

CHAPTER 2

Policy-Related Trade Indicators

A number of nonpolicy factors such as country size, physical location, and endowments also influence trade outcomes, but the focus of this report is on policy and institutional constraints. This chapter highlights some regularities revealed by the WTI database in the four policy categories of indicators that directly or indirectly may influence a country's trade outcomes (the latter are discussed in chapter 3).¹ Although there are several indicators in each category that measure different aspects of policy (for example, the restrictiveness of a tariff regime), only some key indicators are highlighted in the following discussion. Most indicators within a group tend to be correlated with each other and give broadly similar rankings for the groups discussed in this report. For example, regions and income groups tend to be ranked similarly when using alternative indicators of trade policy.²

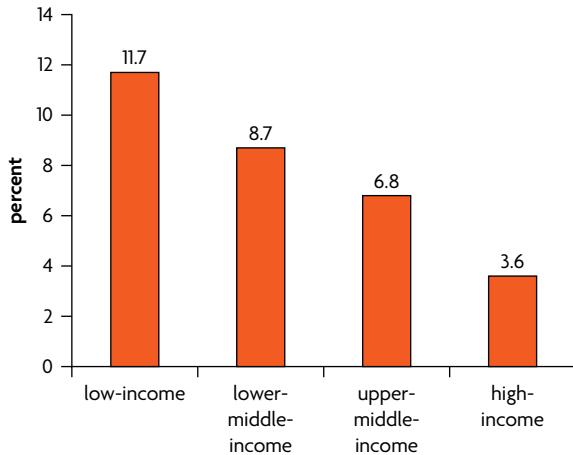
Trade Policy³

Merchandise Trade

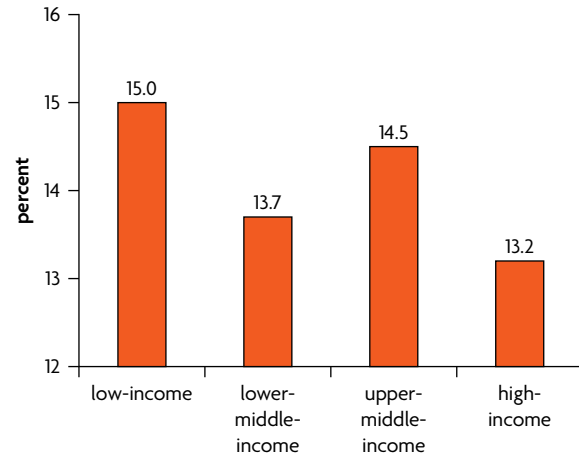
A set of indicators that summarizes the tariff barriers imposed by a given country are aggregated and disaggregated variations of the Trade Restrictiveness Index (TRI) constructed at the World Bank.⁴ The Trade (MFN) Tariff Restrictiveness Index (MFN TTRI) represents the tariff that when uniformly applied across the entire (MFN only) tariff schedule would keep total imports at the observed level. The MFN TTRI captures the protectionist aspect of a country's nondiscriminatory trade policy.⁵ Other variations are estimated for the applied tariff structure: one that includes preferences (TTRI) and another that includes both preferences and nontariff measures (Overall TRI, or OTRI). The OTRI incorporates the latest available information on nontariff barriers

Figure 2.1. Tariff Protection Is Highest among Low-Income Countries and the SAS, MNA, and SSA Regions

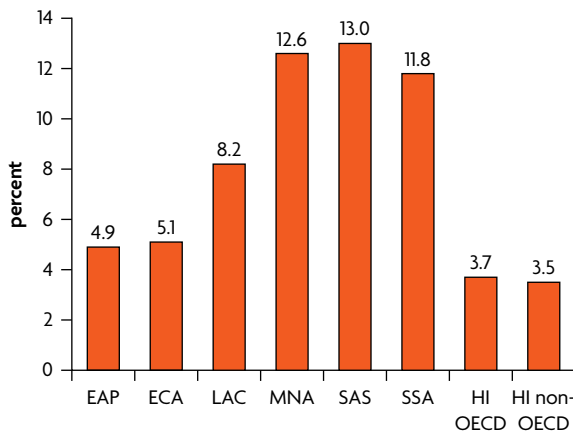
A. MFN TTRI—all goods, by income, 2006, percent



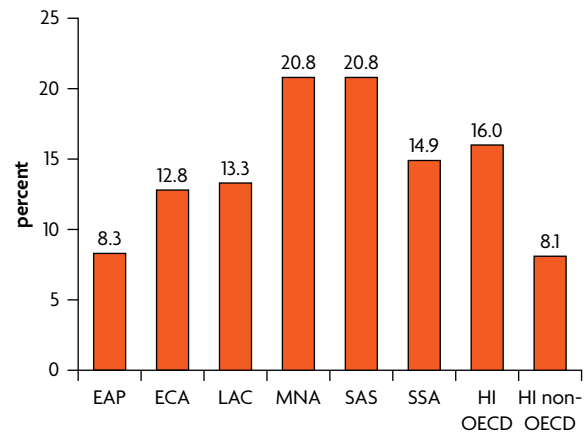
B. MFN TTRI—agriculture, by income, 2006, percent



C. MFN TTRI—all goods, by regions, 2006, percent



D. MFN TTRI—agriculture, by regions, 2006, percent



Note: The latest available TRIs are based mostly on 2006 tariff schedules. MFN TTRI values in 2005–6 for SAS, MNA, EAP, ECA, HI non-OECD, and HI OECD are significantly different than for their rest-of-the-world counterparts.

and other restrictive measures that date from 2001 or, for some countries, the late 1990s.⁶ These TRIs have an advantage over standard indicators such as simple and weighted tariff averages and frequency ratios, as they overcome the latter's inherent measurement biases. One drawback, however, is that they are available for a limited (125) number of countries.

The first panel in figure 2.1 shows that there is a strong negative correlation between countries' income level and the tariff restrictiveness of their trade regimes as measured by the MFN TTRI, with the same relationship holding also when nontariff measures are taken into consideration. Low-income countries on average are more restrictive than their middle-income counterparts and are almost twice as restrictive as upper-middle-income countries.

Table 2.1. High- and Middle-Income Countries Have the Lowest Import Protection

Country	MFN TTRI tariff (2006)	Country	MFN TTRI tariff (2006)
1. Hong Kong, China	0	106. Algeria	12.73
2. Singapore	0	107. Mexico	12.90
3. Switzerland	0.98	108. Iran, Islamic Rep. of	13.07
4. Turkey	1.52	109. Oman	13.24
5. Papua New Guinea	1.69	110. Guyana	13.43
6. Mauritius	1.97	111. Guinea	13.44
7. Iceland	1.98	112. Ethiopia	13.67
8. Kazakhstan	2.06	113. Bangladesh	14.14
9. Norway	2.10	114. Cameroon	14.59
10. Israel	2.35	115. Uganda	14.65
11. United States	2.42	116. Romania	14.80
12. Moldova	2.95	117. India	15.05
13. United Arab Emirates	2.96	118. Sudan	16.10
14. Australia	3.08	119. Gabon	16.17
15. Canada	3.33	120. Nepal	16.44
16. Kyrgyz Republic	3.50	121. Rwanda	20.37
17. New Zealand	3.55	122. Tunisia	20.38
18. Brunei	3.748	123. Morocco	21.39
19. Taiwan, China	3.755	124. Central African Republic	21.81
20. Malaysia	3.78	125. Malawi	30.39

As illustrated in table 2.1, which lists individual countries, the least restrictive trade regimes are found in high-income and middle-income countries, but some low-income countries like Papua New Guinea also have low tariff barriers. At the opposite end, the list is mostly composed of middle-income and low-income developing countries from all regions except East Asia. Sudan, Tunisia, and Morocco are the only countries that appear among the most restrictive countries (in the early and mid-2000s as well as in 2007, according to various tariff indicators) and among the best performing countries on real trade and export growth in 2007 (see table 3.2). Sudan's trade expansion, however, may be explained by its overall economic rebound from conflict in the southern part of the country and by international oil market developments. Tunisia and Morocco may have benefited from strong European demand for their exports and perhaps from recently initiated reforms to improve the business climate and export competitiveness, even though there is no evidence yet of their impact on trade policy indicators.

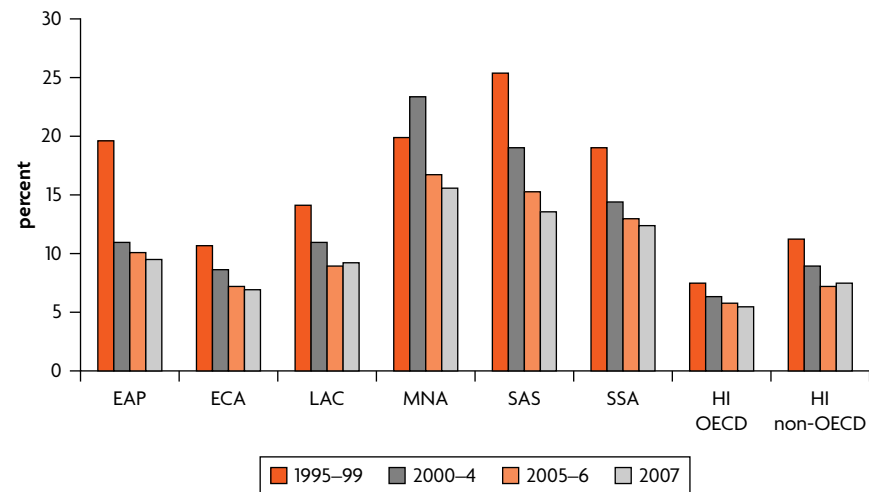
As measured by the MFN TTRI and illustrated in the third panel of figure 2.1, the SAS region has the most restrictive tariff policies, followed by the

SSA and MNA regions. The EAP and ECA regions have much lower tariffs overall. High-income non-OECD countries are the least restrictive followed closely by the high-income OECD countries, whose restrictiveness index is less than a third of that of the SAS region.

Countries and groups with high MFN TTRI scores also exhibit higher simple and weighted MFN tariff averages. These include the effect of both ad valorem and specific tariffs, as the TRIs do, but they capture countries that are not captured by the TRIs, such as many countries in ECA and smaller economies (see figure 2.2). Countries whose trade has been liberalized to a great degree with

Figure 2.2. Tariffs Have Been Falling in All Regions, but Remain High in MNA, SAS, and SSA⁷

A. Simple average tariffs



B. Import-weighted average tariffs

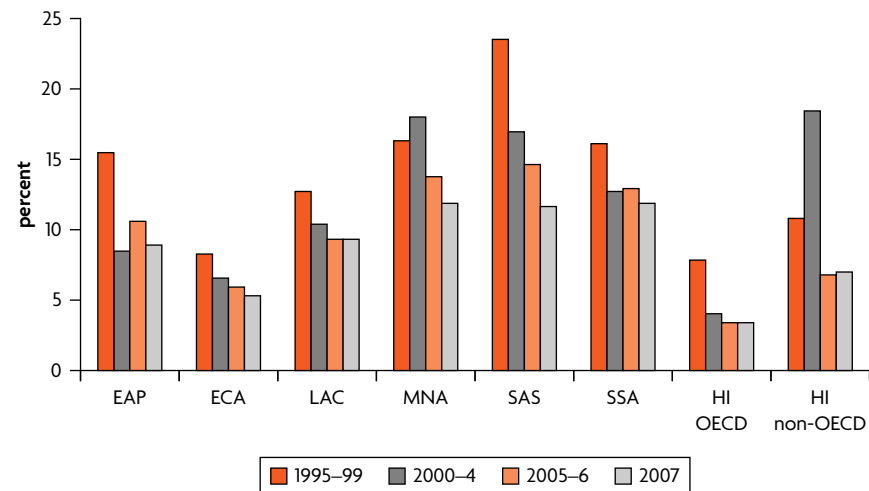
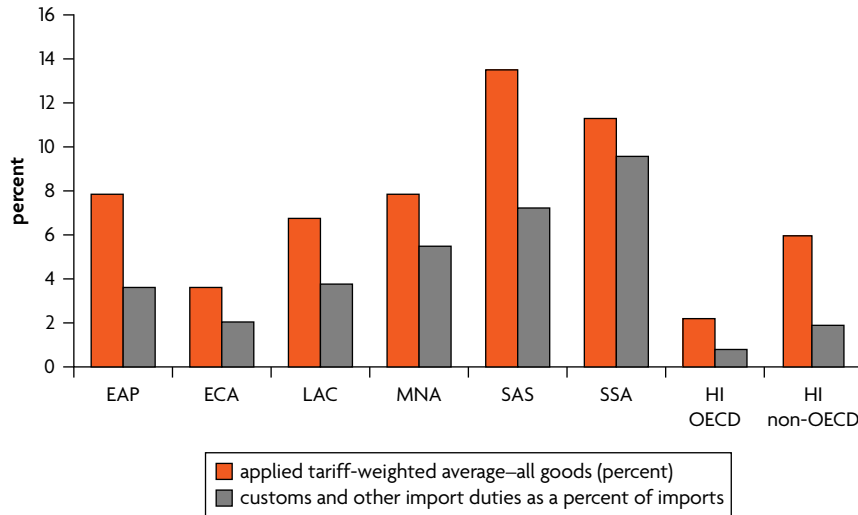


Figure 2.3. Import Duties Collected Are Much Lower Than Statutory Tariffs (2005–06)



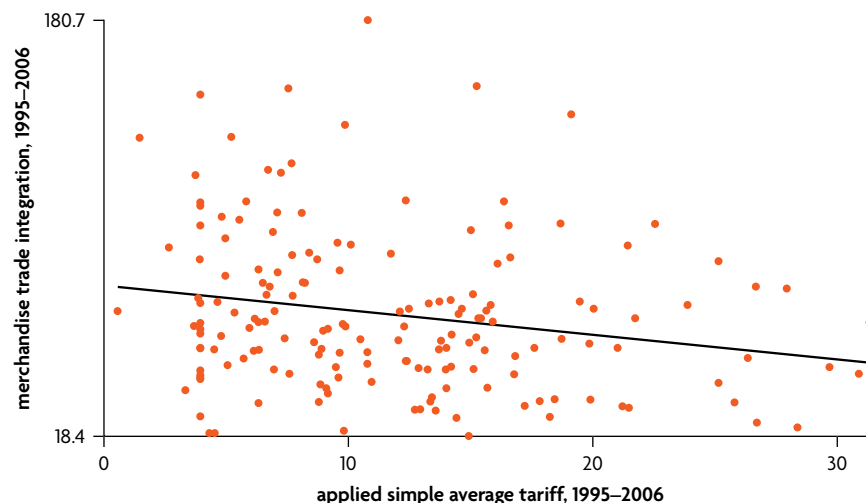
preferential partners rather than multilaterally, however, may rank much higher on indicators that effectively capture applied tariffs than they do on those based on MFN-only tariffs. For instance, this is the case for Mexico, whose indicators including preferences such as its low applied trade-weighted average tariff (2.5 percent) or low TTRI (3.7 percent) contrast with its poor placement of 107th according to the MFN TTRI (about 13 percent). Nonetheless, the MFN-based indicators are important measures of a country's non-discriminatory merchandise trade policy.

