate	Restrictive	
	less than 1% coverage[b]	1-25% coverage[b]	25% coverage[b] or higher	
$0 \le t < 10$	1	4	7	
$10 \le t < 15$	2	5	8	
$15 \le t < 20$	3	6	9	
$20 \le t < 25$	4	7	10	
25 % or higher	5	8	10	

Source: Sharer (1998)

Notes: (a) Unweighted average tariff & surcharges on dutiable imports.
(b) Coverage of trade or production

Table A17. IMF 2000 Classification Scheme for Tariff Restrictiveness

Trade taxes[b]	Non-Tariff Barriers[a]			
	Absolutely no restrictions	Few restrictions; 0-20 % trade coverage[c]	Substantial restrictions; 20-40% trade coverage[c]	Pervasive restrictions; > 40% trade coverage[c]
$0 \le t < 10\%$	1	3	5	7
$10 \le t < 15\%$	2	4	6	8
$15 \le t < 20\%$	3	5	7	9
$20 \le t < 25\%$	4	6	8	10
$25 \le t < 35\%$	5	7	9	10
35% or higher	10	10	10	10

Source: Subramanian et al (2000).

Notes: (a) Includes restrictions on exports and imports and other NTBs.

(b) Includes customs duties and other charges levied exclusively on imports, as well as export taxes. We use the sum of NPTR on all import-competing goods and export taxes to measure this variable.

(c) Refers to the share of total trade being affected by NTBs

Table A 18 Major Exports

Product description	Value in '000 US$	Export share (%)	BEC category
Natural gas	233,118	17.3%	input
Oil-cake and other solid residues resulting from the extraction of soyabean oil.	185,147	13.7%	input
Zinc ores and concentrates.	120,742	8.9%	input
Gold	89,879	6.7%	input
Soya bean crude oil, whether or not degummed	74,165	5.5%	input
Petroleum oils and oils obtained from bituminous minerals, crude.	59,945	4.4%	input
Tin, not alloyed	50,805	3.8%	input
Articles of jewellery	50,367	3.7%	consumer goods
Silver ores and concentrates	48,848	3.6%	input
Other boring or sinking machinery :-- Other	28,069	2.1%	capital goods
Brazil nuts :-- Shelled	26,561	2.0%	consumer goods
Tropical wood	20,300	1.5%	input
Sunflower-seed or safflower oil and fractions thereof :-- Crude oil	20,077	1.5%	input
Margarine	14,707	1.1%	consumer goods
Flour and meals of oil seeds	13,575	1.0%	input
Other bovine leather and equine leather, tanned or retanned but not further prepared, whether or not split :-- Other	12,781	0.9%	input
Other instruments and appliances	12,679	0.9%	capital goods
Doors and their frames and thresholds	11,958	0.9%	input

Raw sugar not containing added flavouring or colouring matter :-- Cane sugar	9,988	0.7%	input
Parts for boring or sinking machinery	9,063	0.7%	input
Oil cakes of sunflower seeds	8,999	0.7%	input
Men's and boy's cotton shirts	8,834	0.7%	consumer goods
Jerseys (wool or fine animal hair)	8,330	0.6%	consumer goods
Parts	7,167	0.5%	input
Cotton yarns	6,817	0.5%	input
Others	218,312	16.0%	
TOTAL	1,351,235	100.0%	

Source: WITS

Table A 19 Major Import-Competing Industry Output

Activity	Production Share (%) (1998)	BEC Category
Manufacture of coke, refined petroleum products and nuclear fuel	19.70	input
Agriculture	18.10	consumer goods
Cattle Farming	13.90	input
Manufacturing and preservation of meat	10.70	consumer goods
Manufacture of beer and malt	4.80	consumer goods
Manufacture of cement, lime and plaster	3.90	input
Manufacture of non-alcoholic beverages	3.80	consumer goods
Sugar refining	3.00	consumer goods
Manufacture of other paper products	2.60	input
Grain mills	2.30	consumer goods
Manufacture of plastic products	2.00	input
Dairy products	1.90	consumer goods
Manufacture of soap and detergents, cleaning and polishing preparations, and perfumes and toilette preparations	1.40	input
Manufacture of pharmaceuticals, medicinal chemicals and botanic products	1.30	input
Other food manufacturing	1.00	consumer goods
Manufacture of other fabricated metal products n.e.c.	0.80	input
Manufacture of articles of cement, cnoncrete and plaster	0.80	input
Manufacture of glass and glass products	0.70	input
Manufacture of macaroni, couscous and other products	0.70	consumer goods
Bakery products	0.70	consumer goods
Printing	0.60	input

Manufacture of structural non-refractionary clay and ceramic products	0.50	input
Manufacture of footwear	0.50	consumer goods
Manufacture of tobacco products	0.50	consumer goods
Distilling of spirits and alcohol	0.50	consumer goods
Manufacture of paints, varnishes and similar coating, printing ink and mastics	0.40	input
Manufacturing and preservation of vegetables and fruits	0.40	consumer goods
Manufacture of structural metal products	0.30	input
Manufacture of basic chemicals except fertilizers and nitrogenous compounds	0.30	input
Casting of iron and steel	0.20	input

Source: Data collected by the Bank staff from the countries concerned.

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