

Trade Facilitation: Challenges and Opportunities in Eastern Europe and the Former Soviet Union

Introduction

The traditional definition of “trade facilitation” centered on ways to achieve lower international transport costs. In modern commerce, however, a broader definition is required. In addition to lowered transport costs, facilitating trade today also involves improved efficiency in logistics at ports and customs through greater transparency; through ensuring that operational decisions are rules-based (rather than discretionary); and through the use of advances in technology (including, but not limited to, information technology), among other things. In addition, modern trade facilitation also includes streamlined regulatory environments, deeper harmonization of standards, and conformance to international norms so that overall transactions costs are lowered (Wilson, Luo, and Broadman 2004; Wilson, Mann, and Otsuki 2004).

Security protocols are also at the forefront of today’s policy discussions on trade facilitation, given the growing international security focus in the post–September 11 era. Trade-facilitation rules, especially those applied to transport and border clearance regulations, are also being negotiated at the WTO, as part of the Doha Development Agenda. It is in this broad context that trade facilitation in the countries of the Region should be viewed.

While *transport* costs remain a core element driving trade logistics costs, there are also broader, interrelated elements that must be considered in strategic reform and development-assistance initiatives for trade facilitation for the Region. Indeed, reducing the behind-the-border barriers associated with achieving the goal of lowering overall *transactions* costs through domestic reforms is increasingly at the center of the Region's policy deliberations on trade facilitation. Thus, many of the Region's countries are faced with the wider challenge of facilitating trade through moving goods through ports more efficiently, streamlining the movement of documentation, enhancing the professionalism of customs officials, harmonizing product and technical standards with international or regional regulations, and strengthening the integration of new technologies into the transport and communications infrastructure.

Meeting this set of challenges systematically places enormous importance on the need for well-designed capacity-building initiatives and informed choices on priorities. Accordingly, as countries in the Region and in the international donor community decide on how to best deploy resources, a critical policy question arises: what are the impacts of various improvements in trade facilitation on trade flows and, in turn, on economic development? This drives the need for empirical analysis of the linkages between reforms in trade facilitation and greater trade flows and international integration. To this end, this chapter assesses the constraints in modern trade logistics and facilitation in the Region and presents empirical estimates of how strengthening capacity in these areas could enhance the Region's international trade flows.

The next section describes in detail the heterogeneous conditions of the Region's trade-facilitation infrastructure and institutions, highlighting four dimensions—customs, ports and transport, technical standards and regulation, and information technology. The assessment is organized around five country groupings of the Region—the EU-8, Southeastern Europe, Central Asia, the Caucasus, and Russia and the remaining CIS members—Belarus, Moldova, and Ukraine. The section concludes by summarizing how each country grouping is impacted by weak capacity in each of the dimensions of trade facilitation examined, indicating the particular challenges to reform.

This assessment sets the stage for the empirical analysis presented in the subsequent section. The analysis estimates—through a simulation exercise—the gains to trade that could come about if particular improvements were made in the four dimensions of trade-facilitation infrastructure and institutions, providing a means for assessing where

the largest payoffs among various reforms are likely to be found. It also compares how such gains in the Region stack up against gains that would be realized elsewhere in the world if similar improvements were made.

The chapter concludes with recommendations for reform by policy makers.

A number of central themes are reflected throughout the chapter. In particular, the analysis suggests that understanding the prospects for improving trade facilitation in the Region requires a reorientation of perspectives that more fully considers the specifics of widely differing country and sub-Regional characteristics. In addition, the evidence suggests that trade facilitation and modern commerce driving economic integration at the sub-Regional level should indeed be viewed in a broader context than has been the case in the past. Initiatives to lower transactions costs through improved transportation systems and deregulation of transport remain critical. However, policy reform and infrastructure upgrades in standards, ports, customs, and information technology must also be included. Taken together, the analysis suggests that a more comprehensive approach for capacity building in trade facilitation than has been used to date will be needed.

Trade-Facilitation Conditions across the Region

The variation in current economic conditions and poverty levels across the Region's countries—along with different benchmarks of performance and readiness for reform in trade-related areas—most certainly constitutes the major factors affecting the current conditions of, and priorities for reform of, trade facilitation. While sub-Regional cooperation is one important element of economic integration and trade competitiveness, the Region is shaped by different economic, geographical, and political factors. The result is that each country in the Region has different levels of capacity in trade facilitation. While some countries, especially those in the EU-8, are moving toward genuine global integration, others, such as the countries in SEE and the Caucasus, still confront long-lasting conflicts and political tensions that clearly hinder trade and economic integration. The landlocked Central Asian countries, in contrast, are affected in a significant manner by the continued constraints of geography and a lack of harmonized border and customs clearance regimes. Thus, in analyzing how important trade-facilitation barriers are to the Region's economic prospects, it is important to capture their variation at the sub-Regional

level. In assessing these barriers across the sub-Regions, we concentrate on four factors:

- Customs and border crossings
- Key challenges for the port and transport sector
- Challenges related to standards, technical barriers, and regulatory policy
- Development of information technology infrastructure.

Central Asia

Geography constitutes a major obstacle to the trade and export competitiveness of Central Asia. The Karakum Desert alone, for example, occupies about 70 percent of the land area of Turkmenistan. Moreover, most of the land in western Kazakhstan and Uzbekistan is also covered with deserts. This feature clearly makes the development of transport networks in these countries difficult. In addition, most of the sub-Region's border areas are extremely mountainous. The Tian Shan Mountain, with a peak of 7,439 meters, is part of the border between Kazakhstan and the Kyrgyz Republic. There are a limited number of transport corridors, which drives up the cost of transporting goods to export markets. All of the Central Asian countries are landlocked and far from seaports that would connect their economies to major global markets. The shortest route to the sea from much of Central Asia is the Afghanistan route to Karachi, via Quetta (World Bank 2004n). Table 5.1 shows the distance to seaports by roads in Central Asia.

Long distances to export markets and transit routes translate into high trade transactions costs in Central Asia (see figure 5.1 for a sam-

TABLE 5.1
Central Asian Republics: Sea Access by Road

Kilometers

Route	From Bandar Abbas Turkmenistan*	Afghanistan			Quetta	To Karachi Afghanistan Peshawar
		I ^a	II ^b	III ^c		
Almaty	3,600	4,610	4,020	3,810	3,380	4,010
Tashkent	2,730	3,730	3,175	2,930	2,720	3,345
Dushanbe	2,940	3,370	2,790	2,680	2,040	2,660
Bishkek	3,270	4,330	3,750	3,530	3,100	3,730

Source: World Bank 2004n.

Note: a. Route I via Kabul, Kandahar, Herat.

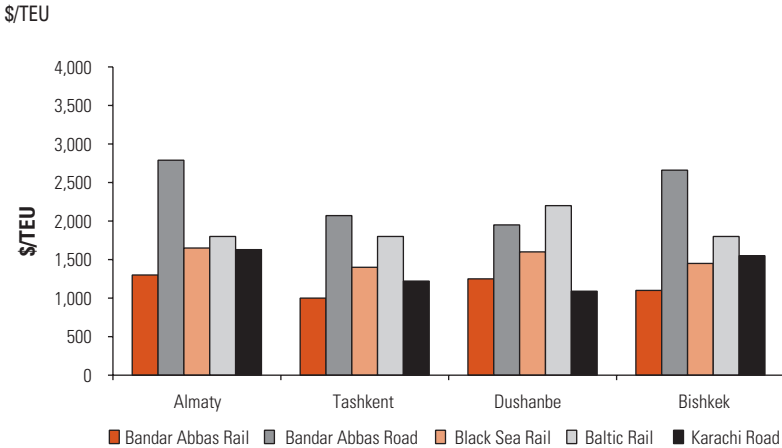
b. Route II via Kabul, Kandahar, Delaram, Zaranj.

c. Route III via Meymaneh, Herat, Delaram, Zaranj.

ple of land transit costs in Central Asia). Landlocked countries are highly dependent upon the state of transport infrastructure and border clearance regulations in transit neighbors. Political relations with transit neighbors are also critical to facilitate the movement of goods. The most striking example of obstacles to trade in the region is Uzbekistan. This is a double-landlocked country: it shares a border with Afghanistan, where infrastructure is extremely poor. It also faces political tension with neighbors in Kazakhstan, the Kyrgyz Republic, Tajikistan, and Turkmenistan (Faye et al. 2004). A lack of safe access to transit routes and poorly developed infrastructure significantly constrain trade activities.

Historical factors also help to explain the low levels of trade and transport facilitation in Central Asia. For example, the collapse of the Former Soviet Union (FSU) continues to affect security in border regions. When the former republics became independent, their national borders were not based on ethnic or political groups, but rather on administrative boundaries. Regulations were not harmonized, and nontariff barriers were raised across the region. This has resulted in a number of border disputes. Moreover, the former republics protect border areas with landmines and physical barricades. This imposes high risks on traders crossing borders and discourages trade. Furthermore, under the Soviet regime, the purpose of the railway networks was to link the former republics to Russia, which lies north of the region. Railway networks in Central Asia are, therefore, extended in a north-south direction that leaves links among the Central Asian countries and other neighbors, including

FIGURE 5.1
Land Transit Costs in Central Asia



Source: World Bank 2004n.

Note: TEU = twenty feet equivalent unit.

Afghanistan, China, and Iran, largely underdeveloped. The legacy of the USSR, among other factors, has clearly contributed to Central Asia's lagging behind other subregions in accelerating trade and economic progress.

Central Asian customs and border crossings. New border and customs-clearance regimes were established in Central Asia after independence. Efforts have been made to improve customs administration in the region. The Transport Corridor Europe-Caucasus-Asia (TRACECA) project is focused on harmonization of border-crossing procedures and documents. New customs standards are being developed based on the Russian model and using international best practices, such as conformity with the Revised Kyoto Convention, compliance with WTO standards, and elements of risk management. The introduction of new standards has largely been completed in Kazakhstan, Turkmenistan, and Uzbekistan, and is in progress in the Kyrgyz Republic and Tajikistan (World Bank 2004a). Customs clearance in Central Asia is less efficient, however, than the Southeast European average, for example. While the SEE average is one-to-three hours to clear goods at inland terminals, it is estimated to take one day in Kazakhstan, three-to-four hours in the Kyrgyz Republic, and three hours in Tajikistan (see table 5.2).

Delays in customs clearance are mainly the result of the following problems:

TABLE 5.2
Time Taken to Clear Goods at Selected Inland Terminals

	Official estimated average	Indicator	Remarks	Southeastern Europe benchmark
Kazakhstan	1 day	85 percent cleared in under 1 day	Traders estimate 48 hours.	Average: 2 hours (maximum 3 hours, minimum 1 hour), based on total time for release
Uzbekistan	2–3 hours, can be as short as 20–30 minutes	Maximum 10 days	Traders estimate between 24 and 48 hours, up to 1 week.	
Kyrgyz Republic	3–4 hours		Traders estimate between 4 and 5 days.	
Tajikistan	3 hours		A legal provision limits clearance to less than 10 days. Traders estimate 2 hours for diplomatic consignments, and 1 day on average for normal shipments.	
Turkmenistan	n.a.		Traders estimate 1–2 hours for diplomatic consignments, and 1 day on average for normal shipments (depending on completeness of the documentation).	

Source: World Bank 2004a.

Note: n.a. = not available.

- Uncertainty remains about implementation of new customs codes and standards for measuring the value of imported goods.
- Customs clearance processes require an excessive number of documents (in Tajikistan, for example, customs procedures require up to 18 accompanying documents, forms, certificates, and applications, issued by different agencies [World Bank 2004o]).
- Border posts are often too far to be convenient for traders.
- There is lack of cooperation among border agencies, including customs, border policy, road traffic policy, and transport inspectorate agencies.
- There is a lack of capacity to fully utilize information technology in customs administration.

Key challenges for Central Asia's transport sector. Rail is the most dominant mode of transport in the sub-Region, accounting for more than 75 percent of all freight and a high percentage of intercity passenger transport (ADB 2004). The railway network in place in the FSU is relatively well developed (see table 5.3). Compared with road transport, moving goods—particularly products in bulk cargoes—via railway networks is more efficient. These goods include metals, coal, cotton, grain, oil, and oil products. Among the five Central Asian countries, Kazakhstan has the highest labor productivity per traffic unit.

The road sector provides a more extensive network than that provided by railways. The majority of roads in Central Asia are paved. Figure 5.2 shows that the percentage of paved roads in Central Asia is

TABLE 5.3
Central Asia Railways, 2002

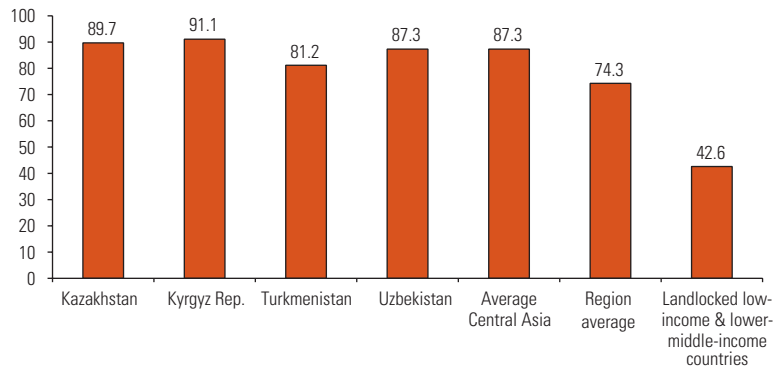
Railways	Total route length (km)	Double-tracked (km)	Electrified (km)	Freight net ton-km (millions)	Total pass-km (millions)	No. of staff	Labor productivity traffic units (tkm+pkm/staff)
Kazakhstan	13,600	—	5,800	133,088	10,449	113,688	1,263
Kyrgyz Rep.	428	108	—	395	43	4,960	88
Tajikistan	547	—	—	1,085	41	6,013	187
Turkmenistan	2,554	34.5	—	7,476	1,127	15,932	540
Uzbekistan	3,645	—	609	18,428	2,018	41,913	488
Total	20,774	—	—	160,472	13,678	182,506	954

Source: World Bank 2004o, based on UN Economic Commission for Europe 2002.

Note: Turkmenistan data are for 2003.

FIGURE 5.2**Paved Roads**

Percentage of total roads, 1999

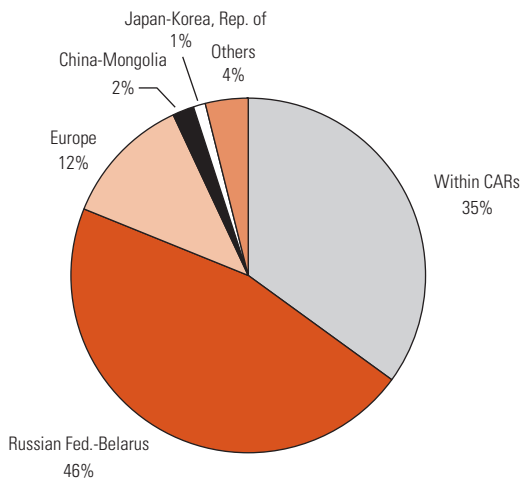


Source: Calculated from World Bank 2005i.

higher than the Region's average and higher than the average for the countries with the same income level.¹ The World Bank (2004o) reports that the current road network is largely sufficient to meet the needs of users.

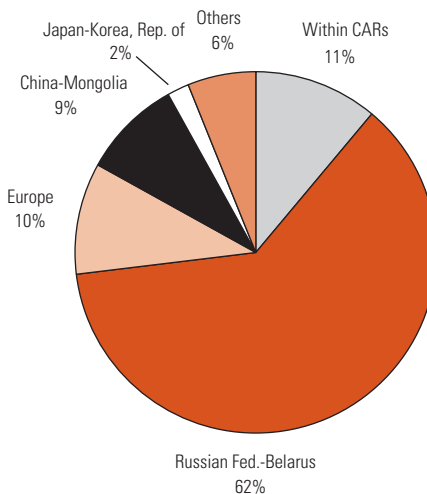
Over the past decade, efforts to expand both road and rail networks in this sub-Region have met with demonstrated success and have had subsequent impact on lowering transactions costs for firms. For instance, a railway link between Turkmenistan and Iran was opened in 1996. In April 1997, China, the Kyrgyz Republic, and Uzbekistan agreed to reconstruct railways and road links from Ardi-jan-Osh-Kashgar. China and the Kyrgyz Republic have also agreed to open the Irkashtan Pass. Moreover, in 2001, the first consignment of cargo from Turkmenistan to Afghanistan was sent by rail that links Turkmenabat and Atamyrat. The Asian Development Bank has initiated the Almaty-Bishek Regional Road Rehabilitation project with Kazakhstan and the Kyrgyz Republic. The road is at a cross-link between the corridors that connect the Far East with Europe and Fergana Valley with Russia, and the completed project is expected to be of significant benefit to the region (ADB 2001).