Calculations of applied import-weighted tariffs may overstate tariff protection in certain cases. A comparison of import-weighted tariffs and of import duties collected indicates that for most regions the latter is much lower than the former, as illustrated in figure 2.3. Import duty collection in SSA appears to be closest to the expected collection according to the weighted average of applied tariffs. For the other regions, however, tariff revenues are around half or less than the value expected from the tariff regime. These differences may reflect exemptions on tariffs or even corruption related to customs collection. The very large gaps for high-income countries may reflect the imperfect information available on the preferences they grant to developing countries.

Trade integration, measured by the trade share in GDP, is negatively and significantly correlated with trade restrictiveness, as measured by various indicators in the WTI database. Figure 2.4 provides an illustration of such a correlation between a country's merchandise trade integration ratio, averaged over the 1995–2006 period, and its applied simple average tariff that includes preferences averaged over the same period (trade integration is discussed in more detail in chapter 3).

Trade restrictiveness has declined substantially since the late 1990s and has continued to decline between the early 2000s and 2007. Average tariffs

Figure 2.4. Countries with Lower Tariffs Tend to Be More Integrated



Note: The figure illustrates a simple ordinary least squares (OLS) line with an intercept, without Singapore and Hong Kong (China) outliers. The regression coefficient is -0.34 , significant at the 5 percent level.

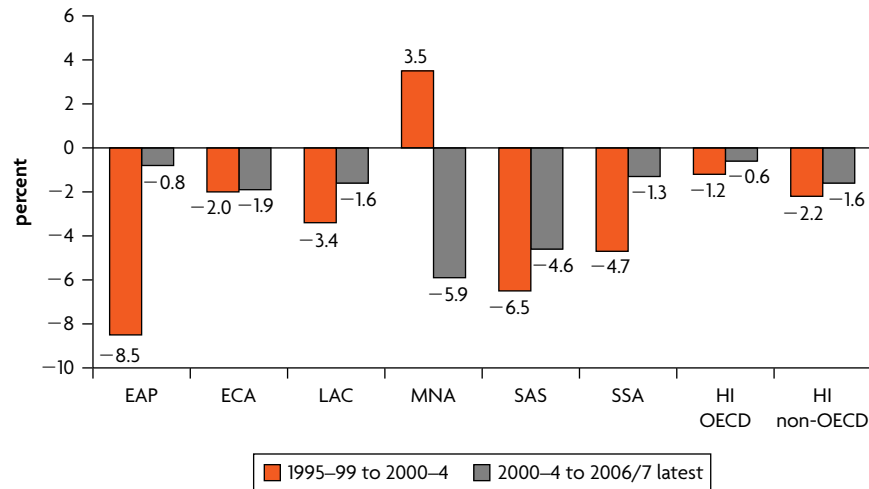
have been falling in most countries, regions, and income groups, especially among low-income countries, as illustrated in figure 2.5 (see also figures 2.2 and 2.6). From the late 1990s, the SAS region has had the largest reduction in tariffs, followed by the EAP region.

A few countries had higher tariffs in 2007 relative to the levels of the mid-2000s, with three exhibiting increases greater than 1 percent in the simple average of their MFN tariffs: Mauritania raised its average tariff from 10.7 percent in 2005–6 to 11.9 percent in 2007; El Salvador's tariff went from 5.9 percent to 7 percent; and St. Vincent and the Grenadines had the largest increase, from 4 percent to 9.9 percent (though still lower than the 12 percent tariff of earlier years). Other countries recorded smaller increases, ranging from 0.1 percent for Paraguay to 0.7 percent for Argentina, with Angola, Iceland, Oman, Vanuatu, Turkey, República Bolivariana de Venezuela, and Mongolia falling in the middle.

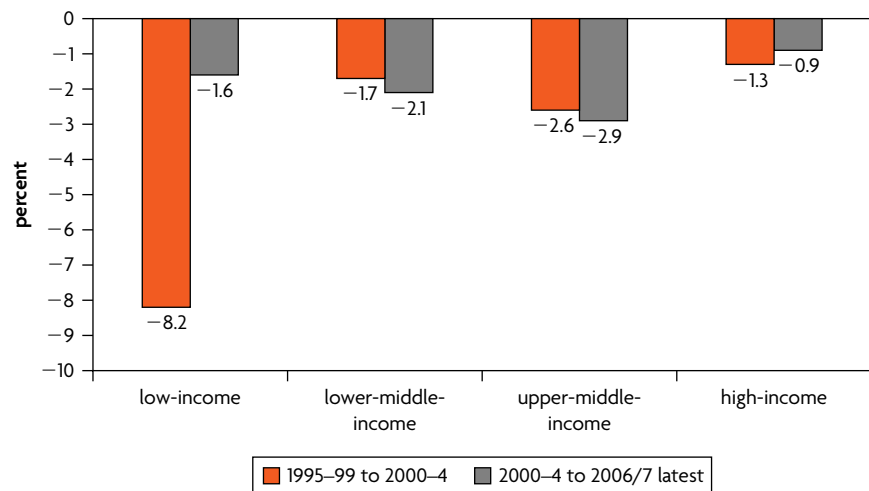
With respect to the early 2000s, however, 31 countries have higher tariffs, of which 14 recorded increases in the simple average of their MFN tariffs ranging from 1 to 8 percentage points (see table 2.2) and in the most extreme case, Kazakhstan, almost tripled the average from 2.8 to 7.8 percent.⁸ For the three Baltic countries, joining the EU meant adopting its common external tariff, which, though still relatively low at 5.3 percent, is almost 50 percent higher for all three than their pre-accession average tariff (it is more than three times as high for Estonia). A similar story applies to Uganda, which increased its tariffs on average by 50 percent (4 percentage points) to 12.6 percent, as it adopted the common external tariff schedule of the East African Community.

Figure 2.5. The SAS Region and Other Low-Income Countries Had the Largest Decreases in Tariffs

A. Change in MFN tariffs (simple average) since the late 1990s, by region



B. Change in MFN tariffs (simple average) since the late 1990s, by income

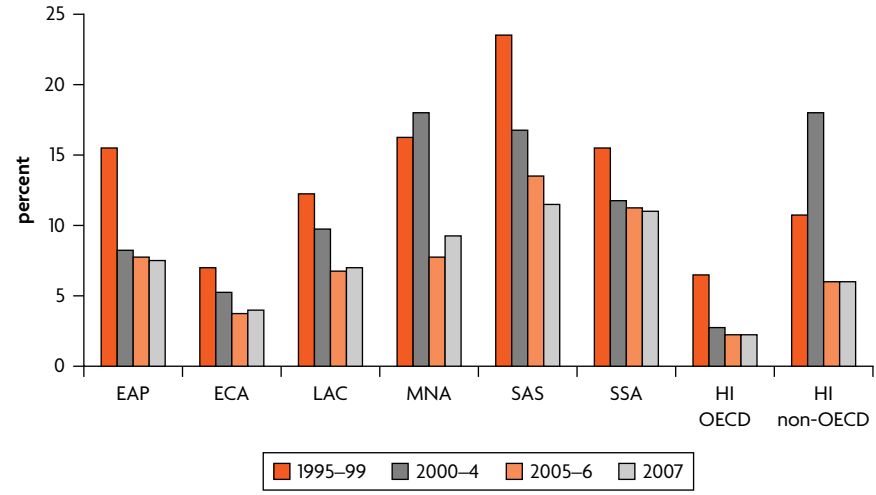


Note: All changes are in percentage points.

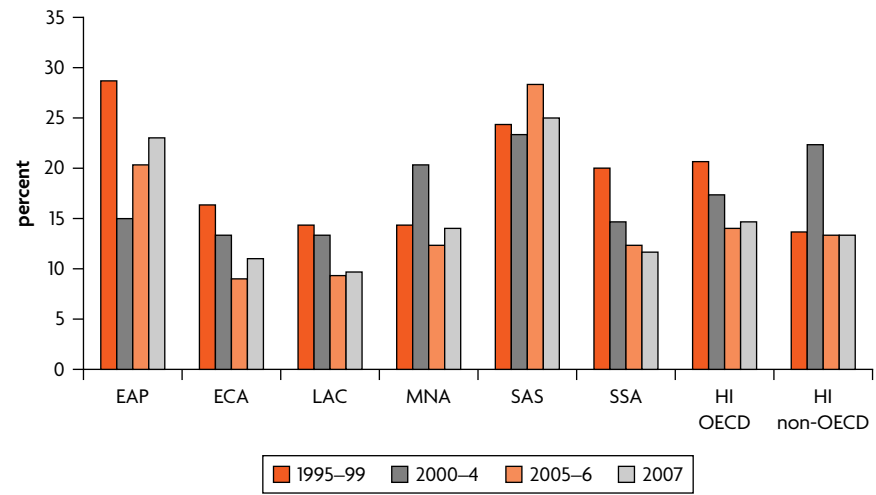
Developing countries that have reduced their import restrictions the most since the early 2000s include the Arab Republic of Egypt (from 46.8 to 17 percent in the MFN simple average tariff), the Seychelles (28.4 to 8.3 percent), India (31.8 to 14.5 percent), and Mauritius. In China, tariffs also decreased from 13.7 to 9.9 percent. Among developed countries, overall tariff restrictions in the EU came down from 6.1 to 5.3 percent and came down slightly in many other countries such as Japan, the United States, and Canada. Much of this observed liberalization, however, pertains to manufacturing trade.

Figure 2.6. Countries Have Liberalized Agriculture Less Than Other Merchandise Sectors

A. Applied tariffs (including preferences)—all goods (trade weighted average, percent)



B. Applied tariffs (including preferences)—agriculture (trade weighted average, percent)



C. Applied tariffs (including preferences)—all goods (production weighted average, percent)

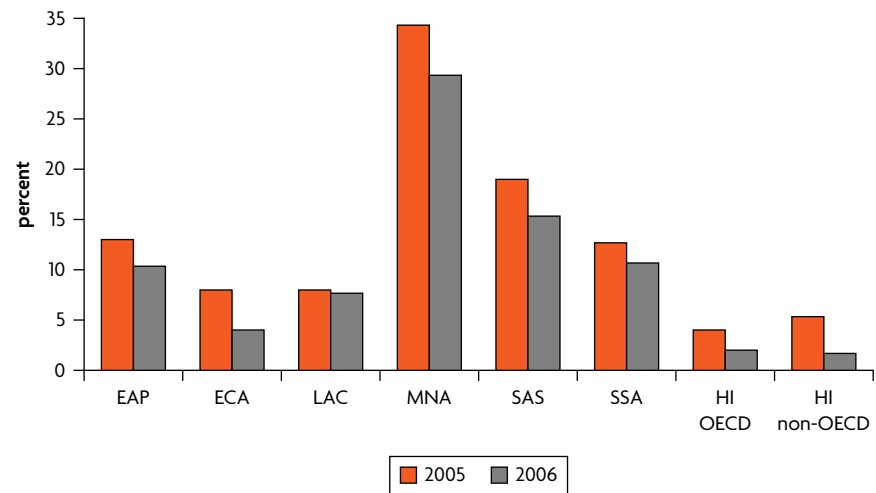


Table 2.2. Some Countries Have Increased Their MFN Tariffs (Simple Averages)

Country	1995–99	2000–4	2007	Absolute increase	Percent increase
	(percent)	(percent)	(percent)	between 2007 and 2000–4	between 2007 and 2000–4
Bosnia and Herzegovina	—	6.0	7.0	1.0	16.7
Russian Federation	11.8	9.8	11.1	1.3	13.3
Sri Lanka	20.9	9.9	11.4	1.6	15.2
Lithuania	3.5	3.5	5.3	1.7	51.4
Latvia	4.3	3.5	5.3	1.8	51.4
Iceland	3.7	5.3	7.6	2.3	43.4
Bhutan	15.3	19.4	21.9	2.5	12.9
Zimbabwe	27.9	17.4	20.1	2.7	15.5
Vanuatu	—	13.8	16.6	2.8	20.3
Estonia	0.1	1.6	5.3	3.7	231.3
Uganda	—	8.7	12.6	3.9	44.8
Uzbekistan	—	11.0	15.6	4.6	41.8
Kazakhstan	9.5	2.8	7.8	5.0	178.6
Madagascar	6.9	4.6	12.4	7.8	169.6

Note: — = Not available.

