

Linkages between Foreign Direct Investment and Trade Flows

Introduction

The increasing globalization of the world economy and the fragmentation of production processes have changed the economic landscape facing the nations, industries, and individual firms in Europe and Central Asia, as they have in the rest of the world. Multinational corporations have been key agents in this transformation by creating international production and distribution networks spanning the globe and actively interacting with each other. The result has been the growth of intraindustry or increasingly intraproduct trade at the expense of traditional interindustry trade.

This chapter analyzes the participation of the countries of Eastern Europe and the Former Soviet Union in this process. After a brief review of characteristics of “buyer-driven” and “producer-driven” networks, the chapter first discusses the degree to which countries in the Region have been involved in network trade. The buyer-driven supply chains examined encompass the apparel, furniture, and diamond sectors. The analysis of producer-driven supply chains focuses on the automotive and information technology sectors.

Several stylized facts emerge from this discussion:

- While the eight countries of the Region that joined the EU in 2004 (EU-8) and Turkey have been heavily involved in network trade,

many—but not all—of the other successor countries of the Former Soviet Union—the CIS—have been left out of this process. The extent of participation in network trade by the countries of South-eastern Europe (SEE) lies in between.

- Seven countries of the Region, namely, the Czech Republic, Estonia, Hungary, Poland, the Slovak Republic, and Slovenia, and Turkey (referred to as “High Performers” or the HP-7, hereafter) have become very successful in network trade.
- In the initial phase of the transition process, the HP-7 had relied on unskilled-labor-intensive exports associated with buyer-driven production chains in clothing and furniture. However, rising wages prompted these countries to shift toward skilled-labor- and capital-intensive exports conducted through producer-driven networks encompassing automotive and information technology industries.
- Foreign direct investment has been instrumental in the shift to producer-driven networks. Countries that experienced the largest FDI inflows have also seen the largest increase in exports of network products and parts.
- Several of the SEE economies, as well as some CIS countries, have been active in buyer-driven production chains, but have not managed to make a transition toward producer-driven supply chains. The CIS members of this group include Armenia (which is engaged in the diamond supply chain), Belarus (which participates in the furniture network), and the Kyrgyz Republic, Moldova, and Turkmenistan (all of which are still heavily involved in the clothing network).
- The remaining CIS countries have largely remained outside network trade.

The second part of the chapter examines how the differing performance of the countries of the Region in terms of network trade can be attributed to the large variation in the amount of FDI they have attracted. The heterogeneity of FDI inflows observed across the countries is largely determined by the quality of the domestic business climate and related “behind-the-border” institutional conditions discussed in chapter 4. Building on that analysis, the discussion here focuses specifically on investment climate characteristics vital to attracting FDI and facilitating a country’s participation in international production and distribution networks.

The chapter closes with lessons drawn from the experience of the HP-7 that can be useful for other countries in the Region, particularly those left outside the international fragmentation of production.

International Production and Distribution Networks

Links between Trade and FDI

While the theoretical literature examining the determinants of multinational corporate investment often assumes that firms choose between supplying a foreign market through exports or establishing production facilities in a host country, the empirical evidence is less clear-cut. A few cases of “tariff-jumping” FDI aside, empirical studies find that affiliate sales are positively correlated with exports at the aggregate country or industry level. Similarly, firm-level studies point to the complementarity between FDI and exports.¹ An exception is the product-level analysis performed by Blonigen (2001), who finds evidence of both substitution and complementarity effects between affiliate production and exports of Japanese auto parts for the U.S. market.

The increasing complementarity between FDI and trade has been the result of the growing fragmentation of production combined with the creation of distribution networks spanning across continents. The information revolution and new technologies have made it possible to divide an industry’s value chain into smaller functions that are performed by foreign subsidiaries or are contracted out to independent suppliers. While producers from developing and transition economies may not possess intangible assets or services infrastructure developed at a level sufficient to have a comparative advantage in the manufacturing of final goods, thanks to production fragmentation, they are able to join the production chain by specializing in the labor-intensive fragment of the manufacturing process.² Production fragmentation not only enables firms from less developed and transition countries to access foreign markets without large outlays on advertising and market research, it also may lead to an additional benefit in the form of knowledge spillovers, which is discussed later in the chapter.