Despite recent progress, major challenges for Central Asia still include extending transport networks to neighboring countries. Most goods shipped by rail and road travel between Central Asia, Russia, and Belarus. Figure 5.3 shows that 35 percent of imports carried by rail and roads are from Central Asian Republics (CARs) and 46 percent are from Russia and Belarus. Figure 5.4 indicates that exports carried by rail and roads in 2002 were mostly directed to Russia-Belarus (62 percent), following the Central Asian Republics (11 percent). Moreover, despite the sub-Region's borders with China, the

FIGURE 5.3**Origin of Imports Carried by Rail and Roads, 2002**

Sources: World Bank 2004a; TRACECA database.

share of foreign trade by rail and roads to rapidly expanding Chinese markets is extremely limited. This results in part from the fact that transport links to China are limited, particularly those involving rail. There is one rail corridor connecting the CARs with China, and all trade must pass through the Druzba-Ala Pass at the Kazakhstan-China border (ADB 2004). This highlights the need to invest in road and other transport infrastructure to extend east-west trade routes.

FIGURE 5.4**Destination of Exports Carried by Rail and Roads, 2002**

Sources: World Bank 2004a; TRACECA database.

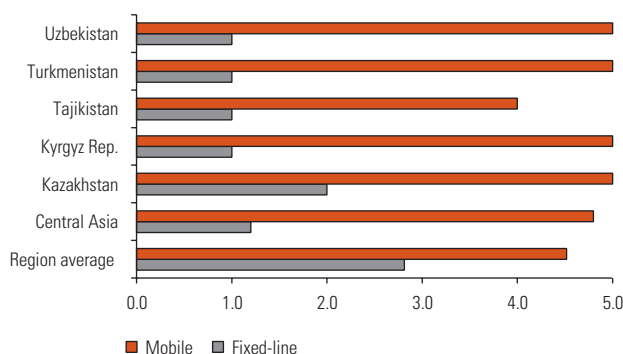
There is a clear need to build new transport networks and upgrade roads and railways that link Central Asian countries to Russia. This is especially true given that Russia remains the top export partner for Central Asian countries (see chapter 2). The railway network has deteriorated, in part because of maintenance backlogs, an aging locomotive fleet consisting of units that lack many of the efficiencies of modern stock, and emerging shortages of freight wagons of various kinds. Furthermore, the road network in the region is poorly managed because of a limited maintenance budget. In addition, there is limited use of new technologies and new techniques—that could reduce costs—in road construction and maintenance.

With respect to transport services, the freight-forwarding business in Central Asia is not reliable, and transport regulations are not adequately developed to meet current business needs. Foreign traders do not trust the domestic freight-forwarding companies. This is true, in part, because domestic companies do not provide consignment-tracking services, among other reasons. Moreover, the technical standards for roads continue to be based on FSU specifications and therefore are not adequate for today's traffic volume. In Kazakhstan, problems with the legal and regulatory framework in the transport sector are either gaps or overlaps in regulations and inadequate allocation of responsibilities for enforcement (World Bank 2005h). Harmonization of existing regulations and rules in the region is an urgent agenda item. Harmonized rules with regard to axle-load, transit, and the introduction of IT, among others, would "considerably lower transport and transit cost and time" (UNESCO 2002). Private participation in infrastructure sectors, including ports, railways, and roads, is almost nonexistent in Central Asia, except for a small amount of private sector participation in the railway sector in Kazakhstan (EBRD 2004c).

The information technology infrastructure in Central Asia. Given that Central Asian countries are landlocked, the development of information technology infrastructure and expansion of e-commerce could help overcome geographic boundaries. Government regulation, among other factors, is clearly limiting expansion of Internet access. Figure 5.5 shows that private sector participation in fixed-line telephone service is almost nonexistent. Mobile telephone service has been privatized, yet it remains extremely costly, and access is limited because of the limited number of providers. In Turkmenistan, for example, there is only one mobile telephone service provider, and it has a poor mobile telephone network (U.K. Trade & Investment 2003). In Uzbekistan, Internet service providers are monitored and under strict government controls, which chills commercial activity. In addition,

FIGURE 5.5

Private Participation in the Telecommunications Sector, 2004



Source: EBRD 2004c.

Note: Scale: 1=no or negligible private sector participation; 5=sector fully privatized. There are only small levels of activity in the mobile sector in Tajikistan and Turkmenistan.

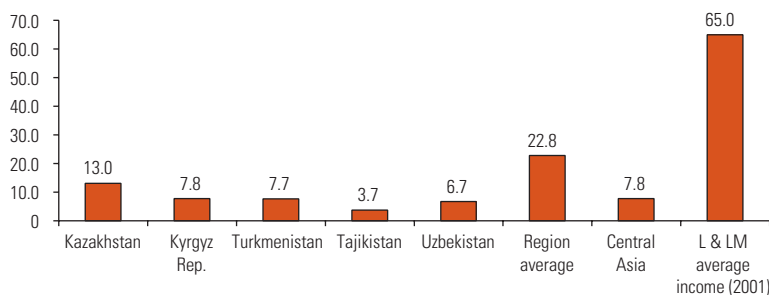
unreliable infrastructure and high dial-up costs contribute to a low rate of Internet use in the country (EIU 2004).

Information infrastructure in Central Asia is in general not developed enough to support e-commerce. Figure 5.6 shows the numbers of telephone mainlines in each Central Asian country, in comparison with the overall Region and the countries with the same income level (for example, "L & LM," or low-income and lower-middle-income countries).² The number of telephone mainlines in Central Asia is greater than the average for the same income group. Compared with the average for the Region, however, the number is significantly lower. The number of Internet users in Central Asia is limited. Figure 5.7 shows that the number of Internet hosts is strikingly small. Phys-

FIGURE 5.6

Telephone Main Lines

Per 100 People, 2003



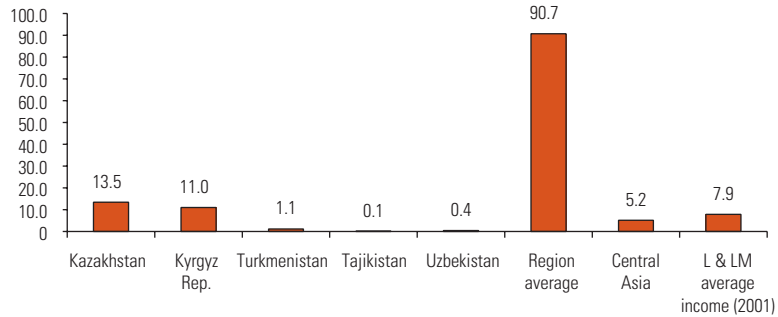
Source: International Telecommunications Union 2004.

Note: "L & LM" = low-income and lower-middle-income countries.

FIGURE 5.7

Internet Hosts

Per 10,000 People, 2003



Source: International Telecommunications Union 2004.

Note: "L & LM" = low-income and lower-middle-income countries.

ical investment in information technology and communications infrastructure—along with the liberalizing of services—will be a crucial part of the overall objectives for trade facilitation and lowering transaction costs in the Region.³

The Caucasus

Customs and border crossings in the Caucasus. Continued conflict and tensions in the Caucasus are reflected in problems in customs regimes and clearance procedures in these countries. Because of the Nagorny-Karabakh conflict between Armenia and Azerbaijan, for example, there is no trade between these two countries, aside from informally traded energy, agriculture, and consumption goods. The border between Armenia and Turkey is officially closed because of the Turkish-Armenian conflict from the World War I period. These conflicts affect the confidence of shippers in using transport routes, and closed borders distort trade patterns by blocking the most efficient trading routes in the region. The Caucasus are more likely to trade with politically friendly neighbors, while they undertrade with hostile neighbors. In an effort to facilitate trade in the Caucasus, a peace settlement and a reopening of borders are priorities.

Recent analysis of the potential impact on trade costs of restoring borders and transport networks resulting from peace agreements in the Caucasus provides insight into the benefits that would derive from reform driven by regional cooperation and integration. For example, Polyakov (2001) finds that opening borders would result in significant savings in transport logistics costs. If peace agreements were concluded, transportation savings for Armenia would amount to \$6.4 mil-

lion—\$8.4 million. For Azerbaijan, total savings would range between \$0.7 million and 1.8 million. Georgia would have a total savings of \$1.9 million, though it would lose transit revenues by \$5.6 million—\$7.4 million. Another study shows that if the Armenian-Turkish borders were opened, transport costs to ship one TEU (“twenty-foot equivalent unit,” taken to mean a twenty-foot container) between Poti and Yerevan would drop by 30–50 percent, or \$450–\$750 (World Bank 2000d). In sum, if conflicts were resolved and regional cooperation achieved, trade-facilitation measures would be a driving force for trade expansion in the Caucasus. This would also necessarily include reducing regulatory barriers, strengthening institutional frameworks, and improving infrastructure and transport networks.

Table 5.4 shows the basic productivity ratios of customs procedures in the Caucasus compared with those of Southeastern Europe. While the average number of declarations per staff in SEE is 250, it is 40–45 in the Caucasus. Compared with the SEE average, cost per declaration is twice as high in Georgia and Azerbaijan, and 1.8 times higher in Armenia. Among the Caucasus countries, Armenian customs lag behind those in Georgia and Azerbaijan in customs efficiency, especially in rail and road network.

The major problems common to all Caucasus countries include (1) a lack of regional harmonization of customs practices, (2) limited transparency in clearance regulations and procedures and problems with corruption, and (3) limited application of information technology in border clearance systems. Among these problems, corruption and the imposition of unofficial fees at the border are most frequently reported by the private sector as the most serious issues. For example, on the rail system from Armenia to Georgia, unofficial fees account for approximately 6–13 percent of the total cost of transport

TABLE 5.4
Customs Productivity in the Caucasus Compared with Southeastern Europe

	Armenia	Georgia	Azerbaijan	Southeastern Europe		
				Average	Minimum	Maximum
Revenue collected/customs staff (\$)	188,047	94,650	113,019	308,668	85,597	745,548
Total customs cost/ revenue collected	1.1%	2.9%	2.3%	1.5%	1.2%	5.8%
Salaries/revenue collected	0.6%	1.2%	0.8%	0.9%	0.5%	2.6%
Trade volume/staff (\$ millions)	1.2	0.78	2.4	2.8	1.1	7.2
Declarations/staff	40	45	44	250	80	422
Cost per declaration (\$)	50	61	59	28	11	49
Average monthly staff cost (\$)	81	91	73	362	194	757

Sources: National customs administrations and World Bank calculations cited in World Bank 2003f.

(Molnar and Ojala 2003). A typical container shipment by truck from Tbilisi to Rotterdam is subject to unofficial payment costs totaling 7–40 percent of the total logistics cost, with customs clearance being the most significant element.

In addition, information technology systems need to be adopted to raise the efficiency of customs administrations. In Georgia, the Automated System for Customs Data (ASYCUDA) has been used since June 1998, and now more than 60 percent of customs declarations are cleared through ASYCUDA. The system is available, however, only at the Lilo terminal. In Azerbaijan, there is no national computer network similar to ASYCUDA in operation. It is also reported that the country lacks sufficient computer facilities at border-crossing points. Armenia, however, has made progress relative to other countries in the region. ASYCUDA was deployed in 1996 and has been implemented at all border-crossing points in the country.

The Caucasus' port and transport infrastructure. Ports in the Caucasus provide the shortest routes between Europe and Central Asia. The major two Black Sea ports are Batumi and Poti in Georgia, and the two major Caspian Sea ports are Baku and Dyubendi in Azerbaijan. Traffic at the port of Poti has been growing rapidly. In the first six months of 2004, the port handled 39 more vessels than in the same period in 2003, and the total throughput increased by 42 percent (Port of Poti Web site). Links from Batumi and Poti are being developed with other Black Sea ports, including Ilyichevsk (Ukraine), Constanza (Romania), and Burgas and Varna (Bulgaria). Another important port is Baku in Azerbaijan, which handles ferry cargo, dry cargo, and oil. The ports are fully privatized in Armenia, while they are highly controlled by the government in Georgia and Azerbaijan.

Rail and road networks are also crucial in attaining the shortest route for moving goods across the Caucasus. This is especially important for Armenia, which is landlocked. The recent development of the new Silk Road and the Trans-Caucasian railway as a part of the TRACECA project will be important for the sub-Region. Once these projects are completed, a railway will link the ancient Silk Road from the Chinese port of Lianyungang on the Yellow Sea to the ports of Poti and Batumi—and then with Western Europe.

Despite the importance of inland transport, infrastructure systems in the entire Caucasus region require modernization. Most of the rail track and rolling stock in Azerbaijan are in need of repair or replacement. Rail and road links from Georgia to Armenia, which account for 70 percent of Armenian trade, are in poor condition as a result of major delays in maintenance. Despite financial support from the EU

and other donors to rehabilitate infrastructure, because of limited funds and a lack of long-term budget planning, problems remain.

Another factor affecting the transport sector is the lack of harmonized and cost-effective transport regulations and duties. All Caucasus countries apply road transport quotas that, for example, limit the annual number of vehicles allowed to enter or pass through their territory. Armenia and Georgia impose high transit fees on foreign vehicles, while Azerbaijan does not. In October 2000, it cost the equivalent of \$245 in local currency for a truck with a capacity of 10–20 tons to transit across Georgia, and the equivalent of \$197 for a similar vehicle to transit across Azerbaijan (Polyakov 2001). With respect to railway tariffs, Georgia and Azerbaijan are under an agreement that allows a 50 percent tariff reduction for all goods traveling within member countries. Armenia, on the other hand, is not under this agreement. These differences in regulations reduce railway shipments across borders throughout the Caucasus region.

Development of information technology infrastructure in the Caucasus. Once borders are reopened and transport networks are restored, information technology would allow the Caucasus to expand markets in a significant way. This does not imply a compelling need in the short run for advanced information technology, but rather for basic infrastructure upgrades in telecommunications via expanded landline telephones. The number of telephone lines in the Caucasus is below the Region's average, as are the number of Internet hosts (see figures 5.8 and 5.9). The extent of private ownership in telecommunications services varies widely in the Caucasus. Armenia has fully privatized fixed-line and mobile telephone services. In Georgia and Azerbaijan, the governments have strong control over fixed-line telephone service.

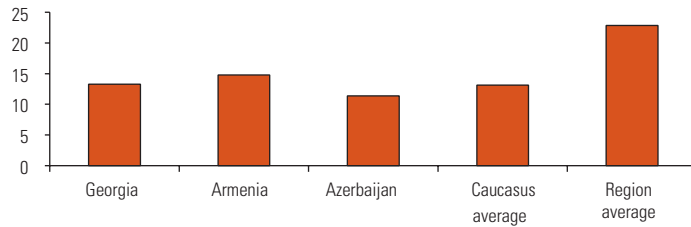
The EU-8

From the first day of their membership in the EU—May 1, 2004—the EU-8 countries have been required to apply the common EU legal framework, the *acquis communautaire*; this includes, of course, the chapters concerning customs administration, port and transport policy, standards and technical regulations, and IT policy. As far back as 1998, the then-existing EU members initiated a program of policy advice, technical assistance, and investment in the EU-8 countries so as to facilitate prospective entry into the Union.

Customs and border crossings in the EU-8. In fulfilling the customs reform requirements of the *acquis*, the EU-8 countries' administration of cus-

FIGURE 5.8
Telephone Lines in the Caucasus

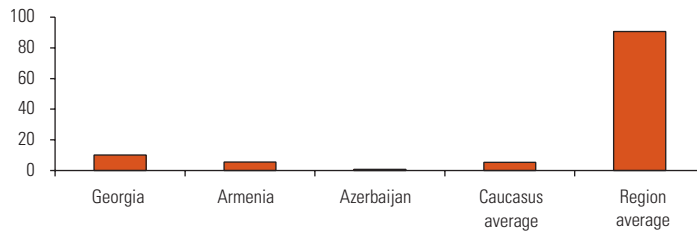
Per 100 People, 2003



Source: Calculated from International Telecommunications Union 2004.