Less has been done in agriculture. Across all regions and income groups, agricultural imports face much higher trade restrictions than manufacturing and mining imports. Countries tend to protect domestic farmers relative to manufacturing and mining. While the SAS region is still the most protective, followed closely by the MNA region, high-income OECD countries are more protective than any of the other developing regions, according to the MFN TTRI shown in figure 2.1, fourth panel. The EAP and SAS regions have had an increase in their weighted average tariff on agriculture since the early 2000s, but since their simple averages are unchanged or lower, this development seems to be the result of changing import patterns rather than a deliberate protectionist move (see also figure 2.6, second panel).⁹

Some of the liberalizers mentioned earlier have also reduced their tariffs in agriculture between the early 2000s and 2007: India reduced its MFN simple average tariff by 12 percent, Mauritius by 20 percent, and China by 25 percent. But others have not. In the same period, Egypt raised its tariff rate on agricultural imports from 45 to 66.3 percent, a 47 percent increase. High-income countries moved in the same direction and on average raised their tariff protection by 4.4 percent. In the EU, there was a decrease in protection for established member states, from 19.1 to 15.2 percent, a 20 percent decline. At the same time, however, new EU members had to increase their pre-accession tariffs to the EU common external tariff of 15.2 percent (for

Lithuania, tariffs increased by 47 percent). Russia raised its tariffs on agricultural imports by a record 68 percent. Norway's increase was more modest at 26 percent, but raised from a high level of 45.8 percent to 57.8 percent. In North America, while the United States and Mexico kept their average MFN tariff roughly unchanged, Canada increased its by an average of 11 percent, from 16 to 17.9 percent. Japan also raised its tariffs, the average rising from 21.1 to 22.3 percent, that is, by 6 percent. Switzerland kept its tariff roughly unchanged, around 44 percent.¹⁰ In the LAC region, Argentina and Chile achieved substantial reductions, with the latter bringing its agricultural tariff (7.5 percent in the early 2000s) down to its target uniform tariff rate of 6 percent level by the mid-2000s.

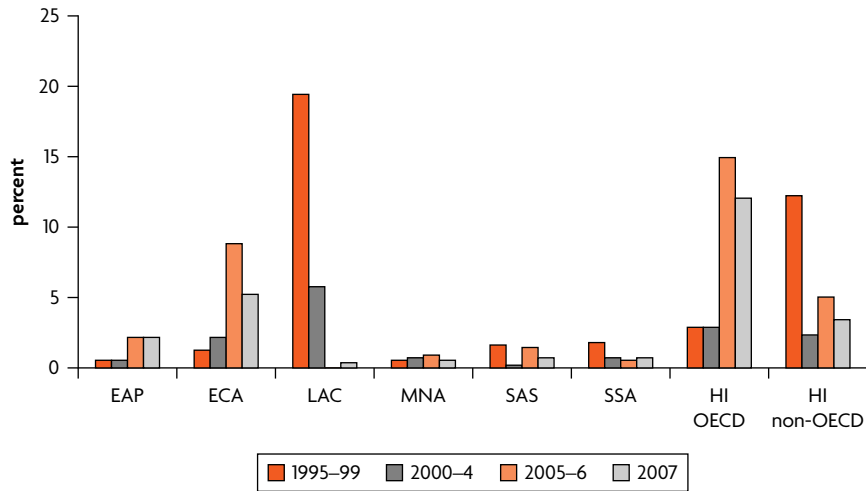
With food prices rising on world markets, trade restrictions on agriculture are receiving special attention. According to a recent World Bank research paper (Ng and Aksoy 2008), 147 countries are raw food net importers (RFNI); of which almost three-fourths are low-income countries, mostly concentrated in SSA. Probably reflecting the relative importance of the policy goal of self-sufficiency over that of keeping food prices low for consumers, the structure of protection for the developing RFNI countries subset is more biased toward their domestic agriculture than that of the rest of the developing world. The average trade-weighted applied tariff (including preferences) of the developing RFNI group on all agricultural imports was double (13.6 percent) that on nonagricultural imports (6.5 percent) in 2007. The corresponding ratio for the rest-of-the-developing world (raw food exporters) was lower at 1.6 (with tariffs of 12.8 percent versus 8 percent, respectively).

Import-weighted applied tariffs may underestimate protection since imports fall (and may become zero) when tariffs rise. Another measure of tariff protection is the production-weighted tariff average (in which the effect of preferences is also included), which gives an indication of the policy bias toward established domestic producers (see figure 2.6, third panel) but is available for only 74 countries for 2006 and 79 countries for 2005. Production-weighted tariffs are higher on average than trade-weighted tariffs among the low-income and the lower-middle-income countries, but are only about half as high among upper-middle-income and high-income countries (the latter having the lowest average rate, 1.8 percent for 2006, among income groups).¹¹ At the regional level, they range from a low of 1.5 percent among the 23 high-income non-OECD countries for which this indicator is available to a very high 29 percent (and a peak of 45 percent for the agricultural tariffs) across the MNA region (7 countries covered). This indicator has declined in all regions since 2005 in line with all other tariff indicators.

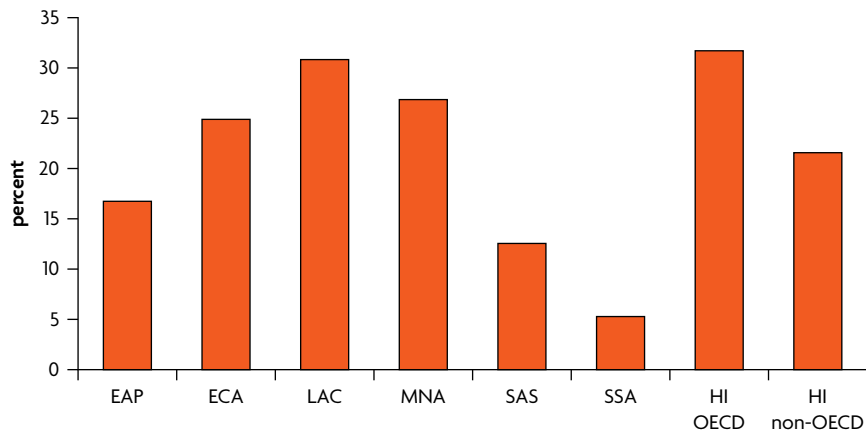
Compared to both high- and middle-income countries, there is greater simplicity in the trade regimes of low-income countries, primarily due to their greater reliance on ad valorem tariffs and their low usage of nontransparent specific (non-ad valorem) tariffs and nontariff measures.¹² As illustrated in figure 2.7 (both panels), high-income OECD countries stand out for their high

Figure 2.7. High- and Middle-Income Countries Have Less Transparent Protection

A. Frequency ratio of specific tariff (latest 2007 or 2006, percent of total lines)



B. Nontariff measures frequency ratio (latest 2001 or earlier year)



propensity to use specific tariffs and nontariff measures. On average, middle-income countries also tend to use specific tariffs (as in Europe and Central Asia) and nontariff measures (as in Latin American countries). SSA and SAS countries are the least intensive users of such measures.

In regions with a high incidence of nontariff measures, the pattern of trade restrictiveness is more complex than an analysis of tariff averages would indicate. Nontariff measures are often important (and also nontransparent) tools used to protect specific industries and products, especially in agriculture. Assessing overall trade protection is not possible without discussing such measures. Thus, even though such information has not been updated worldwide

since 2001 and its coverage is limited to 111 countries, the WTI database provides the data. In addition to clearly protectionist barriers such as quotas, nontariff measures include technical barriers to trade and sanitary and phytosanitary standards that may have legitimate consumer-protection or public health rationales, though they may also raise the restrictiveness of trade policy. Examples are lead content standards that many countries impose on paint and import bans or testing requirements following the detection of bacterial contamination. Although there are plans by the ITC to update the underlying data (see footnote 15) and by World Bank researchers to distinguish between the two categories of nontariff measures discussed above (to the extent possible), indicators in the WTI database only reflect the existing available data.

According to the latest OTRI, which incorporates estimates of the impact of all nontariff measures on trade flows, the pattern of trade restrictiveness in 2006 is somewhat different from that suggested by tariff-only indicators. Overall, SAS is still the most restrictive region and ECA the least restrictive, followed closely by EAP. However, in agriculture, as shown in figure 2.8, the most restrictive region is MNA followed by the high-income OECD group, and the least restrictive region is SSA. Still, countries in the SAS and ECA regions and the high-income non-OECD group impose relatively high barriers to agricultural imports on average. The EAP and LAC regions fall in the middle.

Other indicators such as tariff dispersion and the maximum tariffs charged by countries shed light on the extent of the discretionary approach to trade policy adopted in a given country—that is, whether there are particular products or specific subsectors a country protects more than others. In cases where tariff dispersion is high but the average tariff is low, for instance, a country may still protect certain sectors substantially while liberalizing overall. These sectors in turn may be important export sectors for trading partners. By contrast, a more transparent and uniform tariff structure may be the result of a

Figure 2.8. MNA and HI-OECD Countries Protect Agriculture the Most and SSA the Least (OTRI = Agriculture, 2006)

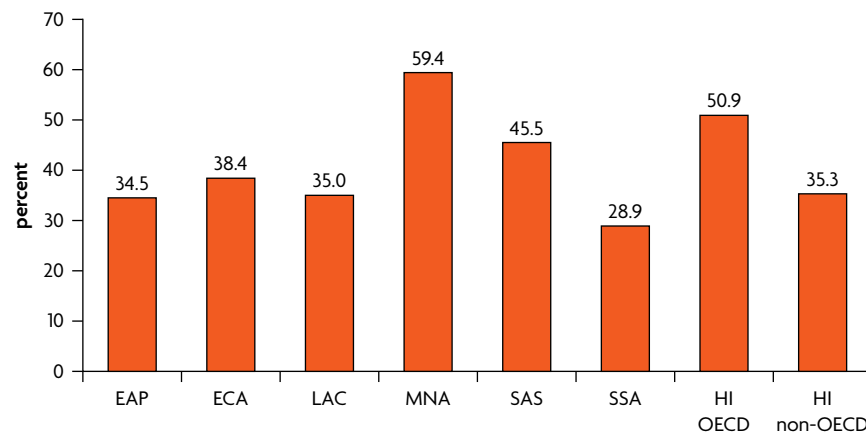
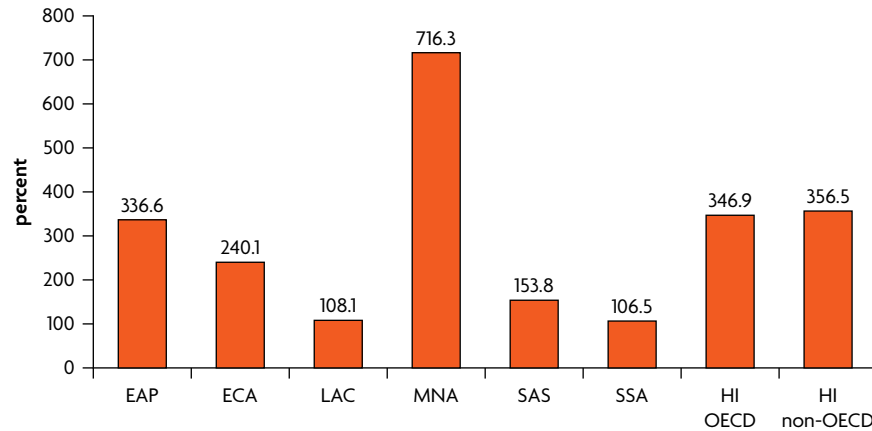
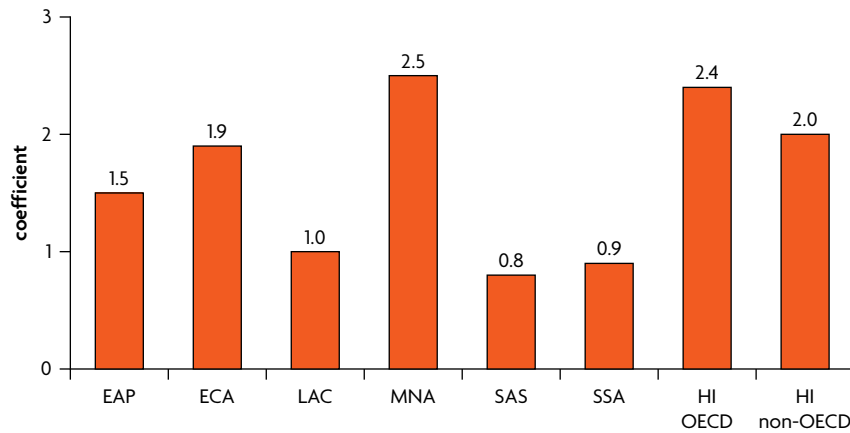


Figure 2.9. Maximum Tariffs and Dispersion Are Still High in Many Regions**A. Maximum tariffs (cross-country average, percent), 2007****B. Dispersion, coefficient of variation (cross-country average), 2007**

country's efforts to reduce corruption or administrative burdens associated with implementing a complex tariff structure.