Global diffusion of productive activity leads to an increased international trade in both final goods, and parts and components. Thus it comes as no surprise that about one-third of world trade consists of intrafirm trade, that is trade among various parts of a single corporation, and that the importance of intrafirm trade has been growing over time. Estimates also suggest that about two-thirds of world trade in the latter half of the 1990s involved multinational corporations, including both intrafirm trade and arms-length transactions (UNCTAD 2002b).

As observed in the *World Investment Report*, “the issue is no longer whether trade leads to FDI or FDI to trade; whether FDI substitutes for trade or trade substitutes for FDI; or whether they complement each other. Rather it is: how do firms access resources—wherever

they are located—in the interest of organizing production as profitably as possible for the national, regional or global markets they wish to serve? In other words, the issue becomes: where do firms locate their value added activities? . . . Increasingly, what matters are the factors that make particular locations advantageous for particular activities, for both domestic and foreign investors” (UNCTAD 1996).

Fragmentation of production offers a unique opportunity for producers in less developed and transition countries to move from servicing small local markets to supplying large multinational firms and, indirectly, their customers all over the world. This phenomenon is accompanied by an evolution in the nature of competition, with its growing emphasis on customization of products, rapid innovation, flexibility, and fast response to changes in demand. In many cases, managerial and technological skills required to successfully compete in global markets make it impossible to rely on the resources of one country. Under these circumstances, integration into the production and marketing arrangements of the multinational corporations, rather than the pursuit of an autarchic national development strategy, has become the most efficient way of taking advantage of growth opportunities offered by the global economy.

Fragmentation of production, however, also means that the multinational corporations have become more sensitive to changes in investment climate. They can relatively easily shift their production from one geographic location to another in response to changes in the cost of production, market access, regulatory conditions, or perceived risks. Relocation is easier to accomplish in labor-intensive industries, where low capital investments are required, and thus disinvestment does not represent a large loss for the investor, but the ability to shift production tends to diminish with the technological intensity of exports. This difference in the ability to be footloose is clearly visible in a comparison of buyer-driven and producer-driven value chains, which is the issue to which we turn next.

Buyer-Driven vs. Supplier-Driven Value Chains

The term *international production and distribution network*, also known as a *global commodity chain*, refers to the whole range of activities involved in the design, production, and marketing of a product. For the purpose of our analysis, it is useful to utilize the typology proposed by Gereffi (1999), which distinguishes between *buyer-driven* and *producer-driven* commodity chains. The former denotes the case of global buyers creating a supply base upon which production and distribution systems are built without direct ownership. The latter refers

to vertically integrated arrangements (that is, common ownership of successive stages of production under one corporate entity). While the differences in terms of foreign ownership are less clear-cut in reality, the two network types exhibit different geographic and temporal patterns in the Region.

Buyer-driven commodity chains tend to exist in industries in which large retailers, branded marketers, and branded manufacturers play the key role in setting up decentralized production networks, usually in developing or transition economies. Such networks are prevalent in labor-intensive, consumer goods sectors, such as apparel, footwear, and furniture. Production is generally carried out by tiered networks of contractors in developing countries, which export finished goods made to the specifications of a foreign buyer. Many countries in the Region have been actively participating in such networks, particularly in the apparel and furniture sectors. The diamond-cutting network—Armenia's specialty among countries in the Region — also falls into this category. However, in contrast to a "typical" buyer-driven commodity chain, it is associated with foreign direct investment and, unlike apparel outward processing, requires relatively skilled labor.