FIGURE 5.9
Internet Hosts in the Caucasus

Per 10,000 People, 2003



Source: Calculated from International Telecommunications Union 2004.

toms has been greatly simplified. Much of customs clearance work has “disappeared” in intra-EU trade (World Bank 2004o). Furthermore, the adoption of new information technology systems has increased efficiency in customs procedures. For example, Estonia, Latvia, Lithuania, and the Slovak Republic have adopted ASYCUDA.

However, although customs procedures in intra-EU trade have improved, problems remain at the EU’s “new” external borders. The enlargement of the EU means that the EU-8 countries are now responsible for part of the external EU borders with Russia and Belarus. At the Russian border, there are administrative problems with goods inspections and border crossings, leading to excessive delays at the border-crossing points. At the border-crossing points between Belarus and Lithuania (at Medininku and Salcininku), corruption is a major, well-documented problem. Unofficial payments of up to \$500 per transit are required, and shipments are sometimes stopped and even confiscated for undisclosed reasons (World Bank 2005g). Although the routes via border-crossing points through Belarus are the shortest for Lithuanian exports to Russia, the unofficial payments demanded discourage traders from using these routes.

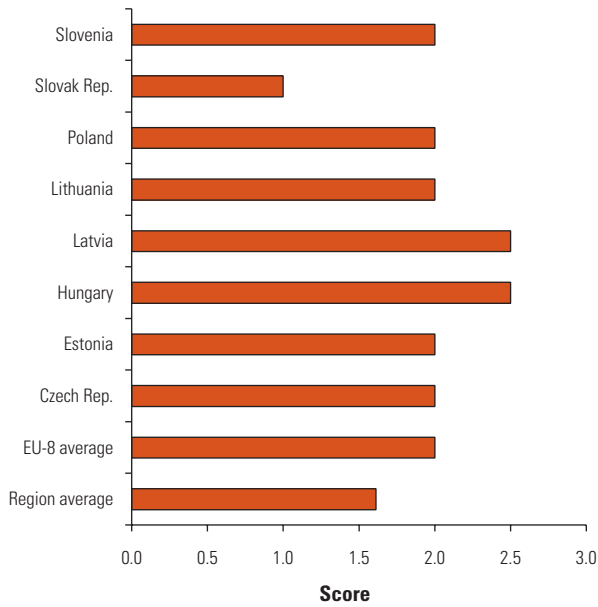
The EU-8's port and transport infrastructure. The EU-8 have clearly improved their port management and efficiency over the past two decades. According to a Trade and Transport Facilitation Audit, ports in the Baltic states are generally considered to be very profitable. Ports operate 24 hours a day, 7 days a week, and docking and dwell times at ports do not normally hinder trade (World Bank 2005g). A number of ports in the EU-8 countries have improved service quality, as well. The Port of Koper is the only international cargo port in Slovenia; it provides the shortest link for traders to the Mediterranean, and via the Suez Canal, to the Middle and the Far East. The port has attained ISO 9001 certification.⁴ Another example of reform is the Klaipeda Port in Lithuania. The port has become more competitive, with longer breakwaters, dredged and widened port waters, and an entrance channel that have allowed the port to accept larger vessels. This has increased the turnover of cargo handled and the number of new jobs.

Nevertheless, there remains a need to expand the adoption of information technology in EU-8 port management to build on progress achieved. In Estonia, for example, many port users complain that port authorities have not taken IT system development seriously enough (World Bank 2004o). Latvia's largest cargo port at Tuga is behind in adopting Electronic Data Interchange (EDI). Shippers and agents consider the use of EDI to be a top priority in port development.

Continued progress toward privatization of port operations is an important component of ongoing reform in the EU-8.⁵ As figure 5.10 illustrates, private participation in ports and airports remains limited in many of these countries. Even in cases where there has been private participation in port management, the presence of domestic companies in management and service provision remains limited. In the Baltics, for example, even though transit of oil and oil products constitutes a significant portion of the business in ports, virtually none of this trade is carried by Baltic shipping companies (World Bank 2005g).

As in the case of ports, much remains in achieving liberalization of the transport sector. With respect to rail transport, privatization programs are under way in the Czech Republic, Hungary, Latvia, and Poland. Estonia has fully privatized its railway service (see figure 5.11). The EU-8 countries as a group, however, still lag behind the EU average. The Rail Liberalization Index 2004 classifies EU countries into three groups by the degree of market liberalization in the rail sector: (1) on schedule, (2) delayed, and (3) pending departure (see figure 5.12). None of the EU-8 countries are classified as "on schedule." The Czech Republic, Hungary, Latvia, Poland, the Slovak Republic,

FIGURE 5.10
Private Participation in Ports and Airports Sector, 2004



Source: EBRD 2004c.

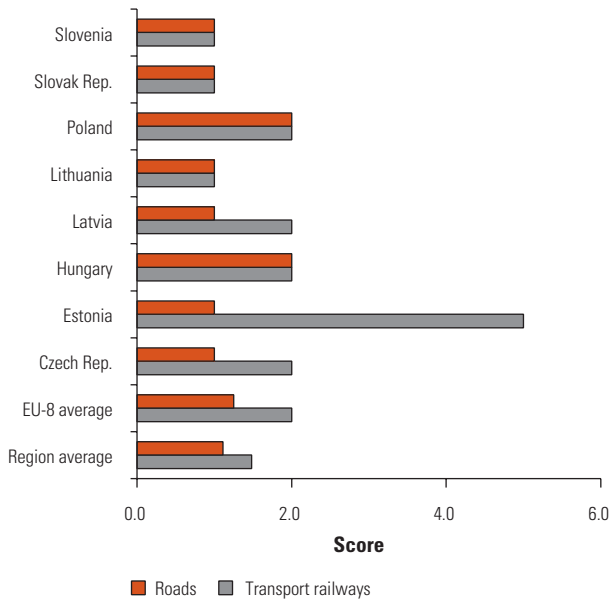
Note: Scale: 1=no or negligible private sector participation; 5=sector fully privatized.

and Slovenia are classified as “delayed.” The index categorizes Estonia and Lithuania as “pending departure.” In these countries, the liberalization process, from an overall perspective, is practically nonexistent (IBM Business Consulting Services 2004).

EU-8 standards and technical regulations. Eliminating technical barriers to trade (TBT) is the key to further integrating the EU-8 into the EU market, where tariffs and nontariff barriers have already been substantially removed. Firms perceive that technical regulations are more important in exporting to the EU than in exporting to other industrial countries, including the United States, Canada, and Japan (see figure 5.13). For the purpose of harmonizing technical standards, the EU has developed a new approach that streamlines technical harmonization and the development of standards for certain product groups.⁶ Where technical standards are not harmonized, the EU applies a mutual recognition principle. This provides for free movement of goods and services without the need to harmonize member countries’ national legislation, by allowing goods that are lawfully produced in one member country to be sold in any other member countries where technical or quality specifications may be different from those of the exporting country. Most of the EU-8 countries have aligned their

FIGURE 5.11

Private Participation in Transport Sector, 2004

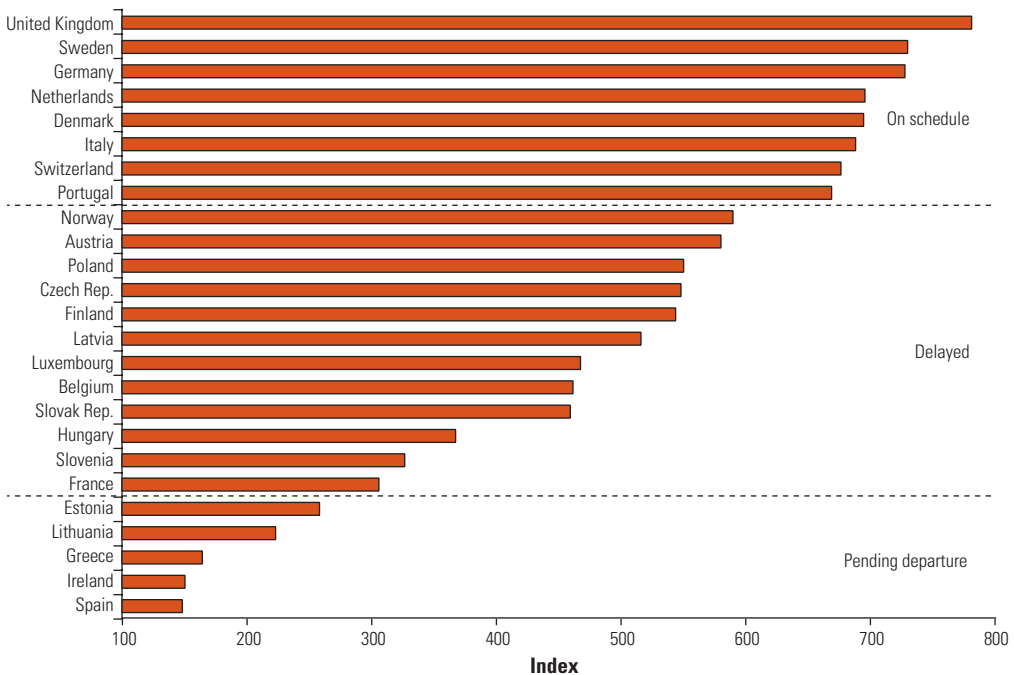


Source: EBRD 2004c.

Note: Scale: 1=no or negligible private sector participation; 5=sector fully privatized.

FIGURE 5.12

Rail Liberalization Index, 2004



Source: IBM Business Consulting Services 2004.

Note: Scale: 100 = little rail liberalization; 800 = much rail liberalization.

FIGURE 5.13**Importance of Technical Regulations in Exporting to the EU, the United States, Canada, and Japan**

Source: Calculations based on the World Bank's Technical Barriers to Trade database.

national legislation with the *acquis*.⁷ While this facilitates the access of the EU-8 products to the EU single market, it is important to note that the EU standards may differ from those of other countries. For instance, the EU standards are different from the U.S. standards. Firms in the EU-8 still have to pay costs arising from TBT that exist between the EU and the United States.

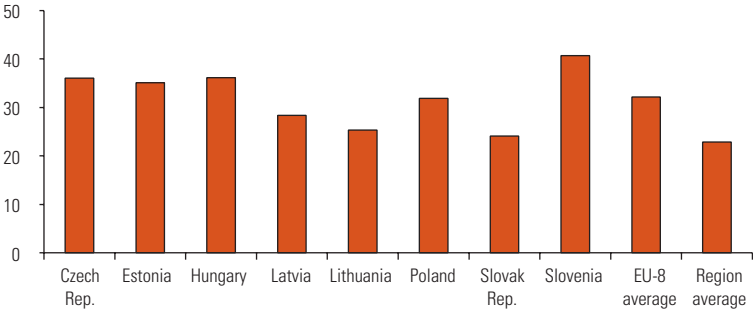
Development of information technology infrastructure in the EU-8. All of the EU-8 countries have more highly developed telecommunications infrastructures than the average for the Region (see figures 5.14 and 5.15). This is partly the result of the numerous investments from the EU community and other donor agencies. For instance, the Slovak Republic increased its number of installed telephone lines from 935,000 in 1992 to more than 2,070,000 in June 2000, and the number of working lines from 821,000 in 1992 to more than 1,730,000 as of June 2000. Figure 5.16 shows that Slovenia and the Czech Republic lag behind in liberalizing telecommunications service while other countries have fully privatized it.

Southeastern Europe

Longstanding and continued ethnic conflicts have severely affected trade and investment prospects in SEE (see Broadman et al. 2004). Over the course of the transition, the breakup of the Former Republic of Yugoslavia and war in Kosovo have contributed to significant destruction of trade-related infrastructure, which has critically affected trade flows within the sub-Region. Damaged transport routes also contributed to a rapid decline in the use of transit routes across SEE. Before the war, traders between Turkey and Europe used road

FIGURE 5.14
Telephone Lines in the EU-8

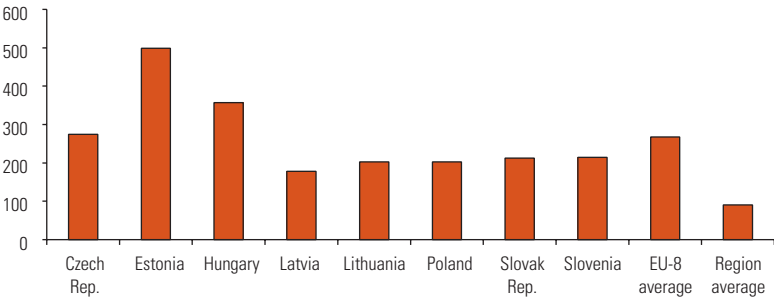
Per 100 people, 2003



Source: Calculated from International Telecommunications Union 2004.

FIGURE 5.15
Internet Hosts in the EU-8

Per 10,000 people, 2003

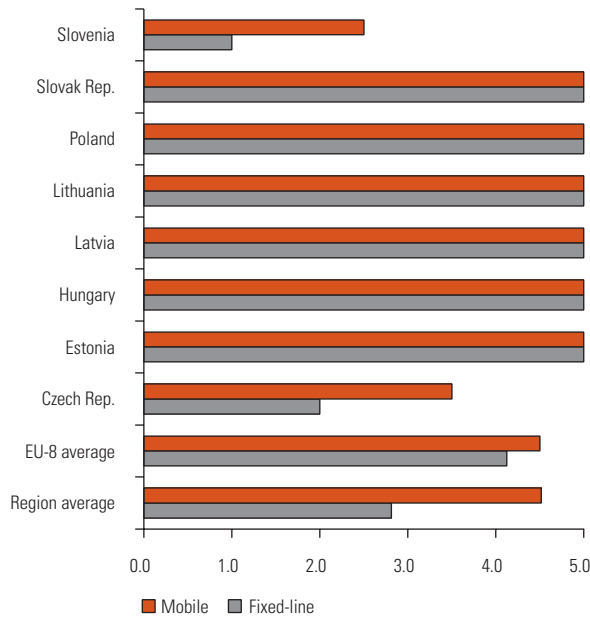


Source: Calculated from International Telecommunications Union 2004.

transport through the former Yugoslavia. More recently, an estimated 30 percent of Turkish trucks completely bypass the sub-Region, using Ro-Ro ferries between Turkey and Italy (World Bank 2002c).

The role of international donors' investment and capacity-building programs has been crucial in reconstructing SEE (see box 5.1). The EU development programs and assistance have been dominant, because the EU is the major trading partner for most of SEE and long-term plans for EU accession by the countries continue.⁸ The EU's Phare Program provides preaccession support in areas including transport infrastructure; the EU's Stabilization Association Agreements help reduce the complexity of logistics systems and improve transparency in customs; and through the Stability Pact, the EU, along with other donors, has set in place a political-economic framework that seeks to enhance democracy, peace, and prosperity in the sub-

FIGURE 5.16
Private Sector Participation in the Telecommunications Sector



Source: EBRD 2004c.

Note: Scale: 1=no or negligible private sector participation; 5=sector fully privatized.

Region. SEE countries are also major beneficiaries of the World Bank’s Trade and Transport Facilitation in Southeast Europe (TTSFE) program.⁹ Since 2001, the TTFSE has been working on institutional development of customs and implementation of IT systems by providing computer equipment and telecommunications infrastructure.

SEE customs and border crossings. Conflict has been a major factor driving inefficient and nontransparent customs regimes in SEE. Croatia, for example, now has international borders with four countries, compared with just one before the war. The problem is that customs systems were “temporarily” designed after independence and still remain underdeveloped. There are 420 roads connecting Bosnia and Herzegovina with neighboring countries. There were only 32 official border-crossing points, however, at the beginning of 2001. There are many unofficial border crossings with no rules governing trade transactions. Customs procedures are complicated and differ among countries. Given the tension that exists at the borders, regional border cooperation is far below what is needed to facilitate trade. Nonetheless, reforms in customs have been proceeding. In some SEE countries, the results have been substantial (see table 5.5).