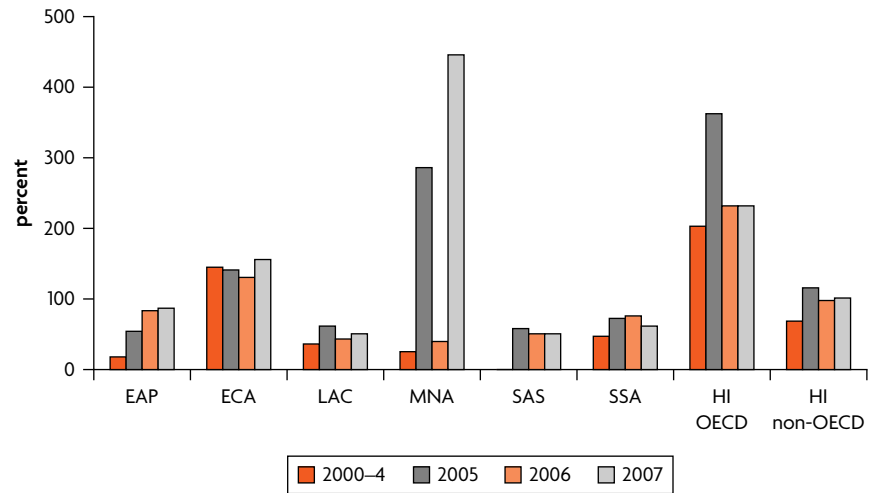
For the world as a whole, tariff dispersion has fallen since the early 2000s and is slightly lower than the level of the late 1990s. Maximum tariffs worldwide have fallen since 1995–99, but in 2007 there were some increases from 2006 levels. High-income OECD countries still retain high maximum MFN applied tariffs, averaging 347 percent (having dropped from 1,488 percent in the late 1990s). Figure 2.9 shows that the MNA region has both the highest tariff dispersion measured by the coefficient of variation (2.5) of the MFN tariff schedule and the highest maximum tariff (averaged among countries within the region) of 716 percent in 2007. Its maximum tariff is almost twice as high as the next highest among developing regions, 337 percent for the EAP region, and seven times that of the LAC and SSA regions, which have the lowest. The maximum tariff in high-income OECD countries is almost three

times that in low-income ones, and tariff dispersion in the former is about two and a half times as high as in the latter.

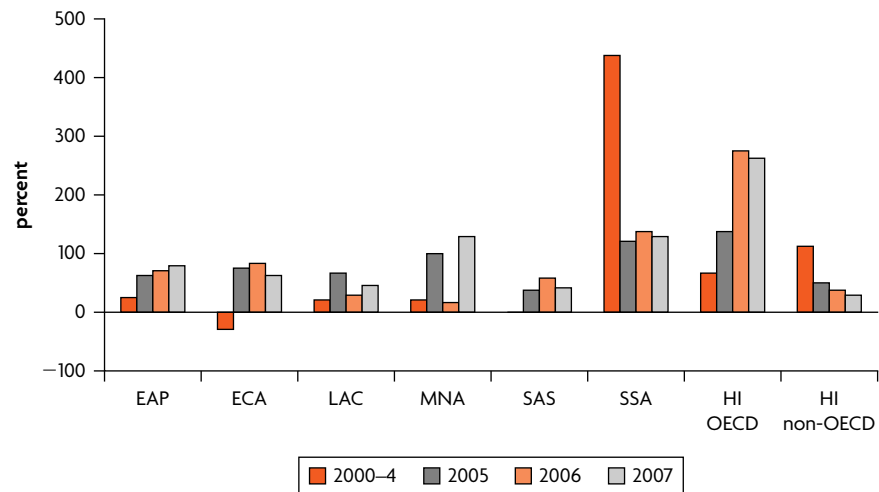
Some countries tend to protect finished goods much more than they protect intermediate goods and raw materials. For example, countries wishing to protect infant industries, in which they expect to gain comparative advantage over time, may lower protection on imported inputs to reduce costs for producers and encourage production. The WTI indicators of tariff escalation in figure 2.10 measure the percentage change between tariffs on fully processed

Figure 2.10. Tariff Escalation Is Highest in MNA and High-Income OECD Countries, Especially in Agriculture

A. Tariff escalation—agriculture, percent



B. Tariff escalation ratio—non-agriculture, percent



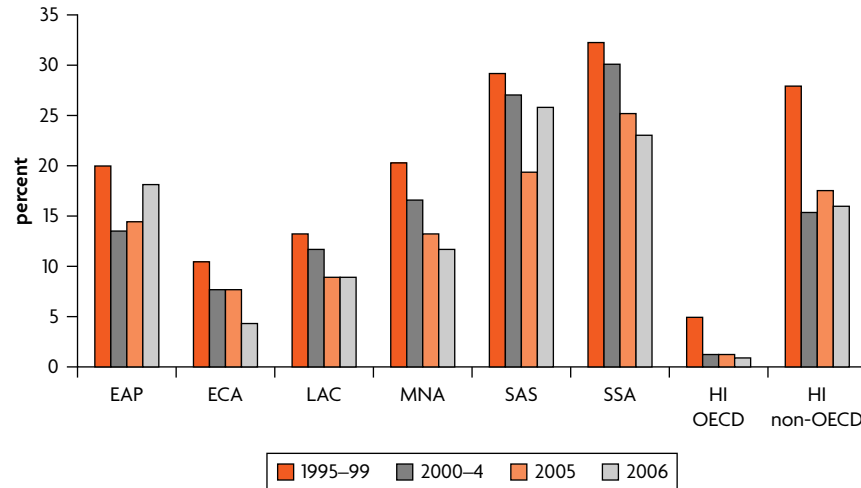
Note: Tariff escalation in the above charts is expressed as the percentage change between tariffs for finished goods and tariffs for raw materials.

versus primary goods (following the standard World Trade Organization (WTO) classification of such categories) and at a very aggregate level capture the higher effective protection with respect to nominal tariff protection afforded to domestic producers. In manufacturing, this indicator is a proxy measure for trade-related industrial policy measures. Generally, a more escalated tariff structure is likely to create a stronger anti-export bias, as productive resources are artificially channeled into import-competing sectors. As shown in figure 2.10, fully processed goods are much more protected than raw materials, as expected. But the striking pattern evident from figure 2.10 is that across all country groups tariff escalation on average is lower (in some extreme country cases even negative) for other sectors compared to agriculture (including processed food).

Overall, tariff escalation is highest in the MNA (106 percent) and high-income OECD (89 percent) countries, especially in agriculture.¹³ Among developing countries, the ECA region has had a similar pattern of escalation, reflecting features of the EU tariff structure adopted or approximated by many countries in the region that have recently acceded or aspire to accede to the EU. However, the SSA region has the third highest tariff escalation, on account of the relatively higher levels of escalation outside of agriculture (mostly in manufacturing). In agriculture, the MNA region has the highest escalation (447 percent), well above that of the high-income OECD countries (232 percent); the low-income group has the lowest tariff escalation (30 percent), and the lower-middle-income group has the second highest (155 percent) but is still below the high-income OECD countries. Australia, New Zealand, and Egypt stand out as the countries with the most escalated tariff structures in agriculture (973, 926, and 603 percent, respectively). These same countries also appear on the top 10 list for escalation outside of agriculture, which is dominated by Iceland, Mauritius, and Canada (2,832, 1,669, and 1,134 percent, respectively). Other countries also on the top 10 lists of tariff escalation in both sectors are Bosnia and Herzegovina, Swaziland, and Lesotho.

The discussion on tariff policy is not complete without an assessment of how it is linked to fiscal revenues, particularly in developing countries. On average, tariff revenues in developing countries account for a larger share of fiscal revenues than is the case for developed countries. Tariff revenues are generally easier to assess and collect than regular taxes. Developing countries with less developed tax systems or poor governance are more likely to rely on border taxes for fiscal revenues. As tariffs decline in these countries, additional adjustments to fiscal systems are required (either to obtain higher revenues or to reduce expenditures). Duties on imports as a percent of total taxes are most important in SAS and SSA countries, where they have ranged, on average, from 19 to 30 percent this decade, compared to only around 1 percent in the high-income OECD countries (see figure 2.11). The other regions all have had less than 17 percent of fiscal revenues coming from trade taxes since the start of the decade.¹⁴

Figure 2.11. Fiscal Revenues Are Most Dependent on Import Duties in SSA and SAS Countries



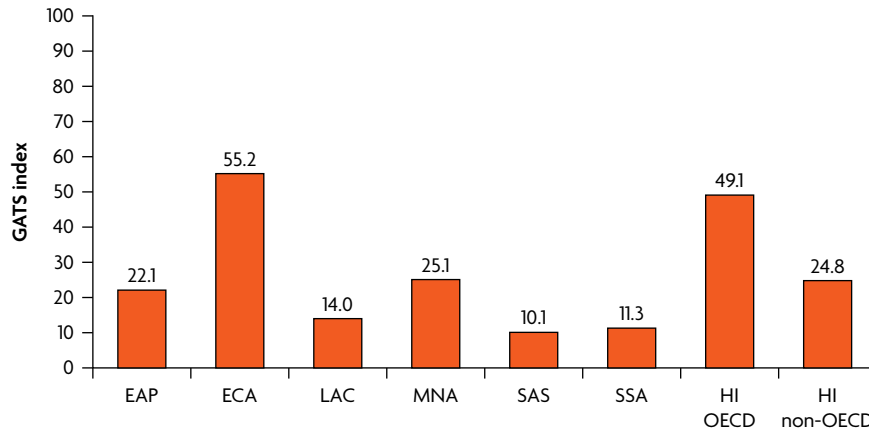
Services Trade Liberalization

Services trade has grown faster than merchandise trade through 2006, but services remain an underexploited source of exports for developing countries. While some countries are large services exporters, many are not. In addition, many services are an important input to other goods exports: the competitiveness of these exports on world markets may depend on the quality of domestic services such as telecommunications, transport and distribution services, and financial intermediation. Global outsourcing has become important in promoting both goods and services exports. Liberalization of services sectors can improve the quality and efficiency of a country's services and can raise both goods and services exports. It can also raise consumer welfare.¹⁵

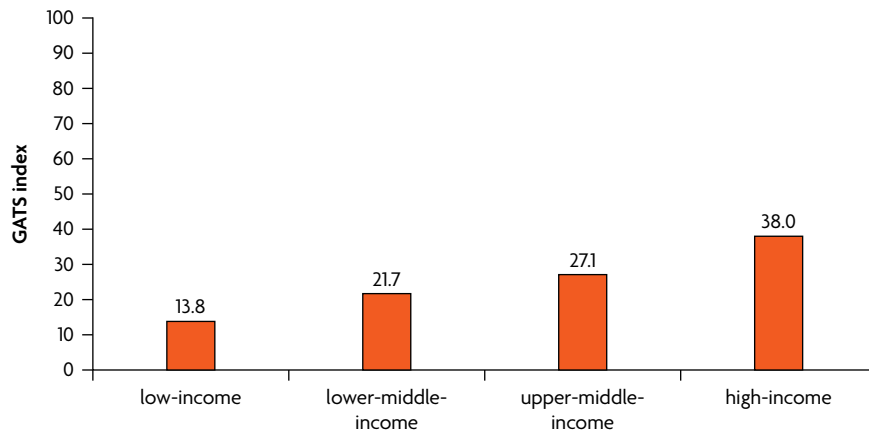
In the last decade, countries have become more aware of the potential benefits from services liberalization, but have made few commitments to the GATS with respect to either intended opening of their services sectors or intentions to bind restrictions to current levels. Such commitments often do not reflect actual liberalization, since some countries have liberalized further unilaterally or within the context of bilateral or regional agreements. But, even if countries do not promise additional liberalization, multilateral commitments are particularly important in services where there are considerable first mover advantages. The WTI database contains three indicators of services trade liberalization, which are based on GATS commitments. The first indicator measures GATS commitments to liberalize for 150 countries, based on a methodology developed by Hoekman (1997) and recently applied to selected European countries (Hoekman and Eschenbach 2006) for all services sectors and subsectors.¹⁶ This proxy is an imperfect measure of actual

Figure 2.12. ECA and High-Income OECD Countries Have Committed the Most to Open Their Services Sectors and Low-Income Countries the Least

A. Overall GATS commitment index, by regions (1–100, most liberal), 2007



B. Overall GATS commitment index, by income (1–100, most liberal), 2007



service liberalization as discussed above.¹⁷ For the time being it is, however, the only widely available comparative indicator with a broad sectoral coverage.¹⁸ A GATS commitment liberalization index for banking services is also available from the United States International Trade Commission (USITC). A third set of indicators constructed by the International Telecommunications Union (ITU) measures competition and the maximum share of foreign investment allowed in the telecommunications sector.

According to the GATS commitment index shown in figure 2.12 and table 2.3, countries that have recently acceded to the WTO in the ECA region and developed countries have committed to a greater degree of openness in services trade than have other groups. Scores for the high-income OECD countries vary. At the upper end are Iceland (64) and the United States (63), and at the lower end are many EU countries (with commitment indices around 50), Japan (49), and the Republic of Korea (41).

Table 2.3. Most Developing Countries, Save WTO Accession Countries, Have Committed Little in the GATS

20 most committed		20 least committed	
Country	GATS commitments index, 2007	Country	GATS commitments index, 2007
1. Moldova	84.3	130. Togo	4.0
2. Georgia	70.5	131. Namibia	3.9
3. Latvia	69.1	132. Bangladesh	3.3
4. Kyrgyz Republic	66.6	133. Mauritania	3.3
5. Albania	65.1	134. Burkina Faso	3.2
6. Iceland	64.4	135. Uganda	3.2
7. Armenia	63.2	136. St. Kitts and Nevis	3.1
8. United States	62.7	137. Cameroon	3.1
9. Lithuania	59.7	138. Mali	3.0
10. Macedonia, FYR	58.1	139. Costa Rica	2.8
11. Hungary	58.0	140. Chad	2.7
12. Oman	57.4	141. Central African Republic	2.5
13. Estonia	56.7	142. Guinea-Bissau	2.4
14. Norway	56.5	143. Maldives	2.3
15. Jordan	56.4	144. Niger	2.3
16. Saudi Arabia	55.5	145. Fiji	2.2
17. Australia	54.8	146. Congo, Dem. Rep. of	2.2
18. Switzerland	53.7	147. Belize	1.6
19. South Africa	53.4	148. Tanzania	1.0
20. New Zealand	52.2	149. Madagascar	0.4

Few developing countries reach similar levels of commitments: indices range from a low of 0.4 in the case of Madagascar (lowest commitments) to 84 (highest) for Moldova, a small open economy with very limited infrastructure, especially in the telecommunications and banking sectors. Moldova acceded to the WTO in 2001 and has FTAs with Romania and other Central European countries, Russia, and nine other Commonwealth of Independent States (CIS) countries. Other countries following closely are those in ECA that have joined the WTO during the past decade. In comparison, the three countries that acceded in 2007, Saudi Arabia, Tonga, and Vietnam, have committed to a relatively lower degree of services trade liberalization, with their commitment indices ranging from 56 for the former to 43 for the two latter countries.