In producer-driven supply chains, the production process tends to be coordinated by large multinational corporations. Such networks are mainly present in capital- and skilled-labor-intensive industries such as automobiles, computers, semiconductors, and heavy machinery. A classic example of a producer-driven supply chain is the automobile industry, which encompasses multilayered production systems involving thousands of firms, including parent companies, subsidiaries, and subcontractors.³ Automobile production networks centered around multinational corporations have played a prominent role in shaping trade of the HP-7 economies.

According to Gereffi (1999), while the multinationals in producer-driven chains often belong to global oligopolies, where there is only a handful of competitors, buyer-driven commodity chains are characterized by highly competitive, locally owned, and globally dispersed production systems. Their profits derive not from scale, volume, and technological advantage, as in producer-driven chains, but rather from a combination of high-value research, design, sales, marketing, and financial services. This combination allows the retailers, branded marketers, and branded manufacturers to act as strategic brokers in linking factories abroad with evolving product niches in the main consumer markets. Developing and transition countries initially start participating in buyer-driven networks as subcontractors, involved solely in simple assembly operations for which they receive all of the

necessary inputs from the buyer. However, with time, some of them manage to move up in the value chain by taking on the responsibility for sourcing materials and some design activities.

Network trade has been the driving force of several of the Region's economies' integration into global markets, as evidenced below. The HP-7—the most developed of the Region's economies, as well as Turkey—have moved through two stages. In the first stage, buyer-driven network exports served as a major vehicle linking them to external markets. The second stage has been participation in producer-driven networks. Not all countries, however, have embarked on this path, and it remains to be seen whether all will follow the same pattern. Only a few countries among CIS economies have become part of network trade. The exceptions are Armenia (diamonds), Belarus (furniture), and the Kyrgyz Republic, Moldova, and Turkmenistan (apparel). On the other hand, all EU-8 economies appear to be moving along the same path, albeit at different speeds.

In fact, the link between FDI and network trade seems to be ubiquitous for producer-driven networks. The entry into producer-driven networks is rather inconceivable without FDI. Two of the Region's countries who are the largest recipients of FDI—the Czech Republic and Hungary—have also been the best performers in producer-driven network exports. On the other hand, although participation in furniture or clothing global chains does not necessarily require foreign investment, it is often associated with FDI. A good example is Romania's clothing sector, characterized by relatively high foreign penetration (Hunya 2002). A large number of small Italian firms appear to dominate both clothing and leather industries in Romania (Kaminski and Ng 2004).

Participation in Buyer-Driven Value Chains: Clothing, Diamonds, and Furniture

Clothing (and to a lesser extent) furniture have been the quintessential engines of export growth for many EU-8 countries during the initial stages of the transition. They accounted for a considerable share of value added and manufacturing employment, with significant implications for poverty reduction. With increasing wages in the more successful reformers, many outward-processing operations in the clothing sector have been shifting to economies less advanced in the transformation process, to take advantage of lower labor costs.

The pace of transition to competitive markets, which is correlated with success in attracting FDI inflows (see chapter 4), has shaped developments in buyer-driven value chains. For countries that moved fast in both stabilization and structural reforms, clothing ceased to be a

major engine of export growth by the mid-1990s. This observation applies to five EU-8 countries, including the Czech Republic, Estonia, Hungary, Poland, and Slovenia (see table 7.1). In Poland, the first country to implement a radical stabilization-cum-transformation program, the share of clothing in manufactured exports peaked in 1993, or four years into the transition. In the Slovak Republic, clothing exports did not reach their peak until 1997, but the Slovak Republic lagged on structural economic reforms and privatization until 1999 (Kaminski and Smarzynska 2001). While not a transition economy,

TABLE 7.1
Share of Clothing in Exports of Manufactured Goods, Excluding Chemicals, 1992–2002 (%)