BOX 5.1**Examples of Development Assistance in Trade Facilitation in the Region**

In 1991, the EU launched the TACIS program, which provides technical assistance in trade and transport to 12 of the Region's countries, including the Southern Caucasus; it also enhances cross-border cooperation among the countries involved. Since 1993, the EU also has funded the Transport Corridor Europe-Caucasus Asia (TRACECA) program, which delivers technical assistance for development of a transport corridor on a west-east axis from Europe, across the Black Sea, through the Caucasus and the Caspian Sea, to Central Asia.

The importance of trade-facilitation reform in the Region over the past decade, in both unilateral action to remove barriers and efforts at sub-Regional cooperation, is demonstrated by increased focus on cooperative programs. For example, the Trade and Transport Facilitation in Southeast Europe (TTFSE) program is led by the World Bank and the United States, with collaboration of the EU and eight national governments: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYR Macedonia, Moldova, Romania, and Serbia and Montenegro. The TTFSE aims at reducing nontariff costs to trade and transport, eliminating smuggling and corruption at border crossings, and improving customs administrations and other border-control agencies. To achieve these goals, the project's components include customs services procedures reform, support to integrated customs information systems, and improvement of roads and border-crossing facilities. The estimated total program cost is \$101.9 million.

An important example of reform and modernization anchored in a cross-regional platform is the Silk Road Rehabilitation project. On October 26–18, 2004, the Third Silk Road Conference was held in Xi'An, where representatives from Azerbaijan, China, Georgia, Iran, Korea, the Kyrgyz Republic, Pakistan, Tajikistan, Turkey, Turkmenistan, and Uzbekistan agreed to: commit to further regional cooperation, increase investment in transport infrastructure, improve cross-border conditions along the routes, establish international transport regulations for the region, and exploit ways to seek financial assistance from international organizations. If strong regional commitment is realized, the project is expected to be completed in 2014; this will not only extend the trade route to eastern China through Central Asian and European countries to the Atlantic Ocean but it will also modernize the ancient trading route.

Sources: TRACECA Web site at <http://www.traceca-org.org/>, TTFSE Web site at <http://www.seerecon.org/ttfse/>, and World Bank 2004g.

There are a number of obstacles to continued reform of customs and border-crossing rules, including (1) corruption; (2) a lack of regional coordination and cooperation in customs; (3) border delays; (4) outdated customs and border facilities; (5) a lack of cooperation among agencies in border clearance, including agencies with mandates for imposing technical standards and regulations on imports; (6)

TABLE 5.5
Reduction of Waiting Time at the Borders' Crossing Points and Inland Clearance Terminals

	Pilot site	WT 2001	WT 2002	Reduction (%)	Final target
Albania	Tirana	4.5 hours	1.7 hours	62	1 hour
Bulgaria	Plovdiv	3.7 hours	1.5 hours	60	< 1 hour
Croatia	Jankomir	5.3 hours	3.0 hours	43	< 1 hour
Croatia	Stara Gradiska	3.3 hours	0.4 hour	88	< 1 hour
Romania	Bacau	3.0 hours	1.4 hours	53	1 hour
Romania	Constanta	4.3 hours	3.0 hours	31	2 hours

Source: Trade and Transport Facilitation in Southeast Europe (TTFSE) program.

Note: "WT" stands for waiting time.

the need to upgrade technology applied in customs; (7) variations in interpreting legislation and procedures; and (8) the overall complexity of procedures.

Not all of these problems are universally evident in every country: some are more pronounced than others. For example, sizable nontariff barriers to trade and transport are evident in Bosnia and Herzegovina. Large-scale inefficiencies in customs administration and border-clearance systems (opening hours and organization) remain in Croatia. The lack of effective interactions with the government is a problem in Albania, Croatia, and FYR Macedonia. There is a need to clarify the responsibilities between the customs and border police in FYR Macedonia and Albania. Even in the more advanced SEE countries, there remain significant barriers to effective customs administration. For example, the EU accession and candidate countries—Bulgaria and Romania, and Croatia, respectively—have introduced the EU's Community Customs codes. Still, these countries face the challenges of bringing customs legislation and administrative structure into alignment with EU standards, modernizing customs procedures with IT systems, and eliminating corruption.¹⁰ Tables 5.6 and 5.7 depict the challenges that remain in select SEE countries in reforming customs so as to reduce corruption.

The transport sector in SEE. Several major challenges remain in reforming the transport sector in SEE. Better maintenance and improvements in the quality of the transport infrastructure are required, as is the need to upgrade destroyed or damaged transport infrastructure. The levels of investment in new transport infrastructure need to be substantially increased. Reform of the regulatory regime governing pricing and access to transport services is also a priority. Reducing overregulation is especially important for the EU accession and candidate countries. After accession to the EU, their transport sectors will

TABLE 5.6

Recipients of Bribes

As a percentage of all surveyed trucks crossing borders, 2003

	Customs service staff (%)	Ministry of Interior staff (%)	Staff of other agencies (%)
Albania	100	74	39
Croatia	76	41	29
Macedonia, FYR	78	27	14
Romania	90	53	41
Serbia and Montenegro	71	33	21

Source: PlanConsult, Interim Report III, cited in TTFSE Progress Report 2003.

Note: These data are not confined to TTFSE pilot sites.

TABLE 5.7

Average Amount of Bribes

Per truck at one border crossing (EURO)

	2001	2002	2003
Albania	386.9	324.4	160.3
Bosnia and Herzegovina	52.8	53.4	n.a
Croatia	102.3	112.4	146.6
Macedonia, FYR	42.8	43.6	77.0
Romania	27.1	23.7	44.4
Serbia and Montenegro	110.8	120.8	153.6

Source: Plan Consult, Interim Report III, cited in TTFSE Progress Report 2003.

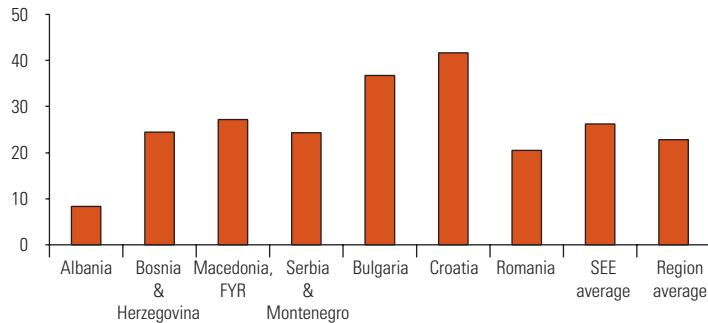
Note: These data are not confined to TTFSE pilot sites.

be exposed to a significantly higher level of competition, and efficiency will thus need to increase.

SEE's challenges related to standardization. Implementation of EU-harmonized technical standards has become increasingly important in SEE—especially for Bulgaria, Croatia, and Romania—as EU accession approaches. The 2004 Regular Report of the EU concludes that the alignment with the EU *acquis* in these countries is incomplete. While the Regular Report mentions that Bulgaria has made “good progress” in aligning standards with the EU, it points out that the country still needs work in certain fields. Bulgaria is, for example, still working on harmonizing its national legislation with the EU veterinary standards, and the country is also trying to catch up in areas of the phytosanitary standards. The report points out that enforcement of legislation in Romania is hampered by limited management and administrative capacity, particularly in the areas of veterinary and phytosanitary standards. Progress in standardization in the other SEE countries has been more limited.

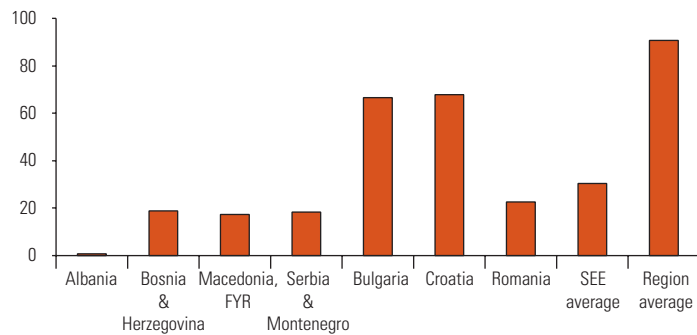
Development of IT infrastructure in SEE. The average number of telephone lines in SEE as a whole is higher than the Region’s average, while the number of Internet hosts in the sub-Region overall is far below the Region’s average (see figures 5.17 and 5.18). Of course, there is significant variation among the countries in the number of telephone lines and Internet hosts. For example, basic connectivity is especially weak in Serbia and Montenegro, and the level of Internet and e-commerce development is rated as “fair” in FYR Macedonia, “medium” in Bosnia and Herzegovina, “low” in Albania, and “very low” in Kosovo (World Bank 2001). The most important obstacles to vibrant e-commerce in SEE are the lack of vigorous competition, an incomplete legal framework (and fuzzy private property rights as a result), and the limited awareness of Internet and e-commerce oppor-

FIGURE 5.17
Telephone Lines in SEE
 Per 100 people, 2003



Source: Calculated from International Telecommunications Union 2004.

FIGURE 5.18
Internet Hosts in SEE
 Per 10,000 people, 2003



Source: Calculated from International Telecommunications Union 2004.

tunities—among both government agencies and the private sector. A relatively underdeveloped banking sector that could efficiently enable routine electronic payments is also a barrier to e-commerce in the sub-Region. (Larive International 2000).

Russia, Belarus, Moldova, and Ukraine

The physical location of these CIS countries makes them an increasingly critical fulcrum for trade flows between Europe and Asia. Moldova, for example, will become important as the future border between Europe and countries to Moldova's east once Romania joins the EU. Ukraine and Belarus both provide Russia with important transport links that connect Russia's oil and gas pipeline networks to countries in Central and Eastern Europe. As in the Caucasus, however, political tensions, conflicts, and hostilities complicate cooperation among these countries. The Trans-Nystria conflict for independence from Moldova, for example, has seriously impeded Moldova's road and rail links with Ukraine. Other hostilities, such as the Chechnya conflict within Russia, have also disrupted the transport links between these countries. Ukraine limits Moldovan transit to Russia and Kazakhstan, and Armenian transit to the ports on the Black Sea. Although there are several agreements on transit among these (and other) CIS countries, they have been relatively ineffective in practice (Freinkman, Polyakov, and Revenco 2004).¹¹

Customs and border crossings. The issues affecting performance of customs in these CIS countries center around (1) customs clearances, (2) goods inspections, and (c) border crossings. In Russia, the size of the country is a critical factor. Currently, there are seven regional customs directorates and 141 customs offices that process goods and vehicles. Although customs procedures are based on the same legislation, regulation, and instruction, interpretation and implementation of these instruments vary widely, depending on customs officers throughout the territory (World Bank 2003e). The opportunities for discretionary behavior give rise to corruption, which is a serious problem at customs. For example, at the border-crossing points to Russia from Yerevan, truck drivers are asked for \$1,800–\$2,000 for the "02 guard service" provided by the Ministry of National Security. If they refuse, drivers meet difficulties with the road policy or organized local gangs (Molnar and Ojala 2003). New preshipment inspection rules proposed by the Russian Trade Ministry affecting certain imports would add 1 percent charges of the customs value to certain goods, such as furniture, shoes, clothing, and household appliances, among others.

Additional costs are expected, with associated transit delays and higher logistics costs.¹²

In Ukraine and also Belarus, many of the nontariff barriers in trade logistics and facilitation are related to customs administration. Domestic exporters make informal payments to facilitate dealing with complex rules and burdensome customs clearance procedures (World Bank 2004q).

In Moldova, customs regulations constitute a major constraint for business operations. A new customs code was passed in 2000, but legislation is subject to frequent changes that create costly uncertainty in trade transactions and logistics. Another problematic trend is the increasing fiscal role of the customs services. The state budget receives about 50 percent of government revenue from customs activity. In addition, the time required to obtain export permits increased by 40 percent in 2002, delaying and complicating export transactions, although the cost of these procedures declined (World Bank 2004e).

Key challenges for the transport sector. The quality of transport across the various modes differs widely among these CIS countries. Although Moldova has about 85 percent of its roads paved—almost the same level as the Region’s average—only 30 percent of the country’s road network is considered to be in good shape. In addition to roads, similar problems are evident in Moldova’s railway and air transportation. The country’s railway rolling stock is antiquated, and most engines run on diesel, which hampers operations and causes delay during winter months. Wagons are often of poor quality, and thefts during transit are common. Air services in Moldova are largely limited to passenger traffic (World Bank 2004m).

In contrast, the percentage of paved roads in Russia is the lowest among all CIS countries. The major corridors, such as those between Moscow and the European border and the Black and Caspian Sea regions, are now so heavily congested that they have become barriers to further economic and social development of the regions they serve. Some major roads that have a design capacity of about 5,000 vehicles per day are now trying to accommodate demand in excess of 15,000 vehicles per day. However, Russia has one of the largest and most intensively operated rail systems in the world. Nearly half of the Russian rail lines are electrified, and the share of passengers (as opposed to freight) in Russian rail traffic is low (World Bank 2004j). While Russia’s ports, especially St. Petersburg and Novorossiysk, are some of the most important transportation hubs, their basic infrastructure facilities are in need of improvement because of busy urban traffic associated with port activities.

Key challenges related to standardization. Belarus, Moldova, Russia, and Ukraine confront major challenges and opportunities for market expansion in meeting standards and technical regulations. Since the Soviet era, the Committee of the Russian Federation for Standardization, Metrology, and Certification (GOST) has been the main agency responsible for monitoring the production of Russia's enterprises to ensure conformity to existing standards. In fact, GOST was initially adopted throughout much of the Former Soviet Union. While GOST has undergone significant operational and policy reforms during the transition, its role remains too narrowly defined. For example, industries are responsible for the development and adoption of their own voluntary standards for product or process specifications.

In all these countries, as a result of the process of international integration that has been part and parcel of the transition to market economies, there has been an increasing need to introduce more internationally recognized standards aligned with the ISO and EU Norms. The Interstate Council on Standards, Metrology, and Certification has been working to align national standards with international practice; nevertheless, the process has been slow. Only 20 percent of standard positions are in line with international standards, while the rest remain aligned with GOST standards (Freinkman, Polyakov, and Revenco 2004).

Ukraine's standardization system is a case in point. The country's system of technical standards has insufficiently integrated its norms and practices with international ones, relies too heavily on mandatory standards, and fails to sufficiently involve private industry in setting and enforcing standards. The system is oriented toward standards as product specifications, as opposed to performance specifications. This is largely the result of the fact that, under central planning, standards acquired many functions and a degree of detail that in free markets are taken care of by competition and company standardization. Foreign producers' and importers' perceptions of Ukraine's standardization system is that it is unpredictable in its results, in regard both to time and to cost (Reihlen 2000).

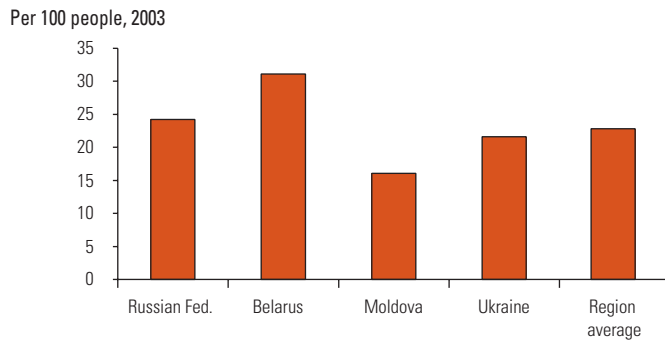
Development of infrastructure. In all of these CIS countries, there are tangible impacts of the relatively low levels of investment in infrastructure that have been taking place in terms of relatively high logistics costs; these, in turn, hinder trade flows and international integration. Moldova's investment in telecommunications and transport infrastructure, for example, is less than 3 percent of GDP. In the more developed countries in the Region, the level ranges between 8 and 10 percent of GDP (World Bank 2004m).

The development of telephone lines in Belarus, Russia, and Ukraine is close to or even above the Region’s average; telephone lines in Moldova, however, are significantly less developed than the average for the Region (see figure 5.19). On the other hand, across the board for the four countries, Internet hosts are far below the Region’s average (see figure 5.20). For example, in Moldova, only 38 percent of companies report using e-mail regularly, and fewer than 30 percent regularly use the Internet to deal with customers and suppliers. This is the lowest of any comparator country.