Most developing countries score below 40, including China (36), which has committed less than (smaller) countries in Southeast Asia (for example,

Cambodia with 49) and ECA as a condition of WTO accession. Low-income countries have committed less than other groups in terms of liberalization. The champion of services trade liberalization under the GATS is the ECA region (see first panel of figure 2.12), with the exception of Turkey. In fact, half of the most committed 20 countries are in ECA, as are six developed countries. The SAS, SSA, and LAC regions have the lowest degree of commitments, with most countries in the southern part of the African continent scoring below 10. The most extensive commitments among SSA countries have been made by two coastal, open economies, South Africa (53) and the Gambia (52) and by two landlocked countries, Lesotho (47) and Burundi (35). But 17 out of the bottom 20 countries are in the SSA region.

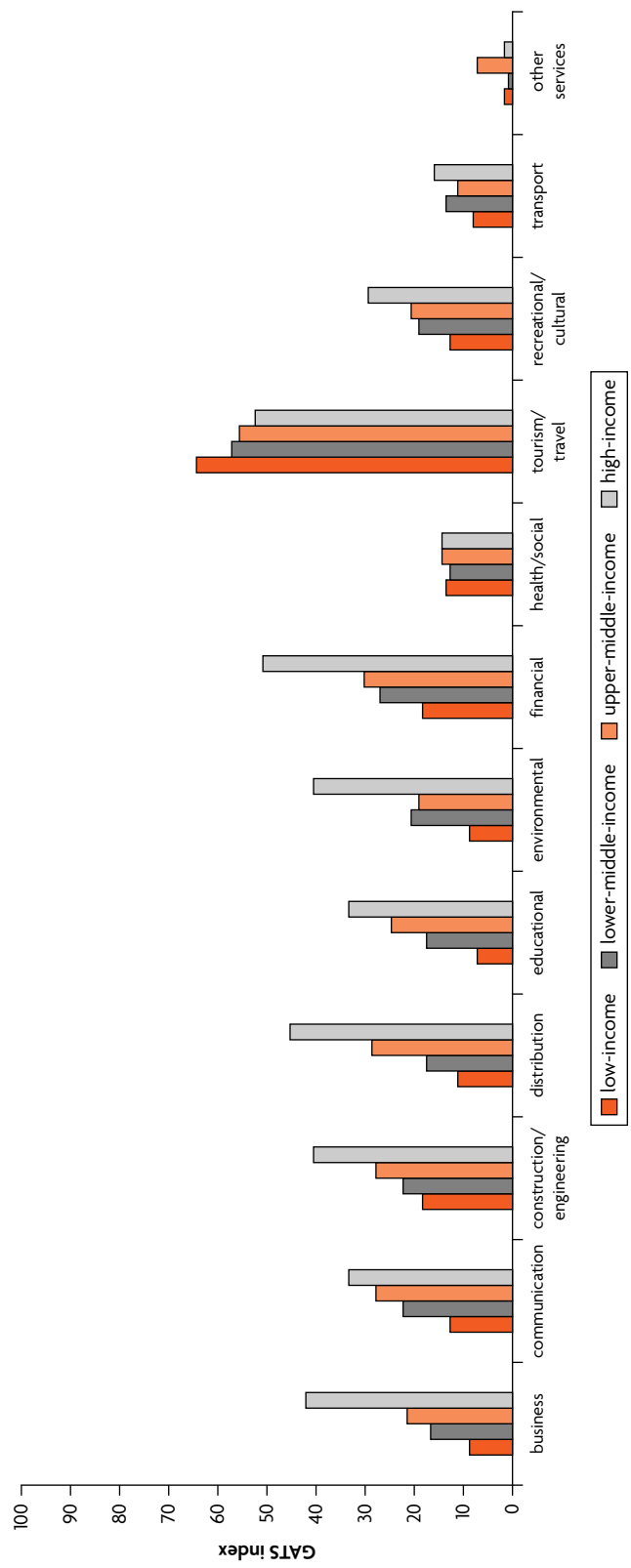
Looking at the pattern of commitments made across sectors, high-income countries have a more open stance across most sectors relative to other income groups. Low-income countries exhibit a higher or similar average commitment to services trade liberalization compared to rich countries in a few sectors, namely in health and other social sectors and in tourism and travel (see figure 2.13).¹⁹ An additional index by the ITU measures the degree of foreign participation allowed in the telecommunications sector on a scale from 0 to 100 percent. It shows all ECA countries being fully open and other regions having an average score higher than 80. The EAP region is at the bottom with a score of 59.

External Environment

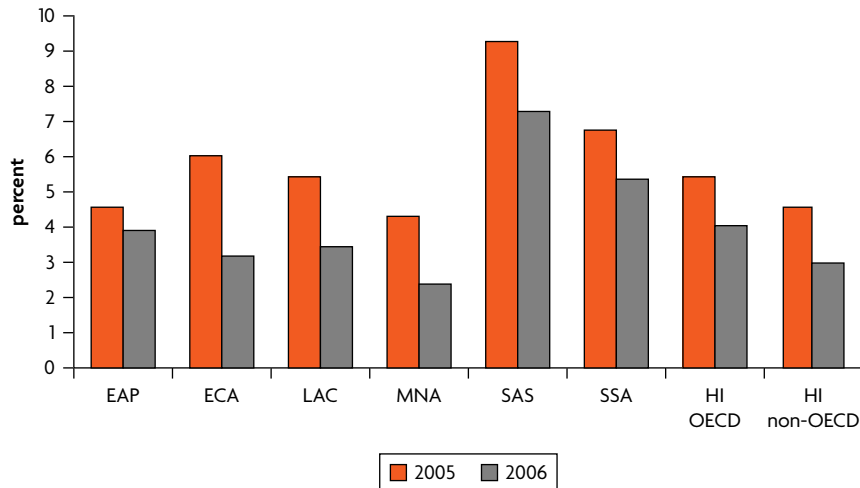
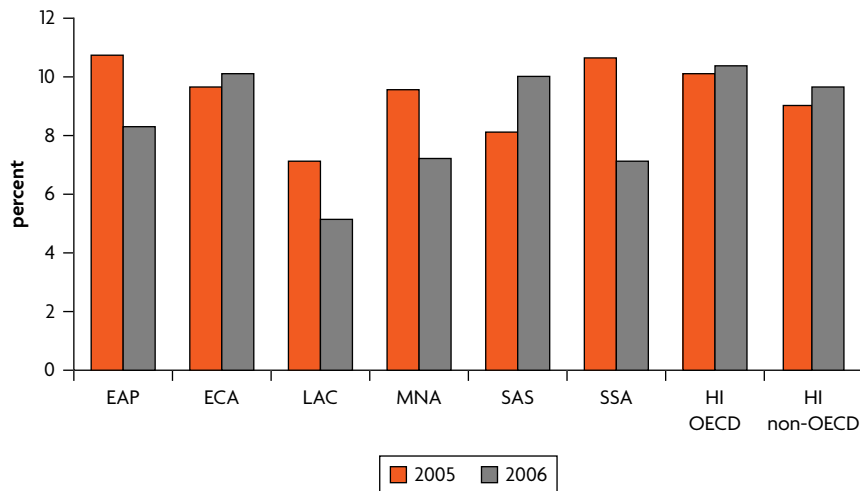
Access to global markets for exported products is an important element of an outward-oriented development strategy of many developing countries. Domestic policies may support trade, but export growth could be limited if third-party markets are closed to exporters' products. The indicators in the WTI database suggest that, in general, low-income countries face the highest entry restrictions in the world market to their exports and upper-middle-income countries face the lowest.

The Market Access (MA) version of the Trade Restrictiveness Indices includes all the available data on both unilateral and reciprocal tariff preferences granted.²⁰ They are available for two recent years, 2005 and 2006. One version is based on tariffs only and another includes also nontariff measures (MA-TTRI and MA-OTRI, respectively).²¹ According to the MA-TTRI for all goods (shown in figure 2.14) as well as the MA-OTRI, all regions' market access has improved from 2005 to 2006, but in agriculture it has deteriorated for the ECA, SAS, and high-income OECD countries. Exporters in SAS have faced the highest barriers equivalent to a uniform tariff of 7.3 percent (or 18 percent when considering nontariff measures). The next highest barriers are faced by the SSA and EAP regions among developing countries, with the OECD countries also facing relatively high tariff barriers to their exports. The barriers

Figure 2.13. High-Income Countries Are More Committed Than Other Groups to Services Trade Liberalization in Most Sectors (2007)



Note: The 12th "Other Sectors" is a residual category, which the WTO Secretariat suggested might be used for Central Product Classification categories 95 + 97 + 98 + 9, which include religious, beauty, and house-keeping services, among others. There are in reality hardly any commitments in this category. Only the GATS schedules for five countries (including Australia and Barbados) contain partial liberalization commitments in this category.

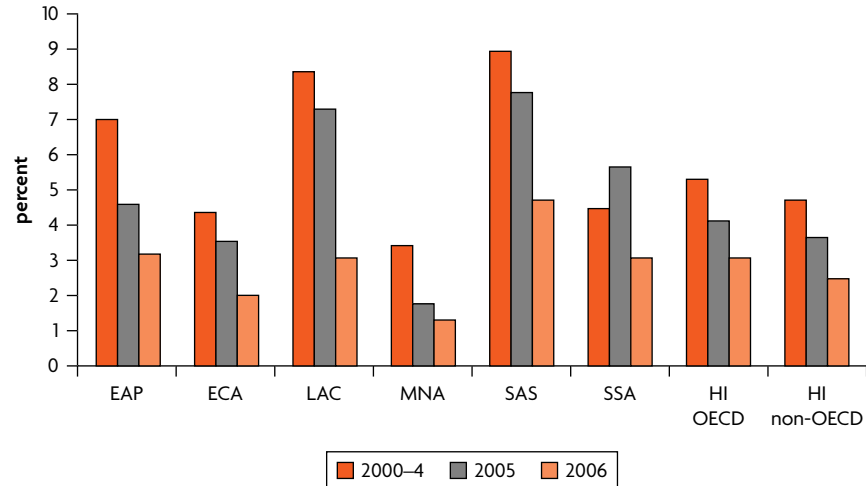
Figure 2.14. Market Access Is More Restricted in Agriculture**A. MA-TTRI (including preferences), all goods (percent)****B. MA-TTRI (including preferences), agriculture (percent)**

faced by SAS are 204 percent higher than those faced by the MNA region and 115 percent higher than those faced by the LAC region. The LAC and ECA regions faced more restrictions than MNA exporters, who enjoyed the most favorable market access.²² In agriculture, where nontariff measures are often very restrictive, the SSA and EAP regions faced MA-OTRI values (equivalent uniform tariff rates) of over 30 percent and the four other regions in the developing world between 20 percent and 30 percent (see second panel of figure 2.14).

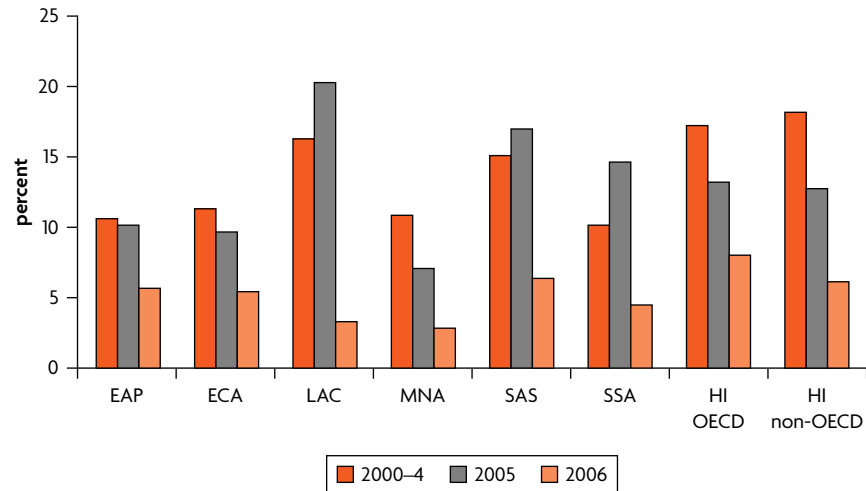
This pattern is confirmed when an alternative measure of market access, available for all years through 2006, is considered—the weighted average of the

Figure 2.15. SAS Exporters Face the Highest Tariff Barriers and MNA's the Lowest

A. ROW applied tariff (including preferences)—all goods (percent)



B. ROW applied tariff (including preferences)—agriculture (percent)



rest-of-the-world (ROW) applied tariff (including preferences) facing exporters. Large improvements in market access for all regions between the early and mid-2000s are evident from figure 2.15. This measure confirms that the MNA region enjoys the most favorable market access when compared to other regions, while the SAS region faces the worst access. Since the beginning of the 2000s, the LAC region's market access has improved the most (in both percent and percentage point terms). The SSA region's market access worsened significantly in 2005 from the earlier period, then improved considerably in 2006, even when compared to the early 2000s level. The increase in tariff

barriers for SSA between the early 2000s and 2005 may have reflected the general reduction in market access for agricultural products, which affected overall market access for SSA more than other regions (many countries in the SSA region are larger exporters of agricultural commodities relative to other goods than other countries). SSA exporters continue to face the highest tariff barriers overall and, among developing regions, also in agriculture. Exporters in the low-income country group also face the highest tariffs at 3.7 (trade weighted, and including preferences).