Summary Comparison of Trade-Facilitation Capacity across the Region

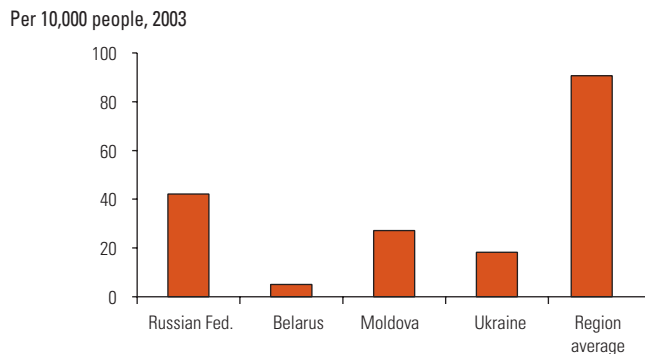
Customs and border crossings. Among the most serious problems across the CIS and much of SEE is the frequent incidence of unofficial pay-

FIGURE 5.19
Telephone Lines in the Russian Federation, Belarus, Moldova, and Ukraine



Source: Calculated from International Telecommunications Union 2004.

FIGURE 5.20
Internet Hosts in the Russian Federation, Belarus, Moldova, and Ukraine



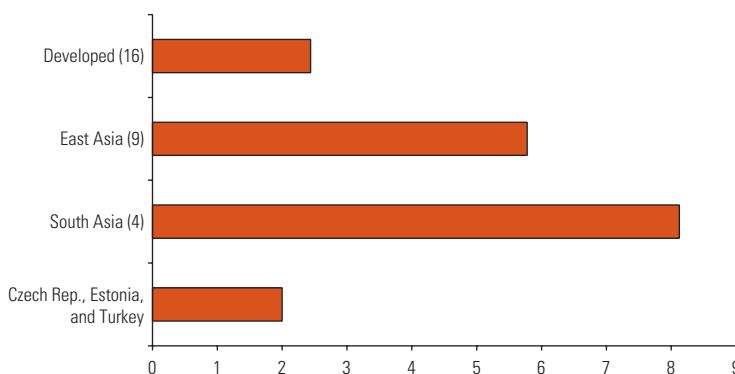
Source: Calculated from International Telecommunications Union 2004.

ments needed to move goods across national borders. This compounds other impediments in customs administration, including (1) a lack of coordination among border-related agencies, (2) complex customs procedures, (3) unclear customs codes and regulations, and (4) low utilization of information technology. Most important, perhaps, some countries are still experiencing political tensions with neighbors, and therefore the level of intra-Regional cooperation in facilitating trade remains low.

For most of the EU-8 and EU accession and candidate countries (Bulgaria and Romania, and Croatia and Turkey, respectively), in contrast, customs administrations have been significantly improved, at least in part because of the reforms necessary to accede to the EU. Figure 5.21 compares customs efficiency, as measured by the average number of days required to obtain customs clearance by sea, in four such countries—the Czech Republic, Estonia, Poland, and Turkey—to that found in select South Asian, East Asian, and developed countries. The data show that these four countries have more efficient customs than do the countries in the other regions of the world.

Key challenges for the port and transport sector. With regard to port and transport systems, most countries in the Region confront similar problems: (1) poor transport services, (2) low infrastructure maintenance, and (3) high transportation and handling costs. Central Asian countries are landlocked, making it important to extend their transport infrastructure to transit neighbors. For the Caucasus and SEE, restoring war-damaged infrastructure and reopening links arising from the transport network inherited from the Former Soviet Union are an ongoing critical priority.

FIGURE 5.21
Average Days Required for Customs Clearance by Sea

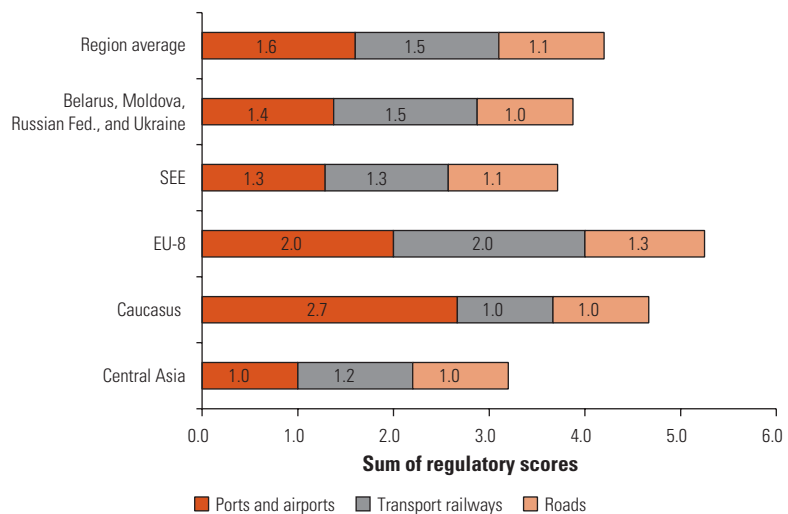


Source: Calculated from International Exhibition Logistics Associates data.

Continued privatization and deregulation of transport services across the entire Region remain critical. Private sector participation is often called upon to improve operational efficiency in the infrastructure sector. Yet private sector involvement in the countries of the Region has been limited. The degree of private sector involvement in port, rail, and road sectors in each sub-Region is provided in figure 5.22. Privatization is especially important for the EU-8, where physical infrastructure is relatively well developed and the transport sector has been liberalized among the original EU membership. Not surprisingly, then, the EU-8 countries are the most advanced in terms of privatization. However, the level of private sector participation in the EU-8 countries is still considered low by global standards. Estonia is the only country that has privatized its railway sector (EBRD 2004c).

Challenges related to standards, technical barriers, and regulatory policy. Standards and technical and regulatory barriers represent an important factor in trade logistics costs, in particular as they relate to border-crossing procedures and administrative rules. Many of the countries in the Region, particularly those in Central Asia, the Caucasus, and SEE, are still at an early stage of reform in standardization. In September 2004, the World Trade Organization held a workshop in Istanbul, Turkey, where officials from the Region’s countries discussed the issues of standards in the context of trade facilitation. The objective of the workshop

FIGURE 5.22
Degree of Private Sector Participation in Infrastructure, 2004



Source: EBRD 2004c.

Note: Scale: 1=no or negligible private sector participation; 5=sector fully privatized.

was to assist participating countries in their understanding of the main principles and provisions of the TBT agreement and to raise awareness of the importance of the implementation and administration of the agreement (WTO 2004b). Although some countries, like Kazakhstan and Ukraine, have been making efforts to harmonize their standards with international standards, their progress has been slow.

Figure 5.23 depicts the importance of standards to exports as reported by surveyed firms—including firms in the EU-8—in various regions around the world. A high percentage of firms in the EU-8 indicate that standards, testing, certification, and other regulatory requirements play a key role in export performance.

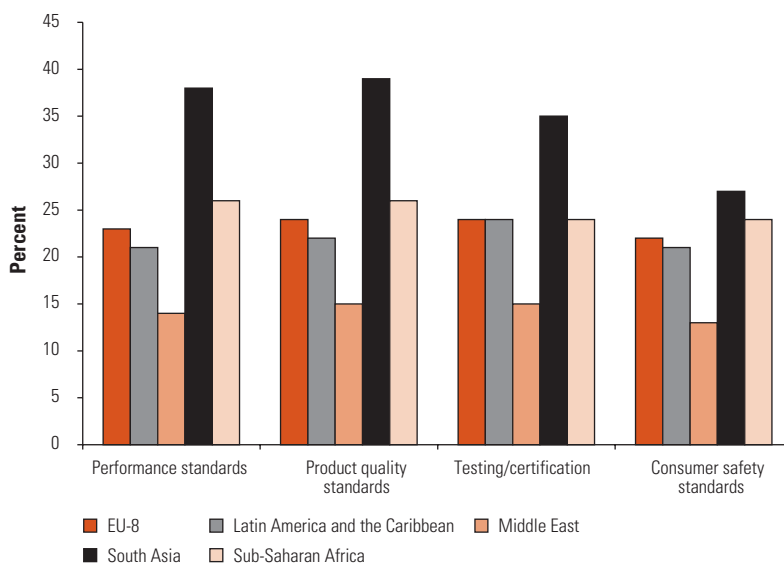
Development of information technology infrastructure. For the Region as a whole, the development of e-commerce in trade transactions and adoption of information technology are low relative to other regions of the world—although this varies widely among sub-Regions. While advances have been made in the EU-8, SEE and Central Asian countries are far behind, and their Internet infrastructure is not sufficient to support the use of e-commerce in trade. The United Nations Conference on Trade and Development (2002a) suggests:

Fast growth in both B2B and B2C e-commerce is expected in the Central and Eastern European countries with economies in

FIGURE 5.23

Technical Regulations and Standards

Percentage of surveyed firms ranking regulations important to export expansion



Source: Wilson, Mann, and Otsuki (2004), based on the World Bank Technical Barriers to Trade database.

transition. However, e-commerce in transition economies is not likely to reach 1 percent of global e-commerce before 2005. While the more technologically advanced nations in Central Europe and the Baltic have relatively high rates of digital literacy and are laying the foundations for the development of e-commerce activity, others (particularly in the Balkans, the Caucasus, and Central Asia) remain far behind.

By way of comparison, box 5.2 illustrates the advances in “paperless trading” in East Asia.

Mobile telephone services have been privatized in the entire Region; however, fixed-line telephone service remains largely under government control, particularly in Central Asia (figure 5.24). This limits the development of telecommunications services. Figure 5.25 shows the contrast among the sub-Regions in level of Internet hosts, which are particularly important to developing business in the services sector (as discussed in chapter 6).

BOX 5.2

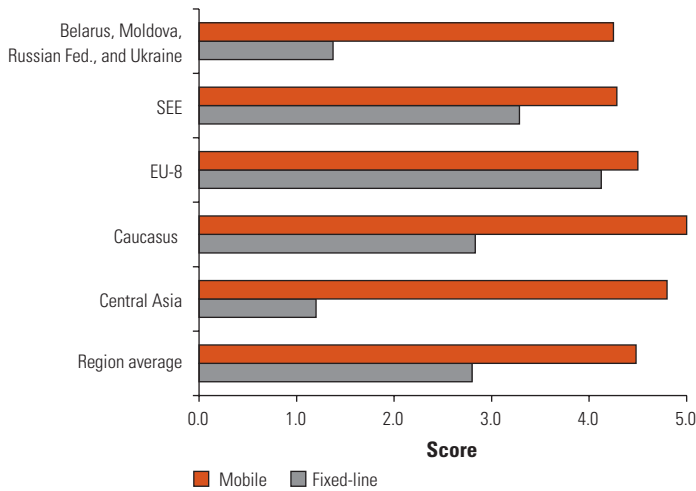
E-Commerce: Promoting Paperless Trading in East Asia

The expansion of electronic commerce is advancing in East Asia, where regional initiatives are playing an increasingly important role. Experience in this region provides one indication of what countries in Eastern Europe and the Former Soviet Union could achieve through cooperative programs. The Asia-Pacific Economic Cooperation (APEC) has adopted a goal of achieving paperless trading among all member economies by 2010. This is being implemented through computerizing customs procedures aligned with the United Nations Directories for Electronic Data Interchange for Administration, Commerce, and Transport (UN/EDIFACT) program. APEC is also supporting programs to reduce the number of documents required for sea, air, and land transport. Under this initiative, each member must include a strategy for achieving paperless trading in its Individual Action Plans in APEC.

Benefits from a paperless trading regime could be significant. In intraregional manufacturing trade, “three per cent average reduction in the cost of imported items would involve gross savings of the order of US\$60 billion annually when extended to total intra-APEC merchandise trade” (Commonwealth of Australia Ministry of Foreign Trade and Economic Cooperation 2001). The introduction of a single-window system for customs clearance could produce benefits for the Thai business community of approximately \$700 million per year, and the Korean business community around \$1.6 million per year. Singapore already benefits more than \$1 billion each year from such a system (APEC 2004).

Sources: APEC 2004; Commonwealth of Australia Ministry of Foreign Trade and Economic Cooperation 2001.

FIGURE 5.24

Private Participation in the Telecommunications Sector, 2004

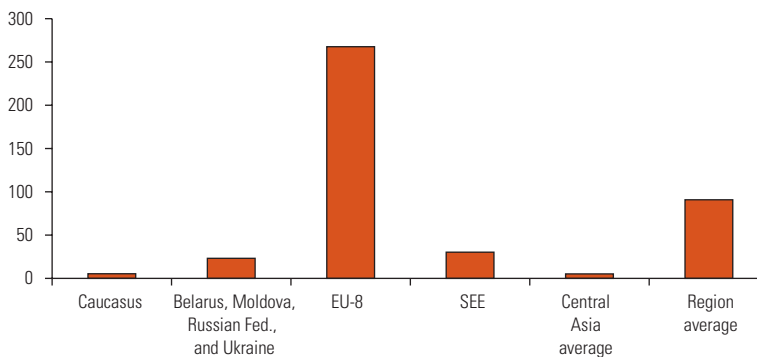
Source: EBRD 2004c.

Note: Scale: 1=no or negligible private sector participation; 5=sector fully privatized.

FIGURE 5.25

Internet Hosts in the Region

Per 10,000 people, 2003



Source: Calculated from International Telecommunications Union 2004.

Based on the preceding case-by-case assessment that shows the diversity of obstacles to trade facilitation throughout the Region, table 5.8 summarizes the key challenges by sub-Region.

Assessing Trade Gains for the Region from Domestic Capacity Building

Understanding the relationship between economic development and transport-related costs in international trade is relatively straightforward.

TABLE 5.8

Summary of Major Constraints and Challenges in the Sub-Regions

	Border crossings and customs	Transport sector	Standards	IT infrastructure and services
Central Asia	<ul style="list-style-type: none"> • Political tension at borders • Uncertainty about implementation of new customs codes and standards • Excessive number of documents required • Inconvenient location of border posts • Lack of cooperation among border agencies • Limited application of information technology in border clearance systems 	<ul style="list-style-type: none"> • Limited access to seaports (critical for landlocked countries) • Limited rail and road networks to neighboring countries (for example, China) other than Russia • Deteriorating railway network inherited from the FSU • A lack of reliable transport service and regulation 	<ul style="list-style-type: none"> • Limited information on initiatives that involve standards and conformity assessment requirements at the border 	<ul style="list-style-type: none"> • Lack of basic information technology infrastructure to support e-commerce, especially in Turkmenistan and Tajikistan
Caucasus	<ul style="list-style-type: none"> • Closed borders resulting from conflicts and wars (for example, Armenia and Azerbaijan) • A lack of regional harmonization of customs practices • Limited transparency in clearance regulation and procedures • Corruption/unofficial payments • Limited application of information technology in border clearance systems 	<ul style="list-style-type: none"> • Limited utilization of port capacity • Rail and road networks in need of repair or replacement • Lack of harmonized transport regulations and duties • Low level of private sector participation in infrastructure 	<ul style="list-style-type: none"> • Limited information on initiatives that deal with standards and conformity assessment 	<ul style="list-style-type: none"> • Low level of information technology infrastructure to support e-commerce, especially Internet hosts
EU-8	<ul style="list-style-type: none"> • Continued problems with unofficial payments at the new EU external border with Russia and Belarus 	<ul style="list-style-type: none"> • The growing need to adopt information technology in port management • A lack of participation of domestic companies in port operation • Liberalization of transport sectors (for example, railway) lagging behind original EU members 	<ul style="list-style-type: none"> • A need to address technical barriers between the EU-8 and non-EU member countries 	<ul style="list-style-type: none"> • Relatively well-developed information technology infrastructure, yet a need to work on privatization in some countries (Strictly regulated fixed-line telephone service in Slovenia and Czech Republic)
SEE	<ul style="list-style-type: none"> • "Temporary" customs systems still in place after independence • Unofficial border crossings • Corruption/unofficial payments • Lack of regional coordination and cooperation • Outdated customs and border facilities • Lack of interagency cooperation in border clearance • A need to update technology applied in customs • Variations in interpreting legislation and procedures • The overall complexity of procedures 	<ul style="list-style-type: none"> • Decreasing demand for transport services in some areas • Transport infrastructure damaged by conflicts • Low maintenance and poor quality of transport infrastructure • A need to further reconstruct transport infrastructure • Low levels of investment funding to upgrade transport infrastructure • A need to liberalize transport services 	<ul style="list-style-type: none"> • The increasing need to align standards with the EU <i>acquis</i> • EU accession candidate countries lacking administrative capacity to enforce EU legislation 	<ul style="list-style-type: none"> • The low level of information technology infrastructure to support e-commerce in some countries (for example, Albania) • A lack of fair competition in Albania, Bosnia and Herzegovina, and Serbia and Montenegro resulting from low degree of privatization of telecommunication services
Russian Federation, Belarus, Moldova, Ukraine	<ul style="list-style-type: none"> • Informal payments • Variation in interpreting legislation and procedures among customs agencies (for example, Russia) • Frequent changes in customs legislation (for example, Moldova) 	<ul style="list-style-type: none"> • Transport links disrupted by conflicts (for example, the Trans-Nystrya conflict affected transport links between Moldova and Ukraine) • Low levels of investment in transport sector • Antiquated railway rolling stock (for example, Moldova) • Low percentage of paved roads in Russia 	<ul style="list-style-type: none"> • Insufficiently integrated standardization system in Ukraine • Lack of private sector involvement in setting and enforcing standards (for example, Ukraine) 	<ul style="list-style-type: none"> • A low number of Internet hosts

Source: World Bank staff.

ward—in theory. Economic development and poverty alleviation are both achieved through income growth. As discussed in earlier chapters, economic growth expands with world trade. Lower transport and other trade-related transactions costs, in turn, provide the engine through which trade expands to achieve advances in development. Analysis of how—in practice—modern trade logistics influence the facilitation of international commerce, however, is more challenging in empirical design and estimation: the linkages between the two are multifaceted, subtle, and complex.

Over time, with advances in technology, *transport costs* have become less subject to distance. Hummels (1999) suggests that in 1974, shipping commodities over a distance of 9,000 kilometers by sea was approximately 60 percent more expensive than shipping over a distance of 1,000 kilometers by land. By 1998, this cost differential was estimated to have been reduced by one-half, that is, to 30 percent. Given that a number of the Region's countries—including the new EU members and those in line for EU accession—are relatively far from the central markets of Europe, reductions in transport costs would certainly facilitate trade, all other factors held constant.

The reduction in “effective distance” that comes with lowered transport costs reduces the overall *transactions costs* of trade. Conventional gravity model analysis suggests that transactions costs impede the exchange and the transfer of goods and services between different countries or regions in a variety of ways. The wedge between export and import prices reduces profit margins. In particular, trade barriers—both tangible and intangible—limit trade and slow prospects for regional development. According to Overman et al. (2001), access to foreign markets alone could explain some 35 percent of the cross-country variation in per capita income. Regions with higher transactions costs exhibit slower growth (Diamond 1997; Limao and Venables 2001; Redding and Venables 2003).

Trade Facilitation: Performance Benchmarks in the Region

At the global level, empirical analysis provides one indication of the potential benefits of reduced transactions costs engendered by reform in trade facilitation. Wilson, Mann, and Otsuki (2004) suggest that improvements in the four dimensions of trade facilitation that are the focus of this chapter—transport and port efficiency, customs regimes, standards and regulatory policy, and information technology infrastructure—could lead to significant trade gains. Their estimates indicate that, for the 75 sample countries examined, raising capacity halfway to the worldwide average would yield a \$377 billion gain to world trade.

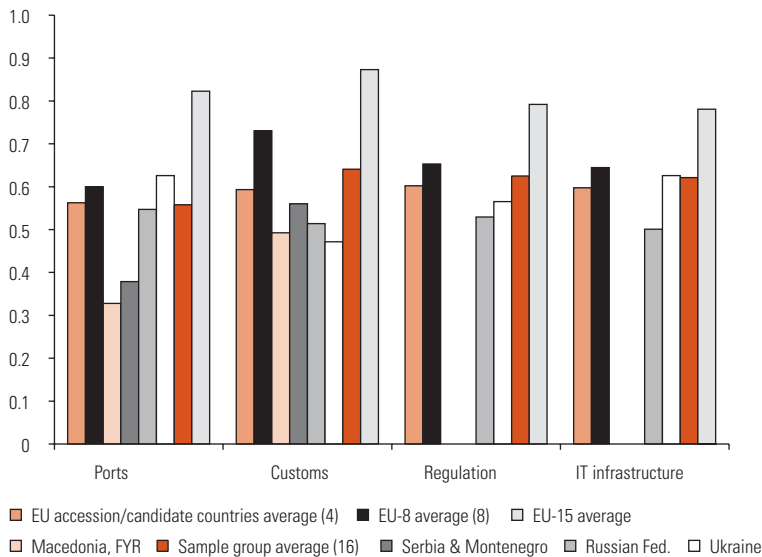
The empirical estimates of the benefits of improving trade facilitation in the Region take as their starting point the same analytical framework as the one underpinning the global assessment. It also draws on new work by Wilson, Luo, and Broadman (2004) that focuses on trade-facilitation capacity affecting trade between the EU-8 and countries in line for accession to the EU. The analytical framework moves beyond simulating the benefits from improvements in trade facilitation based on a single parameter, such as the price of imports, the productivity of the transport sector, or the costs of transportation; rather, it examines all four dimensions of trade facilitation noted above. The scenarios examined do not assume that all countries in the sample improve capacity by the same amount. Some countries in the Region have further to go to reach best practice in regulatory reform or in port efficiency, for example, than do others. Moreover, to keep the simulated scenarios more realistic, it is assumed that the countries initially less developed in trade facilitation are able to achieve only a relatively low level of trade-facilitation improvements. The empirical estimates derived are based on a gravity model of bilateral trade flows, rather than on a computable general equilibrium (CGE) approach.

The four indicators of trade-facilitation capacity used in the empirical estimation are “port efficiency,” which measures the quality of infrastructure of maritime and air ports; “customs environment,” which measures direct customs costs, as well as administrative transparency of customs and border crossings; “regulatory environment,” which measures the economy’s approach to regulations; and “IT infrastructure,” which measures the extent to which an economy has the necessary domestic infrastructure (such as telecommunications, financial intermediaries, and logistics firms) and is using networked information to improve efficiency and to transform activities to enhance economic activity.¹³

The available data for the estimation cover 15 countries in the Region, as well as Turkey: the EU-8; the four EU accession and candidate countries (Bulgaria and Romania, and Croatia and Turkey, respectively); and FYR Macedonia, Russia, Serbia, and Ukraine.

Figure 5.26 benchmarks the trade-facilitation capacity of these 16 countries compared with that of the EU-15 countries. The sample countries exhibit a relatively low level of performance in all areas of trade facilitation: development levels in port efficiency, customs regimes, regulatory policy, and IT infrastructure are approximately 68 percent, 73 percent, 79 percent, and 80 percent, respectively, of the EU-15. The EU-8 countries on average exhibit a higher level of development than do the EU accession/candidate countries. While Ukraine

FIGURE 5.26
Benchmark Comparisons of Trade-Facilitation Indicators



Source: Wilson, Luo, and Broadman 2004.

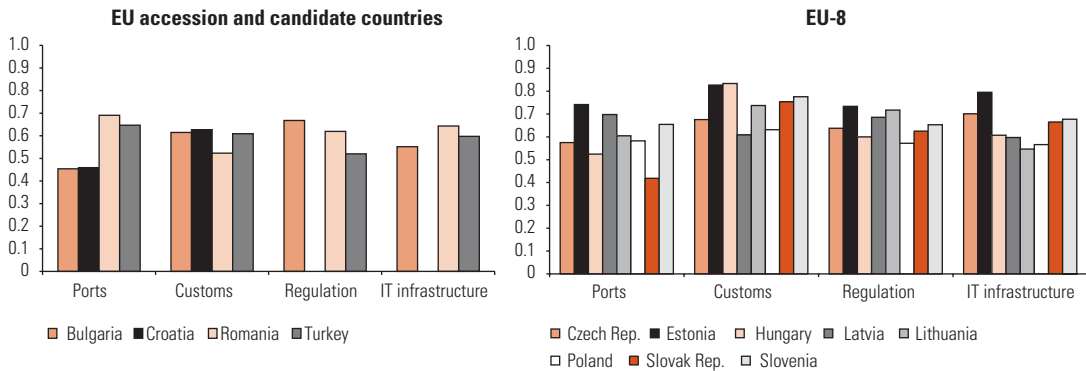
Note: 0 = least developed and 1.0 = most developed.

performs at a relatively high level in port efficiency, FYR Macedonia and Serbia are the least developed in port efficiency. Ukraine also performs well in IT infrastructure. Yet its level of customs efficiency scores the lowest. Ukraine performs better than Russia except in customs regimes. Russia lags behind the average of the sample group, the EU-15, and the EU-8 in all areas.

Figure 5.27 compares the various areas of trade facilitation between the four EU accession/candidate countries and the EU-8. The EU-8 are all relatively strong performers in customs regimes and regulatory policy. Estonia is the best performer among the group, with benchmarks from 0.75 to 0.85 in three trade-facilitation indicators—port efficiency, regulatory policy, and IT infrastructure—compared with the other new EU member countries. While Hungary has the highest level in customs efficiency, Latvia is the least developed in customs among the new EU members. IT infrastructure in Lithuania is the least developed, and Poland's development level is low in all areas of trade facilitation. On the other hand, Romania is well developed in port efficiency, regulatory policy, and IT infrastructure among the four EU accession/candidate countries. In addition, Bulgaria exhibits the highest level in regulatory policy—0.67—in the same country group.

Even though they do not have direct access to seaports, landlocked countries are included in the analysis. This is because land-

FIGURE 5.27
Benchmarking EU Accession and Candidate Countries against the EU-8



Source: Wilson, Luo, and Broadman 2004.

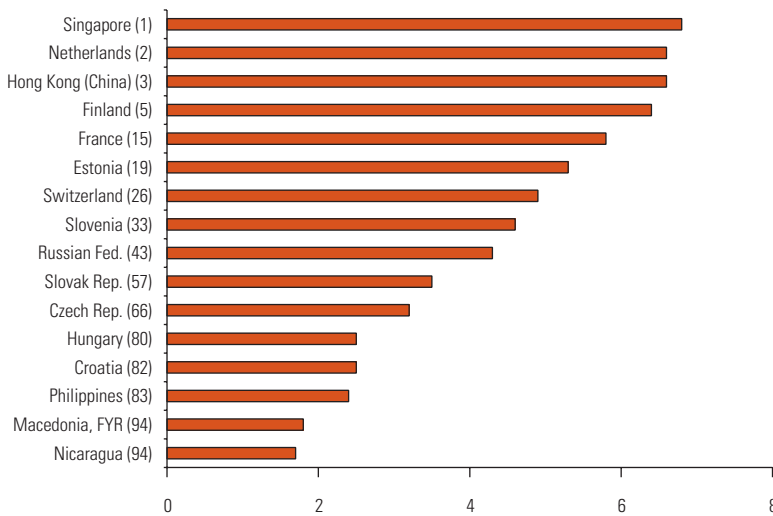
Note: 0 = least developed and 1.0 = most developed.

locked countries, such as the Czech Republic, Hungary, FYR Macedonia, and the Slovak Republic, can use inland waterways as alternative transportation. The Danube River flows through 17 countries, including Hungary and the Slovak Republic, and is the major transportation route connecting large cities in the Region and Europe, including Belgrade, Bratislava, Budapest, and Vienna. The River Elbe plays a role in moving freight from the Czech Republic to the seaport of Hamburg in Germany. Moreover, landlocked countries can use seaports in neighboring countries. Gdansk, Gdynia, and Szczecin in Poland are major transshipment seaports for the Czech Republic and the Slovak Republic. Hamburg is used as a transshipment seaport for the Czech Republic and Hungary. For landlocked countries, accessibility to seaports in neighboring countries is more important than it is for countries that are not landlocked. Therefore, the indicator of port efficiency in landlocked countries reflects the degree of development of inland waterways, as well as that of airport facilities. As Figure 5.28 indicates, landlocked countries are ranked between 26th and 94th, and some of them score higher than countries with coastlines. For instance, the Czech Republic is ranked 66th, while the Philippines, an island, is ranked 83rd.

Benchmarking the Relationship between Economic Development and Trade Facilitation

Taking into account GDP per capita permits an assessment of how the relationship between trade facilitation and economic development for each of the 16 countries under examination compares with that of

FIGURE 5.28

Benchmarking Port Infrastructure, Port Facilities, and Inland Waterways

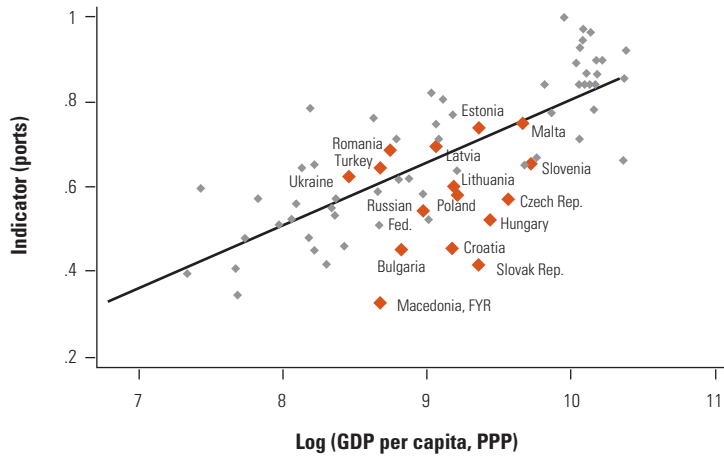
Source: World Economic Forum 2003.

Note: Note: 0 = least developed and 8.0 = most developed.
The number in brackets indicates ranking.

other countries around the world (see figures 5.29–5.32). For the group as a whole, given their economic development, trade-facilitation performance is relatively low compared with the benchmark levels. The only exception is Estonia, which performs stronger than the benchmark level in all four areas of trade facilitation. Compared with Hungary, a country of similar development level, Estonia is 40 percent more developed in port efficiency, 30 percent more developed in IT infrastructure, and 20 percent more developed in regulatory policy.¹⁴ The trade-facilitation level of Estonia is even more developed than the average of EU-15 countries in IT infrastructure.

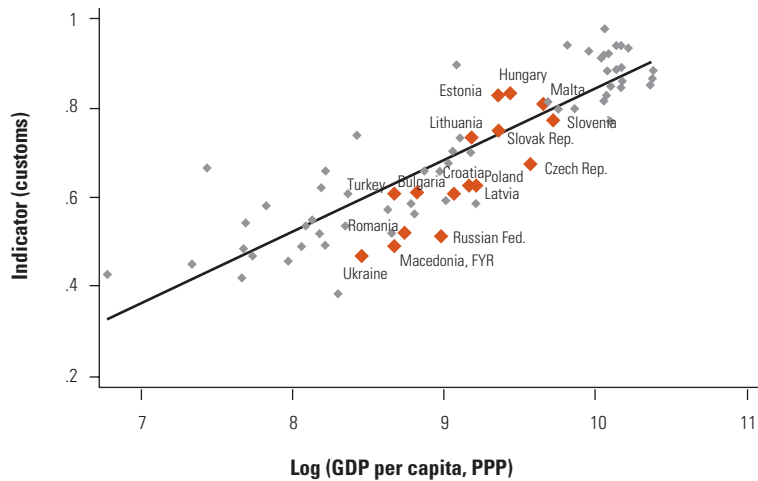
In port efficiency, besides Estonia, four countries—Latvia, Romania, Turkey, and Ukraine—perform above their benchmark levels. The other countries are lagging behind: in particular, the Czech Republic, Croatia, Hungary, and the Slovak Republic perform at lower levels, despite their relatively high levels of economic development. FYR Macedonia's port efficiency indicator shows the lowest value among the 16 sample countries. In customs, again, aside from Estonia, three countries—Hungary, Lithuania, and the Slovak Republic—perform above their benchmark levels. The other countries cluster close to their benchmarks, except FYR Macedonia, Romania, Russia, and Ukraine, which have relatively poor customs performance for their economic levels. Many countries—apart from Estonia—perform poorly in regula-

FIGURE 5.29
Benchmarking Port Efficiency to the Value of GDP per capita



Source: Wilson, Luo, and Broadman 2004.