The most recent sharp improvements (in 2006), however, may not imply a substantial improvement in tariff policies by importing countries, but may reflect the recent effort to improve the coverage and quality of information on preferences in the (harmonized) databases by the Geneva-based trade-related agencies, and especially the ITC. In the case of the large improvement in LAC's market access in agriculture in 2006, for instance, many countries in the region exhibit sudden and very large declines (by more than 50 percent) in their row applied tariff averages, including Brazil and Argentina.²³ However, the only development affecting the market access indicators was the December 2005 entry of República Bolivariana de Venezuela into Mercosur, which clearly cannot explain the size of the changes in the 2006 market access indicators. Better coverage of existing preferential arrangements appears to be the most likely explanation for such changes. However, even if the evolution of preferences may be hard to detect due to historical data weaknesses, the cross regional pattern for all goods seems to be very similar over time.

There is, however, a lot of variation in market access among countries, as illustrated in table 2.4, which shows the countries enjoying the most and least favorable market access in 2006 according to the MA-TTRI. Half of the countries with the lowest access were in the SSA region, though 7 out of the 20 with the highest access were also in the SSA region. Market access varies according to the specific products each country exports. In the earlier section on tariff dispersion and maximum tariffs, it was clear that some goods are protected much more than others, particularly agricultural products, in high-income OECD countries. Oil exporters account for a large share of the countries with the highest market access (7 out of 20). Central American countries for which garment exports are important faced considerable barriers until early 2006.²⁴ Market access for cotton exporters to the United States has improved significantly since the Dominican Republic–Central America Free Trade Agreement became effective in April 2006, but this change will be reflected only when the 2007 tariff indicators recorded in the international databases are updated (a following section discussing the value of U.S. preferences, however, does include such information, as it is based on information from national sources).

The top and bottom list according to the rest-of-the-world applied tariffs (rather than the MA-TTRI) shows some different countries on the top and bottom 20 (the country coverage of this indicator is larger and the method

Table 2.4. Oil and Commodity Exporters and Rich Countries Enjoy the Best Market Access (2006)

Country	MA-TTRI	Country	MA-TTRI
1. Botswana	0.4	106. Albania	23.5
2. Central African Republic	1.2	107. Guatemala	23.9
3. Niger	1.3	108. Bangladesh	24.1
4. Nigeria	1.3	109. Kenya	24.4
5. Algeria	1.5	110. Ghana	25.0
6. Gabon	1.9	111. Madagascar	25.6
7. Venezuela, R. B. de	2.0	112. Nicaragua	25.6
8. Azerbaijan	2.1	113. Togo	25.6
9. Belarus	2.4	114. Burkina Faso	26.6
10. Brunei	2.8	115. New Zealand	26.8
11. Saudi Arabia	2.8	116. Malawi	28.3
12. Norway	2.9	117. Nepal	28.8
13. Sudan	2.9	118. Burundi	32.2
14. Namibia	3.1	119. El Salvador	32.5
15. Oman	3.4	120. Mauritius	32.7
16. Iran, Islamic Rep. of	3.6	121. Uganda	32.7
17. Qatar	3.6	122. Rwanda	33.6
18. Israel	3.9	123. Honduras	34.9
19. Russian Federation	4.5	124. Bolivia	35.2
20. Switzerland	4.5	125. Cambodia	46.0

to calculate access is different), though on average, the story is similar (see table 2.5). For example, there are 7 SSA countries in the top 20 and 7 in the bottom 20, as well as various small Caribbean and Pacific islands that are not covered in the TRIs but appear here as they have high market access. However, three African producers, Benin, Mali, and Burkina Faso, rank at the very bottom in terms of market access, reflecting the high import tariffs imposed by other developed and developing countries on cotton, a very important product in their export baskets. Box 2.1 discusses market access for garment exporters.

Market access is strongly and significantly correlated with trade and export performance, as illustrated in figure 2.16.²⁶ The different patterns of market access among different countries, regions, and income groups are driven primarily by differences in the product composition of exports. To the extent that countries in a particular group have similar types of exports, there will be systematic differences among country groups. Since agriculture generally faces greater restrictions in terms of market access than manufacturing, regions and countries exporting mainly agricultural products generally have lower market

Table 2.5. Small Islands Enjoy Lowest Tariff Barriers, While Cotton Exporters the Highest, 2006

Country	ROW applied tariff, weighted average,		Country	ROW applied tariff, weighted average,	
	all goods			all goods	
1. Liechtenstein	0		184. Vietnam	5.38	
2. Bermuda	0.02		185. Korea, Democratic People's Republic of	5.95	
3. Congo, Dem. Rep. of	0.09		186. Somalia	6.02	
4. Equatorial Guinea	0.10		186. Malawi	6.09	
5. Cayman Islands	0.12		187. Swaziland	6.40	
6. Botswana	0.13		188. Honduras	6.55	
6. Libya	0.13		189. Pakistan	6.83	
6. Nigeria	0.13		190. Uzbekistan	7.95	
9. São Tomé and Príncipe	0.17		191. Cyprus	8.08	
10. Venezuela, R. B. de	0.20		192. Macao, China	8.30	
11. St. Lucia	0.23		193. El Salvador	8.41	
12. Azerbaijan	0.24		194. Cambodia	8.69	
12. St. Kitts and Nevis	0.24		195. Afghanistan	9.42	
12. Bahamas, The	0.24		196. Lesotho	9.67	
15. French Polynesia	0.25		197. Monaco	10.13	
16. Central African Republic	0.31		198. Haiti	10.53	
17. Angola	0.33		199. Cuba	10.82	
18. Gabon	0.34		200. Northern Mariana Islands	12.61	
19. Papua New Guinea	0.35		201. Benin	12.84	
20. Bosnia and Herzegovina	0.40		202. Mali	15.31	
20. Armenia	0.40		203. Burkina Faso	23.02	

access than those where minerals and manufacturing dominate exports of goods. Indeed, both the MA-TTRI and the MA-OTRI are positively and significantly correlated with the export share of agriculture (see figure 2.17, which plots the latter two indicators) Conversely, given the importance of oil, gas, or manufactured products in their export baskets, exporters like Nigeria, República Bolivariana de Venezuela, Gabon, Mexico, many MNA countries, the EAP region, and the high-income countries face more favorable market access conditions.

Duty-Free Trade

What the discussion on tariff barriers does not reveal is that a substantial amount of trade between some countries is free, with countries trading under tariff lines with a MFN-0 rate or with partners in FTAs or CUs. The first type

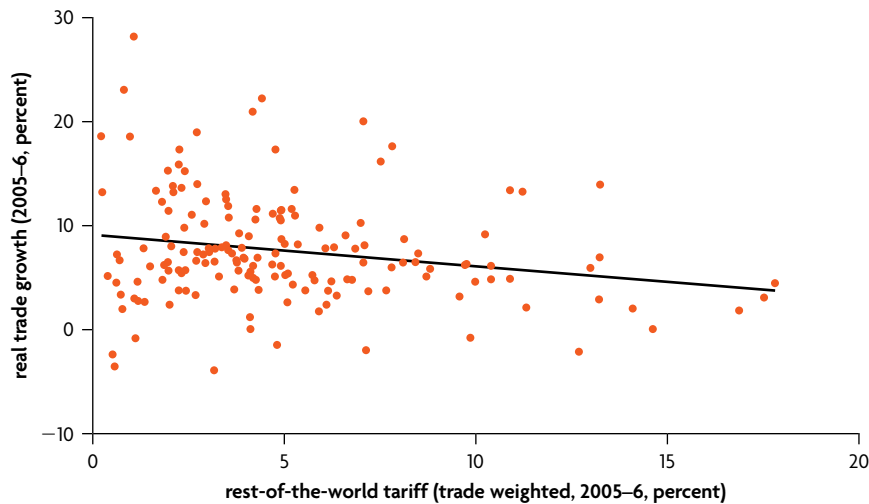
Box 2.1. Garment and Textiles Exporters Also Face Higher Tariffs Than the Rest of the World

Garments and textiles are very important export items for many countries. They are found among the top five export products for 45 countries. These countries are mostly concentrated among the low-income (16) and lower-middle-income (18) groups.²⁵ For this group, real growth rates of total trade and of exports (8.3 and 8.7 percent, respectively) have been higher since the late 1990s relative to the trade and export growth rates of the rest of the world (nongarment exporters, 7.4 percent and 6.7 percent, respectively). On average, garment exporters tend also to be more trade integrated than the rest of the world. Their average trade share in GDP is 106 percent relative to 98 percent for the comparator group, despite the fact that some of the largest exporters are also large countries having relatively low integration ratios (such as India, Bangladesh, Pakistan, and Turkey). As expected, natural resources (mining) account for a much lower proportion of their total exports and their export bundles are more diversified (with a low export concentration index of 31) than those for the rest of the world (40).

Despite their heavier use of preferences, garment-exporting countries face a significantly less favorable market access for their (total) exports than the rest of the world, both for the group in its entirety and for the subset of garment exporters in developing countries. In 2006, the latter group faced a weighted average tariff (including preferences) on their nonagricultural exports of 3.5 percent versus 1.8 percent for the rest of the developing world. And this was the case even though the value of EU and U.S. preferences utilized by the subset of garment exporting countries in the developing world was relatively high, equivalent to 6.1 percent of their total exports to these two economies, more than double the value of such preferences for the rest of the world (3 percent).

Most other trade policy, institutional environment, and trade facilitation indicators appear in line with those of the rest of the world and with the middle-income country group averages. Among the few notable, the garment-exporting countries tend to have a much stronger home production bias in their tariff schedules than the rest of the world. Their production-weighted average tariff (including preferences) is substantially higher (10.5 percent for the entire group and 14.2 percent for the subset of developing countries) than the rest of the world's (4.9 percent) or the rest of the developing world (7 percent).

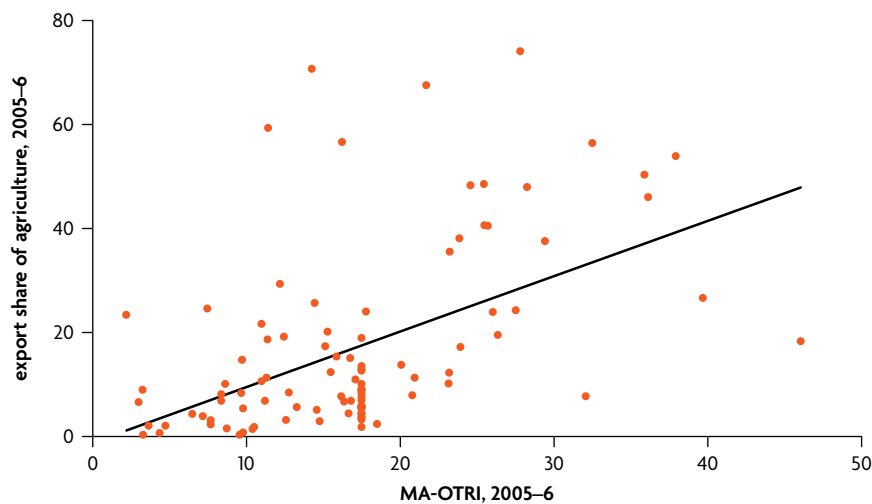
of trade flows are shown in the first panel of figure 2.18. Across regions the average share of exports that are subject to MFN-0 is in the range of 26 percent to 45 percent, with the SAS and LAC regions below 30 percent. All regions show substantial increases (34 percent on average) in the proportion of MFN-0 trade since the late 1990s. The SAS region has the highest increase (88.5 percent),

Figure 2.16. Better Market Access Helps Trade and Export Performance

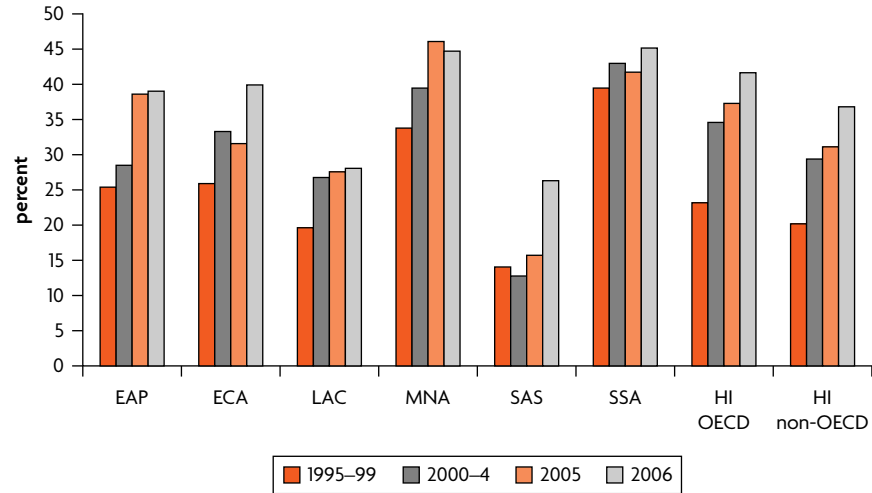
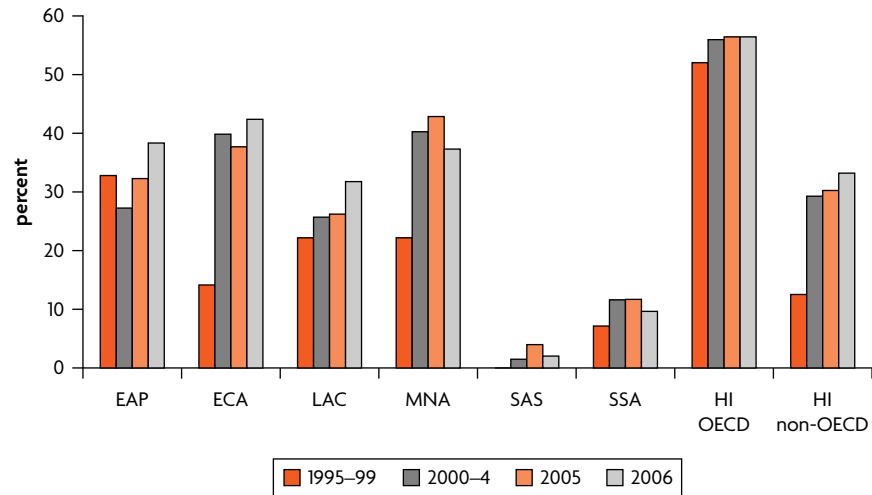
Note: The trend line is based on a simple OLS regression with an intercept. The regression coefficient is -0.241 , significant at the 5 percent level.

but from the lowest base (14 percent). The SSA region had the highest level of MFN-0 trade at 39.4 percent in the late 1990s and has experienced the smallest increase since—by only 15 percent.