FIGURE 5.30
Benchmarking Customs Regimes to the Value of GDP per capita



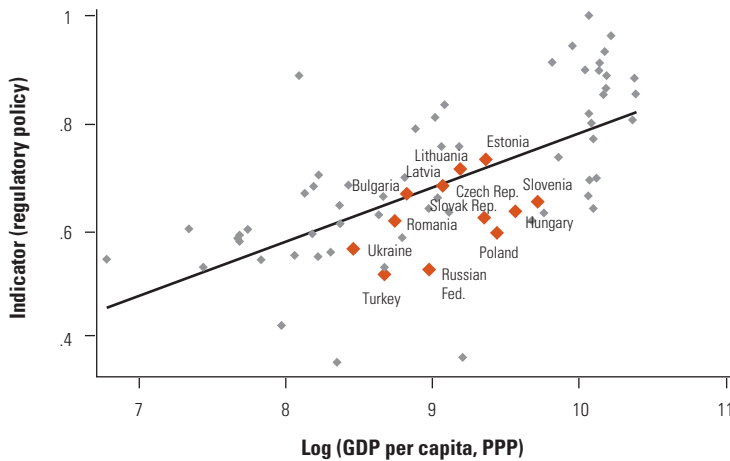
Source: Wilson, Luo, and Broadman 2004.

tory policy, after taking their economic development levels into account. In IT infrastructure, while Russia performs far below its benchmark, Romania and Ukraine score higher than their benchmarks.

Estimating Trade Gains from Reform and Capacity Building

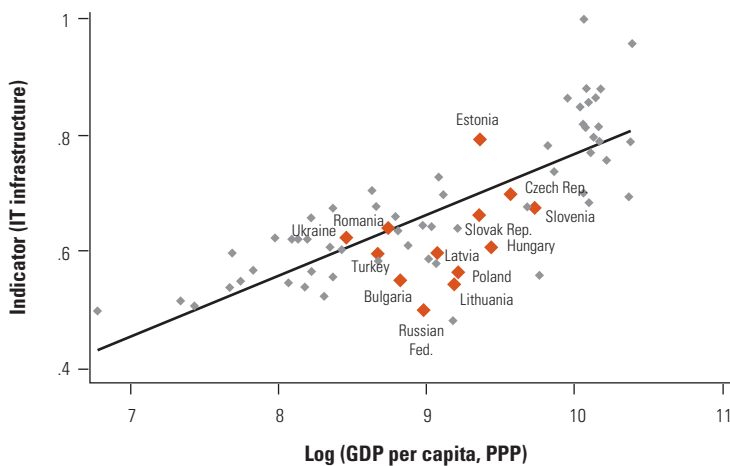
Trade gains are estimated in two situations: (i) how would trade flows among the 16 countries change if they all improved capacity in trade

FIGURE 5.31

Benchmarking Regulatory Policy to the Value of GDP per capita

Source: Wilson, Luo, and Broadman 2004.

FIGURE 5.32

Benchmarking IT Infrastructure to the Value of GDP per capita

Source: Wilson, Luo, and Broadman 2004.

facilitation at the same time? and (ii) how would these countries' trade flows with the rest of the world change if the same improvements were made? In other words, trade gains from regional integration are estimated first, followed by an estimate of the trade gains stemming from global integration. The simulation framework follows the analysis in Wilson, Mann, and Otsuki (2004) and Wilson, Luo, and Broadman (2004). "Improvement in trade facilitation" is defined as attaining one-half the level of the trade-facilitation capacity of the EU-15 countries.

Regional gains in trade from collective reform. As table 5.9 indicates, trade flows among the 16 countries would increase substantially if, collectively, the countries were to improve their trade-facilitation capacity to one-half the level of the EU-15 countries. In particular, the total estimated gain from capacity building in all four categories of trade facilitation would be approximately \$94 billion for the countries as a whole. The country with the largest projected gains is Russia. Trade flows for Russia would be expected to increase by \$19 billion. Capacity building in IT infrastructure would contribute the most to those gains.

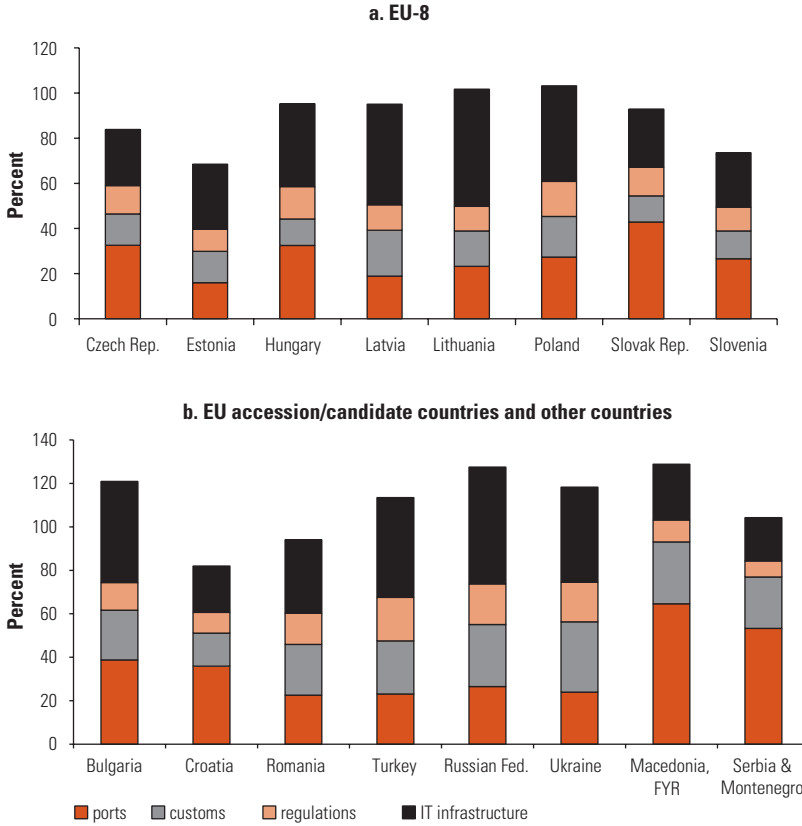
The estimated trade gains in percentage terms are depicted in figure 5.33. Trade volumes in Lithuania, Poland, Russia, and Ukraine would rise more than 100 percent if trade-facilitation levels in the four areas reached 50 percent of the EU-15 level. Improvements in port efficiency would raise trade volumes significantly in Croatia, the Czech Republic, FYR Macedonia, the Slovak Republic, Slovenia, and Serbia and Montenegro. In contrast, improvements in IT infrastruc-

TABLE 5.9
Regional Trade Gains from Collective Capacity Building
\$ millions

	Ports efficiency	Customs regimes	Regulatory policy	IT infrastructure	Total
EU-8					
Czech Rep.	3,539	1,509	1,362	2,708	9,118
Estonia	293	255	180	529	1,256
Hungary	2,433	879	1,079	2,749	7,140
Latvia	425	457	252	1,002	2,137
Lithuania	721	487	336	1,610	3,154
Poland	2,895	1,903	1,643	4,477	10,918
Slovak Rep.	3,319	902	980	1,999	7,200
Slovenia	948	441	377	859	2,625
<i>Subtotal</i>	<i>14,573</i>	<i>6,832</i>	<i>6,209</i>	<i>15,933</i>	<i>43,547</i>
EU accession/candidates					
Bulgaria	936	551	307	1,124	2,918
Croatia	808	341	214	479	1,843
Romania	794	823	506	1,191	3,315
Turkey	1,510	1,597	1,305	2,996	7,408
<i>Subtotal</i>	<i>4,048</i>	<i>3,312</i>	<i>2,332</i>	<i>5,790</i>	<i>15,483</i>
Others					
Russian Fed.	3,939	4,244	2,785	7,990	18,958
Ukraine	2,682	3,621	2,038	4,900	13,242
Macedonia, FYR	624	275	97	247	1,244
Serbia & Montenegro	1,024	455	141	383	2,003
<i>Subtotal</i>	<i>8,269</i>	<i>8,595</i>	<i>5,061</i>	<i>13,520</i>	<i>35,447</i>
Total	26,890	18,739	13,603	35,244	94,476

Source: Based on calculations in Wilson, Luo, and Broadman 2004.

FIGURE 5.33
Shares of Regional Trade Gains from Collective Action



Source: Based on calculations in Wilson, Luo, and Broadman 2004.

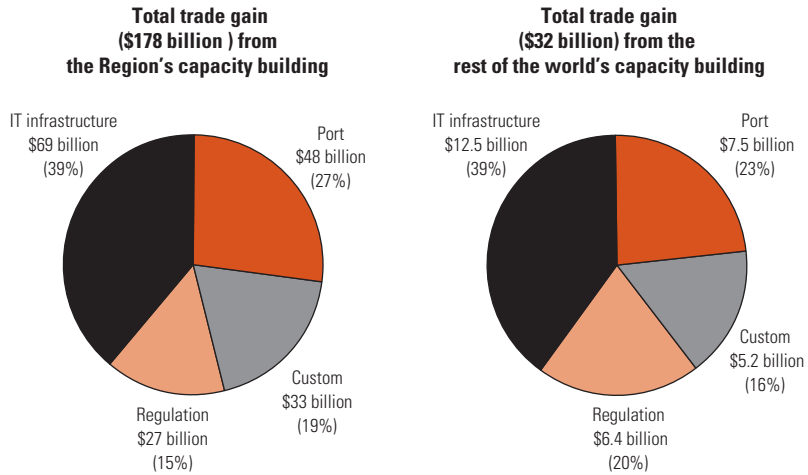
ture would yield trade gains in Bulgaria, Hungary, Latvia, Lithuania, Poland, Russia, Turkey, and Ukraine. Reform in customs regimes would result in the second-largest trade gains, based on improvements in Latvia, FYR Macedonia, Romania, Russia, Turkey, Ukraine, and Serbia and Montenegro.

Global gains in trade from collective reform. Sixty-three countries are taken to represent the rest of the world. Two scenarios are simulated: (i) gains from trade with the rest of the world even if the rest of the world does not reform or invest in capacity-building measures and (ii) the trade gains that would be realized if the rest of the world upgraded capacity in trade facilitation simultaneously.

As shown in figure 5.34, the total gains to the 16 countries from unilateral capacity building are estimated at approximately \$178 billion. This represents about 50 percent of these countries' trade with the rest of the world. More important, 87 percent of the total gains to the coun-

FIGURE 5.34

Trade Gains from Removing Barriers in Trade Facilitation



Source: Based on calculations in Wilson, Luo, and Broadman 2004.

tries are generated from the countries' own actions to upgrade infrastructure in ports, develop information technology, harmonize regulations, and improve customs. This illustrates the significance of capacity building in trade facilitation as a means of strengthening these countries' global trade ties. The most promising area for improvement is in IT infrastructure, with trade gains estimated to be \$69 billion. In fact, more than 60 percent of the trade gains are associated with IT infrastructure and port efficiency improvements. This is similar to the conclusions reached in the regional analysis.

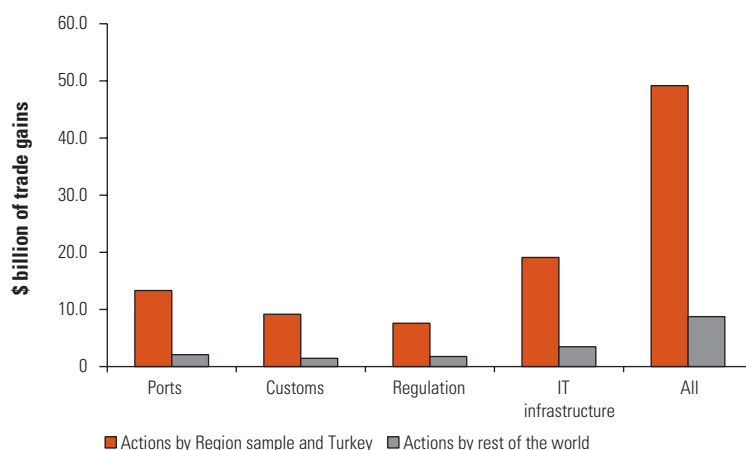
Figure 5.35 indicates the importance of capacity building to the 16 countries relative to that of the rest of the world. Trading partners outside of these countries clearly gain from regional improvements. Therefore, raising capacity in the 16 countries could significantly contribute to trade expansion not only among these countries but also in the rest of the world. If the countries and the rest of the world improved capacity in trade facilitation at the same time, total trade gains would increase by 60 percent.

Table 5.10 details the country breakdowns in trade gains that would result from trade-facilitation improvement with the rest of the world. The results show that the largest trade gains are expected from IT infrastructure improvements. Russia and Poland would gain the most from improvements in IT efficiency—\$19 billion and \$14 billion, respectively.

Figure 5.36 shows that improving IT infrastructure is a priority for Bulgaria, Hungary, Latvia, Lithuania, Poland, Russia, Slovenia, and

FIGURE 5.35

Relative Trade Gains from Regional Action and the Rest of the World



Source: Based on calculations in Wilson, Luo, and Broadman 2004.

TABLE 5.10

Global Trade Gains from Collective Capacity Building

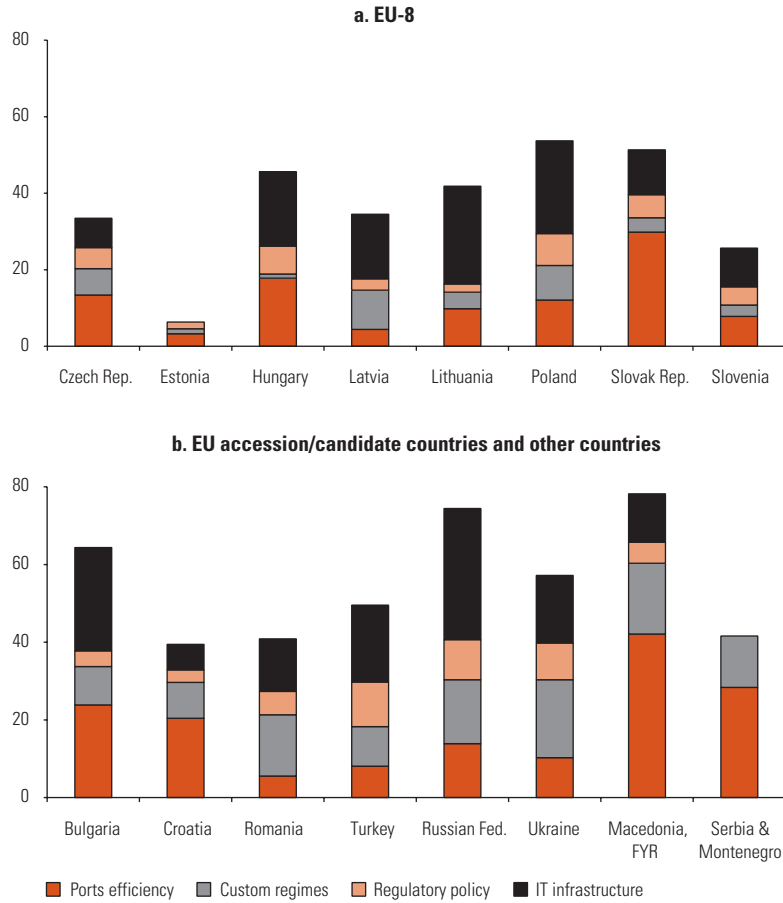
\$ millions

	Ports efficiency	Customs regimes	Regulatory policy	IT Infrastructure	Total
EU-8					
Czech Rep.	6,700	3,514	2,762	3,854	16,830
Estonia	192	78	103	—	373
Hungary	8,769	547	3,601	9,575	22,493
Latvia	182	397	121	690	1,389
Lithuania	535	237	116	1,393	2,282
Poland	7,295	5,593	5,078	14,689	32,656
Slovak Rep.	4,620	571	929	1,808	7,928
Slovenia	1,047	414	644	1,369	3,475
<i>Subtotal</i>	<i>29,341</i>	<i>11,350</i>	<i>13,354</i>	<i>33,379</i>	<i>87,424</i>
EU accession/candidates					
Bulgaria	1,690	718	288	1,889	4,586
Croatia	1,609	728	254	518	3,108
Turkey	3,852	4,856	5,465	9,463	23,636
Romania	1,083	3,040	1,168	2,642	7,933
<i>Subtotal</i>	<i>8,234</i>	<i>9,343</i>	<i>7,175</i>	<i>14,511</i>	<i>39,263</i>
Other					
Macedonia, FYR	719	304	92	212	1,327
Russian Fed.	7,931	9,553	5,910	19,322	42,717
Ukraine	1,110	2,266	1,030	1,893	6,299
Serbia & Montenegro	991	453	—	—	1,443
<i>Subtotal</i>	<i>10,752</i>	<i>12,576</i>	<i>7,033</i>	<i>21,427</i>	<i>51,787</i>
TOTAL	48,326	33,269	27,562	69,317	178,474

Source: Based on calculations in Wilson, Luo, and Broadman 2004.

Note: — = data unavailable.

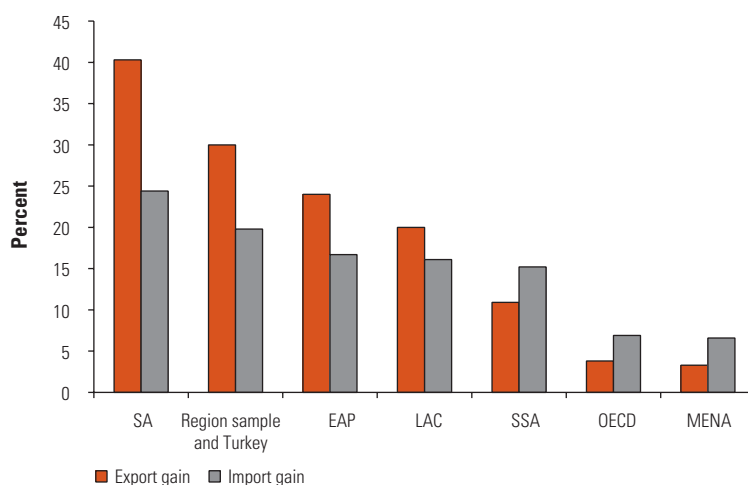
FIGURE 5.36
Shares of Global Trade Gains from Collective Action
 Percentage



Source: Based on calculations in Wilson, Luo, and Broadman 2004.

Turkey. Improvement in ports efficiency would result in large trade gains for Bulgaria, Croatia, the Czech Republic, the Slovak Republic, and Serbia and Montenegro. Reform in customs is a priority for Romania and Ukraine in the context of global trade. Romania’s trade gains from improvement of customs regimes would increase 16 per cent, while Ukraine would increase trade by 20 percent from the same capacity building.

Global regional comparisons. To further shed light on the potential of trade gains through capacity building in Eastern Europe and the Former Soviet Union, comparisons with other regions of the world are instructive. Figure 5.37 compares the increase in trade flows from capacity building in trade facilitation among different regional

FIGURE 5.37**Global Comparison of Trade Flows from Trade-Facilitation Improvements**

Source: Based on calculations in Wilson, Luo, and Broadman 2004.

groups: South Asia (SA), East Asia and the Pacific (EAP), Latin America and the Caribbean (LAC), Sub-Saharan Africa (SSA), OECD countries, and the Middle East and North Africa (MENA).¹⁵ The figure shows that South Asia would gain the most both in exports and imports—40.3 percent and 24.4 percent, respectively. As a group, the 16 countries highlighted here would enjoy the second-greatest gains—a 30 percent increase in exports and an increase of 19.8 percent in imports.

Figure 5.38 shows which regions would gain the most across the four areas of trade facilitation. South Asia would gain the most in all areas. Following South Asia, the 16 countries under examination would gain the most from improving port efficiency, the regulatory environment, and IT infrastructure. In the area of customs, however, LAC would enjoy larger gains. Compared with other areas of trade facilitation, improvements in IT infrastructure would bring relatively large gains to all groups.

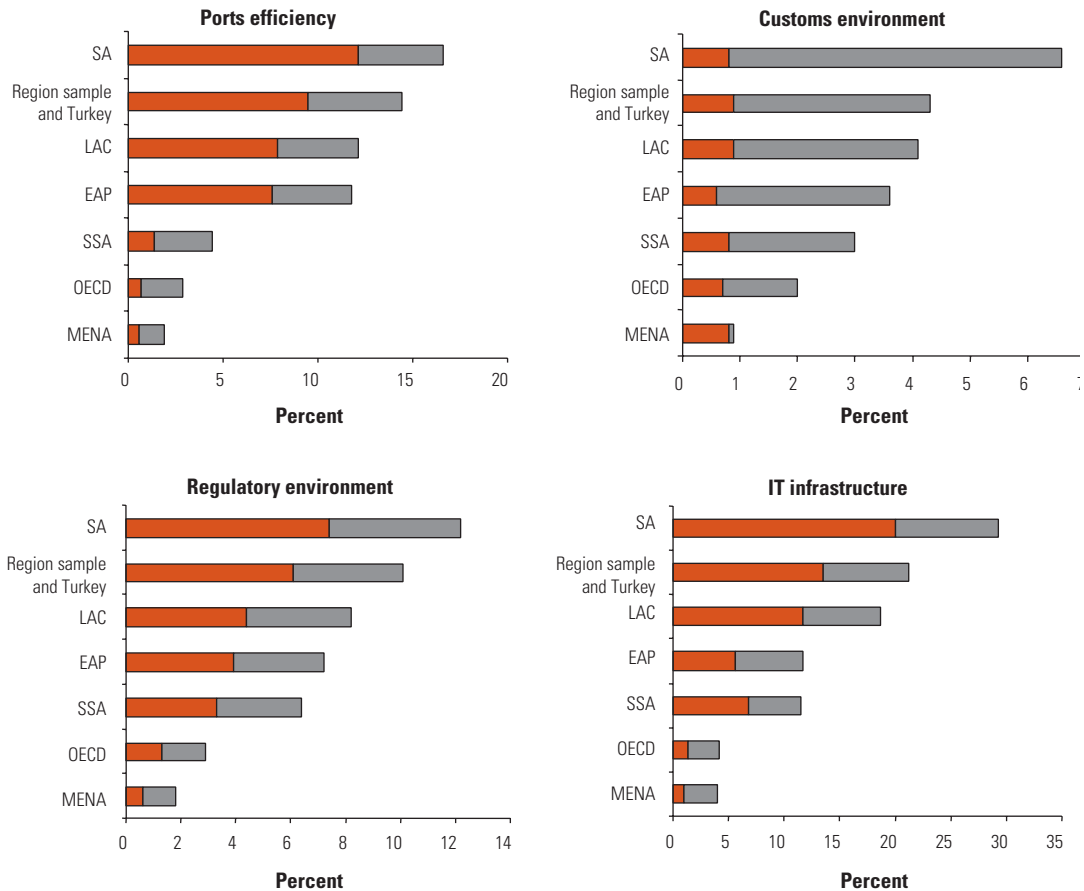
Moving Forward on the Trade-Facilitation Agenda in the Region

The Region is large and constitutes a heterogeneous group of countries. The analysis presented here suggests that understanding the challenges and opportunities for trade facilitation in the Region requires a reorientation of perspectives that more fully considers the

FIGURE 5.38

Global Comparison of Share of Gains from Improvements across Trade-Facilitation Areas

Percentage



Source: Based on calculations in Wilson, Luo, and Broadman 2004.

specifics of widely differing country and subregional characteristics among these countries.

Supplementing that assessment, the new empirical evidence documented in this chapter suggests that the elements that constitute trade-facilitation activities that drive economic integration in the Region should be viewed in a broader context than has been done in the past. Initiatives to lower transactions costs through improved transportation systems and deregulation of transport services remain critical. Policy reform and infrastructure upgrades in standards, ports, customs, and information technology must also be considered, however, if the facilitation of trade is to be realized.

In particular, the empirical analysis demonstrates significant potential gains to trade from capacity building—both unilateral reform and reform at the sub-Regional level—in port efficiency, customs environ-

ment, regulatory environment, and IT infrastructures. From the perspective of intra-Regional trade, if countries in the Region improved capacity halfway to EU-15's average, trade flows are estimated to rise by \$94 billion. The area that would produce the greatest gains is IT infrastructure improvement (\$35 billion), followed by efficiency in air and maritime ports (\$26 billion). The countries of Eastern Europe and the Former Soviet Union also have a stake in the success of efforts to promote trade-facilitation capacity building outside their borders. If the countries of the Region and the rest of the world both raised their levels of trade-facilitation capacity halfway to the EU-15's average, the gains to the Region are estimated at \$210 billion. Again, the greatest gains would be found to be in improving IT infrastructure (\$81.5 billion). Overall, the results indicate that the priority areas for reform in the Region center on port and IT infrastructure improvements; however, collective action to streamline regulations and improve customs would also produce significant gains to trade.

In sum, the key policy considerations for the Region are the following:

- Targeted programs of reform at the sub-Regional level are required across all areas of transport and trade facilitation. Priority areas for reform, however, clearly differ across the sub-Regions and at the national level.
- The potential gains to trade through domestic reform and unilateral action could be significant. If complemented with sub-Regional cooperation and programs of capacity building—including leveraging the demand-pull of EU accession and expanding opportunities for trade with China and East Asia—all of the countries in the Region would benefit. Trade-facilitation development-assistance strategies going forward will require taking into account these complementarities, as well as new analytical tools and data to inform sub-Regional and national priorities.
- There are significant potential gains to intra-Regional trade in the Region with the removal of nontariff barriers in trade facilitation. The largest trade gains would be associated with removing barriers to investment in IT infrastructure, including information technology, in the Region.
- There are differing priorities among new members of the EU and the candidates for accession to the EU. The new members of the European Union exhibit large potential gains to trade with investments in port efficiency (both air and maritime ports), which represent a third of total trade gains. The results for prospective members suggest more widely dispersed gains with investments in

port efficiency, customs regimes, and regulatory policy. Improvements in each dimension would share around 20 percent of the total trade gains.

- Capacity building in trade facilitation and removal of behind-the-border barriers in large countries in the Region—such as Hungary, Poland, and Russia—could produce large gains to trade for these countries. It would also have a significant positive impact on other countries in the Region, because performance in trade-facilitation measures in these countries remains relatively low in comparison with others.
- Barriers to trade anchored in weak laws and regulatory and administrative procedures at the border—and behind the border—remain key obstacles to progress in a number of countries in the Region. This affects all countries, especially those landlocked countries that must move goods across multiple borders. Reform in these areas will not require significant levels of physical capital investment, but rather the political will to reform. The estimated gains to trade from reform outlined here suggest a large net national welfare benefit from such efforts.
- Physical infrastructure investment—in particular in rail and road networks—across the Region will remain important to progress in economic integration and trade expansion. This is true especially in regard to rapidly expanding trade opportunities with China and competition with countries in regional trading blocs outside of the Region that have more modern transport systems, such as those in East Asia.
- Informing the transport and trade-facilitation reform agenda in the Region requires understanding the increasingly important interrelationships between the Region and East Asia and South Asia. Geographic boundaries among these three regions are disappearing, and there is much to be learned from best-practice examples in each one. The potential for interregional cooperation and platforms for reform remain largely unexplored.

Data Annex

Data come from the World Economic Forum, *Global Competitiveness Report 2001–2002* (GCR); IMD, *World Competitiveness Yearbook* (2000) (WCY); and Kaufmann, Kraay, and Zoido-Lobaton (2002) (KKZ). All survey data in GCR come from the World Economic Forum's Executive Opinion Survey. A total of 4,022 firms were surveyed.

To provide the basis for a comparative assessment on a global basis, it is essential that we interview a sufficient number of senior business leaders in individual countries and that the sample in each country is not biased in favor of any particular business group. We have taken a number of steps to ensure this. First, we have asked each of our partner institutes, the organizations that administer the surveys in each country, to start with a comprehensive register of firms. From this, they were asked to choose a sample whose distribution across economic sectors was proportional to the distribution of the country's labor force across sectors, excluding agriculture. They were then asked to choose firms randomly within these broad sectors (for example, by choosing firms at regular intervals from an alphabetic list) and to pursue face-to-face interviews, following up for clarifications where necessary. The employment distribution was taken from data in the *1998 Yearbook of Labour Statistics* of the International Labour Office. The respondents to the survey are typically a company's CEO or a member of its senior management (World Economic Forum 2001).

The WCY uses a 115-question survey sent to executives in top and middle management of firms in all 49 countries of the WCY. The sample size of each country is proportional to GDP, and firms "normally have an international dimension" (IMD 2000). The firms are selected to be a cross-section of manufacturing, service, and primary industries. There were 3,532 responses to the survey.

KKZ (2002) updates the data on governance that were developed in Kaufmann, Kraay, and Zoido-Lobaton's "Governance Matters" (1999). The database contains more than 300 governance indicators for 175 countries compiled from a variety of sources in 2000–2001. Six aggregate indicators are constructed, corresponding to six basic governance concepts: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption.

The various raw data series were chosen because of their relevance to the four concepts of trade facilitation:

- “Port efficiency” is the average of two indexed inputs (all GCR):
 - Port facilities and inland waterways are 1=underdeveloped, 7=as developed as the world’s best, GCR
 - Air transport is 1=infrequent and inefficient, 7=as extensive and efficient as the world’s best, GCR
- “Customs environment” is the average of two indexed inputs (all GCR):
 - Hidden import barriers other than published tariffs and quotas
 - Irregular extra payments or bribes connected with import and export permits
- “Regulatory environment” is constructed as the average of two indexed inputs:
 - Transparency of government policy is satisfactory (WCY)
 - Control of corruption (KKZ)
- “IT infrastructures” is the average of two indexed inputs (all GCR):
 - Speed and cost of Internet access are: 1=slow and expensive, 7=fast and cheap
 - Internet contribution to reducing inventory costs is: 1=no improvement, 7=huge improvement

Source: Wilson, Mann, and Otsuki 2004.

Endnotes

1. Countries in the same income level include low-income and lower-middle-income countries. Except for Tajikistan in the low-income group, central Asian countries are in the lower-middle-income group.
2. The similar income group includes low-income and lower-middle-income countries. Except for Tajikistan, Central Asian countries are in the lower-middle-income group. Tajikistan is in the low-income group.
3. The World Bank has invested in the installation of 130,000 digital lines, while phasing out 60,000 analog lines in the Kyrgyz Republic. One component of the project also included building the institutional capacity of Kyrgyz Telecom.
4. Some single terminals in some European ports, which have attained the quality certificate, but no port as a whole has received the certificate. The Port of Koper is a unique example. For more details, see <http://www.luka-kp.si/index.asp?lang=en>.
5. The World Bank implemented the Port Access and Management Project, which upgraded the legal and administrative framework of the ports.
6. These groups are toys, machine, lifts, pressure vessels, nonautomatic weighing machines, and gas appliances.

7. For more details about the World Bank TBT database, see <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/TRADE/0,,contentMDK:20234189~menuPK:222955~pagePK:148956~piPK:216618~theSitePK:239071,00.html>.
8. In 2007 (Bulgaria and Romania) and after 2007 (Croatia) and sometime in the future (other Balkan countries).
9. See more details at <http://www.tfse.org/default.aspx?p=12&c=84>.
10. For a detailed discussion of the effects of governance problem in customs and other institutions in the Balkan economies, see Broadman et al. (2004).
11. These agreements include Agreement on Transit through Territories of CIS Members (1997), Agreement on Common Transport Policies in the CIS (1997), Agreement on Road Transport Union of EURASEC (1998), and Agreement on Common Railway Tariffs in EURASEC (2002).
12. Trade Facilitation Alliance, Russia/CIS Archives, November 10, 2004.
13. Wilson, Mann, and Otsuki (2004) indicators rely on three sources—*Global Competitiveness Report*, *World Competitiveness Yearbook*, and a dataset compiled in Kaufmann, Kraay, and Zoido-Lobaton (2002). Each indicator is constructed as a simple average of two inputs, as described in the annex.
14. Hungary and Estonia share a similar developmental level of customs regimes.
15. Note that the results for MENA and SSA should be regarded with caution, because the data from these two regions are limited.