Given the rapidly expanding web of North–South bilateral FTAs and some regional South–South FTAs or CUs (such as the South Africa Custom Union among some Southern African countries), another share of trade is taking

Figure 2.17. Agricultural Exporters Face Higher Market Access Barriers

Note: The line is based on a simple OLS regression with an intercept. The regression coefficient is 1.04 , significant at the 5 percent level.

Figure 2.18. Duty-Free Trade Has Increased Significantly**A. MFN-0 export value, all goods (percent of total exports)****B. Share of trade with FTA/CU partners**

place duty free.²⁷ In the developing world, the pattern is similar to what was found earlier for free trade taking place under multilateral arrangements, with the SAS and LAC regions displaying the smallest shares of their exports being directed toward (reciprocal) free trade partners. The SAS region stands out as having no trade with FTA/CU partners in the late 1990s and only 2.2 percent of exports to, and 1.2 percent of imports from, FTA/CU partners in 2006. The increase in trade shares with FTA/CU partners signals the possible extent of trade diversion occurring through such agreements, but to prove it, a more detailed analysis would be needed, correcting for the overall growth of trade for each group and the overall composition of

exports. Developing country import share from partners has increased much faster (122 percent) than export share to partners (because high-income countries' export shares have risen faster).

EU and U.S. Preferences

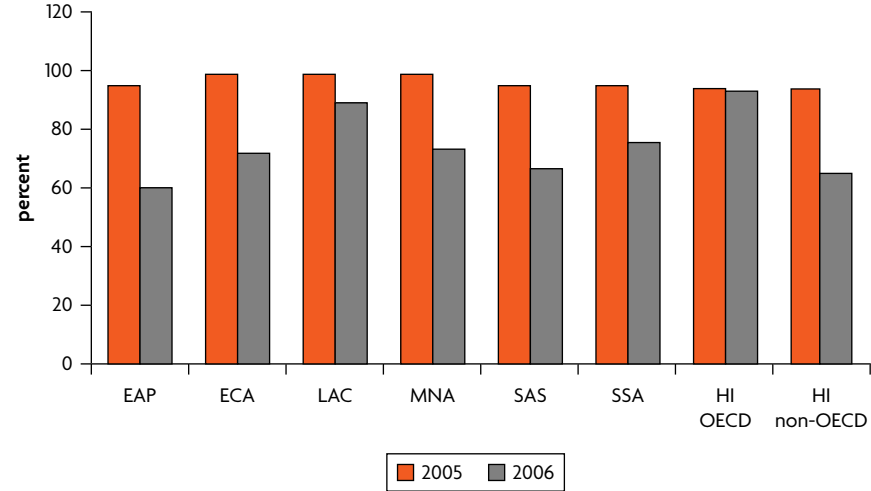
In the case of preferences granted by the European Union and the United States unilaterally or under reciprocal trade agreements, detailed, easily accessible customs data exist that allow accurate estimates of how much trade is occurring under such preferences. Almost half of U.S. imports and about 63 percent of EU imports in 2006 are subject to MFN-0 rates. However, at 29 percent, the corresponding figure for U.S. imports from developing countries is much lower, as these countries tend to export more goods that are more protected; some examples are sugar and garments. For those countries that already have a high percentage of their exports entering the EU and the United States under MFN-0 rates, preferences are largely irrelevant. Afghanistan, Burundi, the Central African Republic, Djibouti, Guinea, Guinea-Bissau, Sierra Leone, and Zambia have over 97 percent of their exports to the United States facing MFN-0 duties. For the EU, over 98 percent of the exports from Angola, Burundi, the Central African Republic, Liberia, and Sierra Leone and 52 percent of those from least developed countries faced MFN-0 duties.²⁸

In addition to those goods subject to MFN-0 tariffs, almost 23 percent and 17 percent of imports by the United States and EU, respectively, were eligible for some form of preference (34 percent and 16 percent, respectively, when considering preferences given to developing countries only). The overall value of such potential preferences was, however, 0.9 percent of the value of U.S. imports and 1.1 percent of the value of EU imports from the eligible countries.²⁹ The corresponding figures for developing countries were 1.2 percent and 1 percent (figure 2.19). The remaining 29 percent of U.S. imports was not eligible for preferences and on average paid an MFN tariff of 5.3 percent. Of total EU imports, 20 percent were not eligible for preferences and instead were subject to an average MFN tariff of 7.1 percent.

Three measures were calculated to assess the extent to which countries take advantage of the preferences that they are granted. The first is the "take-up rate of preferences," defined as the ratio between the value of a country's exports claiming some kind of preferences and the value of exports eligible for preferences. The take-up rate for U.S. and EU trade partners is 66 percent. For the subset of developing countries, these rates are only slightly lower. The "value of preferences," which takes into consideration the actual tariff savings on those exports for which preferences are claimed, is generally small relative to the overall value of a beneficiary country's exports to the United States and EU, equivalent to about 3.8 percent on average.³⁰ The indicator varies a great deal among regions and countries (see figure 2.19 and table 2.6), with the average LAC country benefiting the most from EU and U.S. preferences and

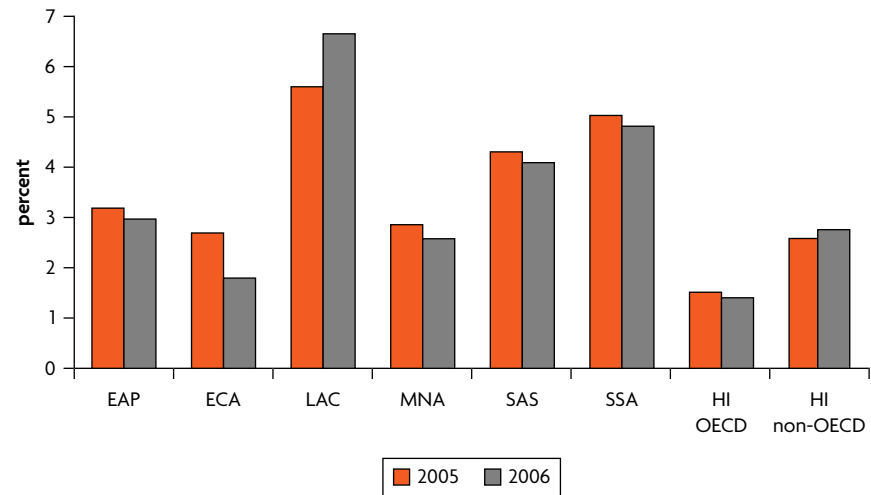
Figure 2.19. Benefits from Preferences Vary across Regions from Low to Modest

A. Value of claimed EU and U.S. preferences



Note: Value of claimed preferences (tariff savings) expresses as a percent of bilateral exports to the EU and United States.

B. Utilization rate of EU and U.S. preferences



Note: The utilization rate is the ratio of the value of claimed preferences and the value of potential preferences.
 Sources: World Bank calculations based on USITC tariff and trade flows data for the United States; Trade Analysis and Information System (TRAINS) tariff and European Statistics Database (EUROSTAT) detailed trade flows for the EU.

ECA countries benefiting the least. The top 20 beneficiary list (table 2.6) is dominated by the least developed among the African, Caribbean, and Pacific countries that benefit from the EU’s “Everything But Arms” initiative and from the United States’ African Growth and Opportunity Act. In addition, the value of preferences is high for some MNA countries with which the United States has an FTA (for example, Jordan) or that benefit from especially low

Table 2.6. Some Countries Draw High Benefits from Preferences, Others None

Country	Preferences utilization rate (%)	Preferences value (% of exports)	Country	Preferences utilization rate (%)	Preferences actual value (% of exports)
	(EU + U.S., 2005–06)	(EU + U.S., 2005–06)		(EU + U.S., 2005–06)	(EU + U.S., 2005–06)
1. Swaziland	99.6	33.5	157. Marshall Islands	73.0	0.0
2. Fiji	99.9	31.1	158. China	59.7	0.0
3. Belize	99.8	27.2	159. Timor-Leste	9.2	0.0
4. Dominica	99.6	25.7	160. Liberia	24.6	0.0
5. Andorra	100.0	22.6	161. Central African Rep.	30.0	0.0
6. Guyana	99.6	21.9	162. Brunei	0.7	0.0
7. Mauritius	96.7	21.7	163. Cayman Islands	12.9	0.0
8. Barbados	96.8	18.9	164. Iraq	6.3	0.0
9. Seychelles	92.7	18.7	165. Bermuda	0.0	0.0
10. Maldives	98.8	18.7	166. Channel Islands	0.0	0.0
11. Malawi	97.4	16.3	167. Hong Kong, China	0.0	0.0
12. Jordan	97.6	14.7	168. Isle of Man	0.0	0.0
13. Lesotho	99.8	14.6	169. Japan	0.0	0.0
14. Haiti	98.1	14.3	170. Korea, Dem. Rep. of	0.0	0.0
15. Solomon Islands	99.5	12.4	171. Korea, Rep. of	0.0	0.0
16. Greenland	99.7	12.0	172. Myanmar	0.0	0.0
17. Madagascar	95.5	11.4	173. New Zealand	0.0	0.0
18. Cape Verde	90.2	11.3	174. Puerto Rico	0.0	0.0
19. Cuba	97.1	11.1	175. San Marino	0.0	0.0
20. St. Lucia	99.5	10.2	176. Taiwan, China	0.0	0.0

Sources: World Bank calculations based on USITC tariff and trade flows data for the United States; TRAINS tariff and EUROSTAT detailed trade flows for the EU.

Note: Countries ranked by value (expressed as a percent of bilateral exports) of claimed preferences.

preferential tariffs (thus high preference margins) under its Generalized System of Preference scheme (for example, the West Bank and Gaza and Egypt, although they do not make the top 20 list).

The third preference measure is the “utilization rate of preferences,” defined as the ratio between the value of actual preferences claimed and the value of potential preferences (see footnote 41). Despite common concerns about restrictive standards and rules of origins discouraging exports from developing countries with weak institutional capacities and limited processing facilities for high-value added, the overall picture in terms of utilization of preferences is positive, with an overall rate of 71 percent. However, Chad, the Republic of Congo, and Gabon are examples of countries characterized by limited utilization of U.S. preferences, with both take-up and utilization rates below 30 percent. Afghanistan, Chad, and other small countries, such as Brunei, Macao (China), and the Marshall Islands, are examples of countries with low utilization of EU preferences, below 20 percent.

Overall Business and Institutional Environment

The prevailing business environment and the quality of governance in a given country can significantly affect the country's performance in world trade.³¹ Businesses face lower transactions costs in countries that have better institutional environments; similarly, exporters face lower transactions costs when exporting in better institutional environments. Entry and expansion of businesses is supported by a good institutional environment. Better business environments can also be expected to support the growth of exports and stability of export growth. Risks associated with exporting are lower when the business environment, and therefore supplies, inputs, and distribution needs are more predictable and stable and can support new product lines, diversification, and innovation. Natural resource/mineral exporters, or exporters requiring less support from the overall business environment and domestic market conditions, can be expected to do better than manufacturing exporters in poor institutional environments. Conversely, as the literature indicates, rents from natural resources may encourage rent seeking and corruption and lead to worse institutional environments.

The "Ease of Doing Business Rank" from the World Bank's Doing Business project captures information on a number of dimensions relevant to trade. It measures several aspects of regulation and processes required to start and operate businesses, to enforce contracts, and to trade across borders, among others, and ranks countries along all these categories. The latest rankings are based on surveys conducted in 2007.³² A higher ranking in the Doing Business database denotes worse institutional/business environments.

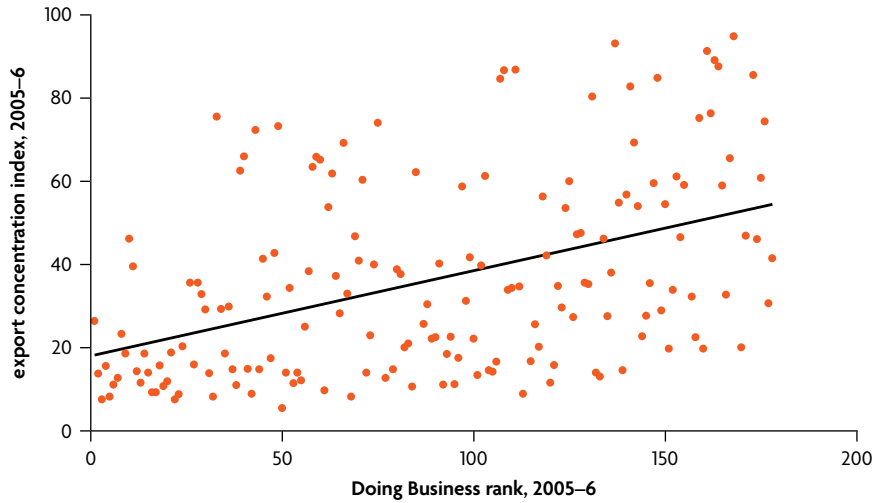
Figure 2.20 (panels A and B) indicates that countries having better institutional environments also tend to have a higher share of manufacturing exports and lower export concentration. In fact, worse performance on institutional rankings tends to go along with a higher share of mining exports.

The Worldwide Governance Indicators (WGI), which provide alternative measures of the institutional environment, are also included in the WTI database.³³ Two measures are considered here: regulatory quality and control of corruption.³⁴ Regulatory quality measures the ability of the government to formulate sound policies and regulations that permit and promote private sector development. Control of corruption measures the extent to which public power is exercised for private gain, including petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

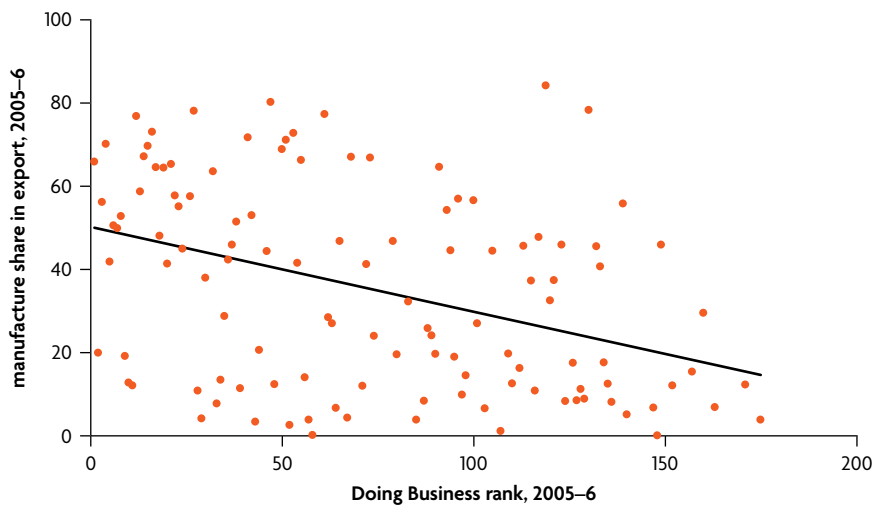
Countries that have better regulatory quality on average also tend to have a greater share of manufacturing and services in exports and lower export concentration. Figure 2.20 (panels C and D) shows some of these relationships. Conversely, countries whose production/export bundles are very concentrated in minerals/commodities have greater opportunity for rent seeking and corruption, as well as lower demand for competitive markets and effective regulation, though these are instances where improvements in regulatory quality are most needed (mining share in exports is indeed lower in countries with better governance). In addition, real export growth and export growth volatility are lower in countries with better regulatory quality.³⁵ (This is not shown in the graphs). Similar results hold for countries that have lower corruption (or better control of corruption).

Figure 2.20. Countries with Better Institutional Environments Tend to Have Lower Export Concentrations and Higher Shares of Manufacturing Exports

A. Doing Business rank versus Export Concentration Index



B. Doing Business rank versus manufacturing share in exports



C. WGI regulatory quality versus export product concentration

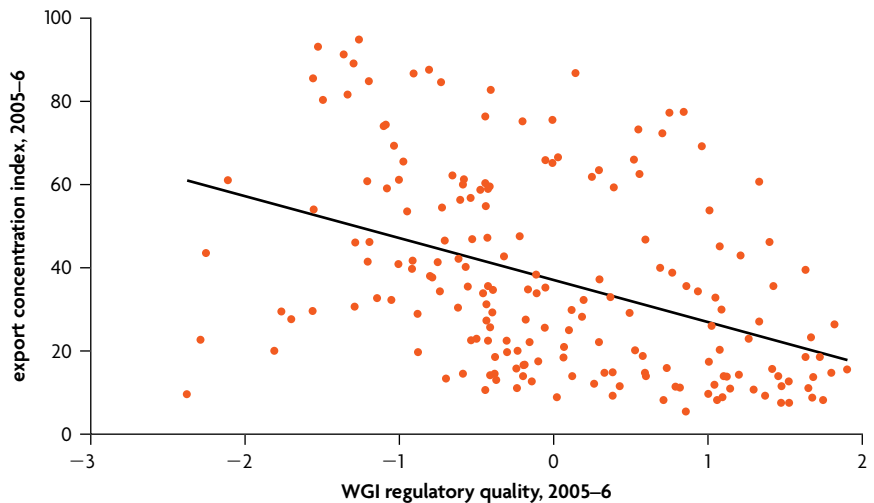
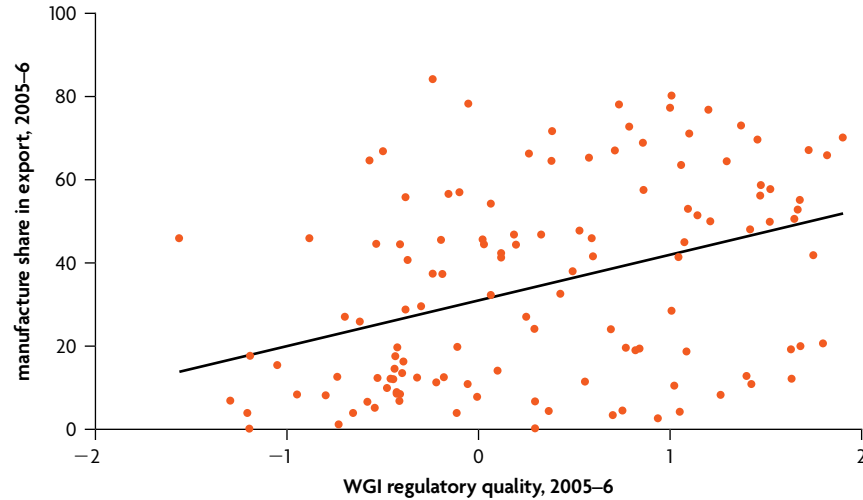


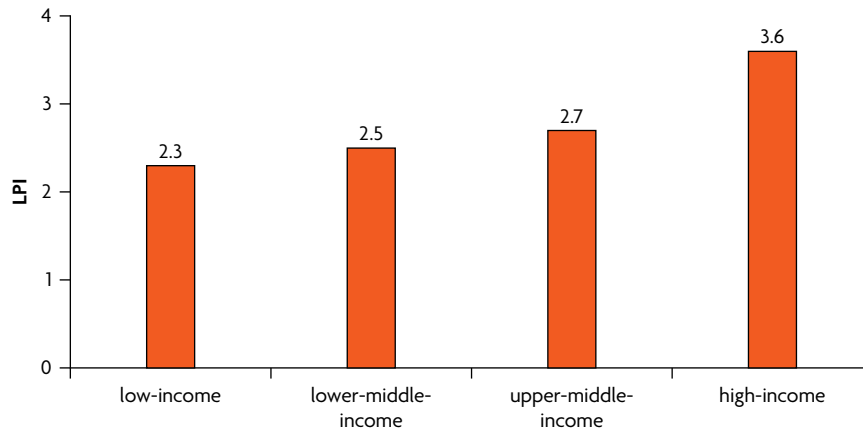
Figure 2.20. (Continued)**D. WGI regulatory quality versus manufactures share in exports****Trade Facilitation³⁶**

The quality and performance of trade facilitation and logistics services have a significant effect on trade and competitiveness. As it complements existing international indicators that measure some aspects of the logistics environment (such as the World Bank's Doing Business measures and the World Economic Forum's Global Competitiveness Index), a recent study by the World Bank provides a comprehensive assessment of the logistics gaps and constraints facing 151 countries (World Bank 2007b). The composite Logistics Performance Index (LPI) summarizes seven areas of performance: (i) efficiency and effectiveness of the clearance process by customs and other border control agencies; (ii) quality of transport and information technology infrastructure for logistics; (iii) ease and affordability of arranging shipments; (iv) competence in the local logistics industry (for example, transport operators and customs brokers); (v) ability to track and trace shipments; (vi) domestic logistics costs (for example, costs of local transportation, terminal handling, and warehousing); and (vii) timeliness of shipments in reaching destination.³⁷

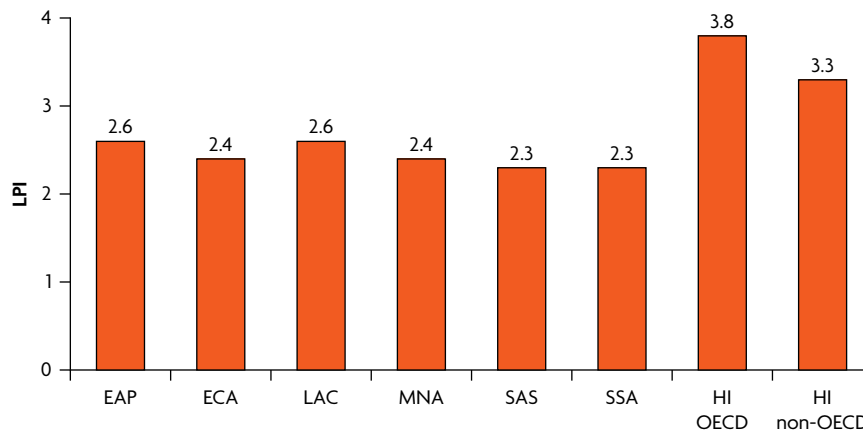
Unsurprisingly, countries that top the LPI rankings are all developed economies that are major global transport and logistics hubs (for example, Singapore, which ranks first) or have a strong service industry (Switzerland). Logistics services in these countries tend to benefit from economies of scale and are often sources for innovation and technological change. The average score on the index for high-income countries (3.7 out of a maximum of 5) is significantly ahead of that of even the best-performing developing regions, as shown in figure 2.21. Among the latter, the ECA and East Asia regions score highest, and SAS and SSA the lowest. The high-income countries score 1.6 times higher

Figure 2.21. Countries with Best Logistics Performance Are All Developed Economies That Are Major Global Transport and Logistics Hubs

A. LPI (1–5 scale), by income, 2006



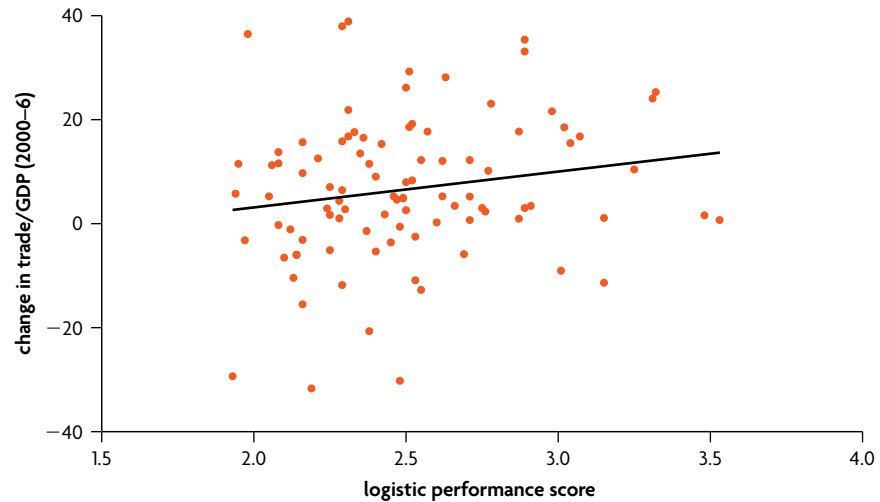
B. LPI (1–5 scale), by region, 2006



Note: Underlying surveys were conducted in 2006. Maximum value of index is 5 and minimum is 1.

than the low-income countries on average. There are no developing countries among the top 20 performers and no high-income countries among the bottom 20 (all low-income countries).

At the bottom of the rankings are low-income countries that are landlocked and geographically isolated or countries isolated because of conflict or severe governance problems, like Afghanistan, which ranks last. In fact, landlocked developing countries, especially in Africa and in Central Asia, are the most logistically constrained, as they typically suffer from difficult geography, poor access to logistics services in neighboring countries, and high coordination and transportation costs. The average LPI is in fact lower for landlocked countries in SSA than for the region as a whole (2.22 versus 2.35). Nonetheless, three landlocked countries appear in the list of the top 15 performers in the SSA region (out of 39 ranked in the LPI): Uganda (regional 8/global 83),

Figure 2.22. Countries with Better Trade Logistics Integrate Faster

Source: World Bank 2007b.

Malawi (13/91), and Zambia (15/100). These three countries are served by relatively efficient logistics providers. Uganda's trucking industry has developed as a response to the demise of the Uganda railroad system. Malawi and Zambia are integrated into South Africa's relatively efficient transit system.

Differences in logistics performance are not simply linked to a country's income or development level. While all developed countries are top performers, there is much dispersion among lower-middle-income and higher-middle-income countries. For example, China ranks 30th of 150, while countries in higher income groups, such as oil producers, rank lower. In addition to landlocked countries discussed above, many of the countries ranked low on the LPI within their regional and income groups are oil and gas producers. Algeria (ranked 140th) lags significantly behind its neighbors Tunisia (60) and Morocco (94). The same applies to the high-income Bahrain (36), Saudi Arabia (41), Kuwait (44), and Qatar (46) relative to other high-income non-OECD countries. While good logistics may promote exports, a strong manufacturing sector may also promote better logistics. A lower LPI in these countries may reflect these factors at work.

Countries doing relatively well on logistics performance are also likely to do well in trade expansion and export diversification. This is the case for instance of countries like South Africa (LPI rank of 24), Malaysia (27), Chile (32), and Turkey (34) among the upper-middle-income countries; China (30) and Thailand (31) among the lower-middle-income; and India (39) and Vietnam (53) among the low-income (see tables 3.1 through 3.4). As illustrated in figure 2.22, countries with better performance on logistics also experience higher growth in their trade integration (trade-to-GDP ratio).