	Peak year	Share in peak year	Share in 2003 or latest available	Index, 2003 Peak=100	Average annual growth rate 1996–2003
Countries that shifted out of the clothing network					
Hungary	1992	21.2	4.1	20	3.8
Slovenia	1993	13.8	3.5	25	-7.5
Poland	1993	18.9	5.2	27	-1.9
Czech Rep.	1994	3.8	1.8	46	2.2
Estonia	1995	14.1	7.3	52	8.4
Slovak Rep.	1997	7.3	3.9	54	14.7
Countries heavily involved in clothing network trade					
Croatia	1997	25.8	15.5	60	-0.9
Serbia & Montenegro	1998	18.7	14.5	78	-4.4 ^a
Albania	1998	48.5	41.1	85	17.2
Latvia	1999	20.4	16.0	78	9.7
Lithuania	1999	27.7	16.6	60	12.0
Romania	1999	32.8	29.8	91	18.5
Turkmenistan	2000	24.4	24.4	100	n.a.
Bulgaria	2002	34.8	34.0	98	27.0 ^a
Macedonia, FYR	2002	46.4	44.9	97	7.3
Moldova	2002	52.4	49.1	94	27.3
Kyrgyz Rep.	2003	12.6	12.6	100	8.6
Countries outside clothing network trade					
Kazakhstan	1996	0.8	0.1	15	-20.0
Georgia	1996	4.6	2.8	60	1.9
Azerbaijan	1997	7.3	0.2	3	-37.7
Armenia	1999	9.4	0.5	5	-22.7 ^a
Belarus	1999	7.0	6.0	86	-1.3
Russian Fed.	1999	2.3	0.9	41	14.7
Ukraine	1999	5.4	4.8	89	10.9 ^a
Bosnia & Herzegovina	n.a.	n.a.	n.a.	n.a.	n.a.
Tajikistan	n.a.	n.a.	n.a.	n.a.	n.a.
Uzbekistan	n.a.	n.a.	n.a.	n.a.	n.a.
Turkey	1995	40.3	26.3	65	7.3

Source: Authors' calculations based on national trade statistics reported to the UN COMTRADE database.

Note: n.a. = not available.

a. Armenia: data available for 1997–2003; Bulgaria, Serbia and Montenegro, and Ukraine have not yet submitted 2003 trade data to the UN COMTRADE database. Their respective data are for 2002.

Turkey has shared a similar experience, with the export share of clothing peaking at 40 percent in 1995 and then falling to 26 percent by 2003. These seven countries (the HP-7) have managed to make a transition from clothing to producer-driven networks in automotive and IT sectors, as discussed below.

The SEE countries, the remaining two Baltic states, and the Kyrgyz Republic, Moldova, and Turkmenistan became involved in the apparel network later than the HP-7. Clothing and textile exports are still an important foreign exchange earner in that group. Their share of manufactured exports ranged from 13 percent in the Kyrgyz Republic to 34 percent in Bulgaria and 49 percent in Moldova in 2003 (see table 7.1). While SEE and Baltic firms have been involved in outward processing for EU customers, this probably is not the case—given their remote location—for Kyrgyz or Turkmen firms, which serve mostly CIS markets; see chapter 2.

The demise of clothing has been taking place in both groups—on average, the share of clothing in manufactured exports in 2003 was 5.8 percentage points below its respective peak level. This, however, should not suggest that the clothing sector is going to disappear completely, because some of these countries have moved or probably will move to higher value added operations, where higher labor productivity and flexible production arrangements could offset higher wages. Contrast, for instance, Bosnia and Herzegovina and Slovenia, the latter having one of the highest wage rates in the Region. The unit value of Slovenian exports of clothing was on average three times higher than that of clothing exports from Bosnia and Herzegovina (World Bank 2004a).

Increasing labor costs in the EU-8 have prompted relocation of the clothing value chains farther East. However, the performance of CIS countries in this activity, other than those mentioned above, has been neither spectacular nor uniform. During 1996–2003, exports of apparel networks were on the rise in absolute terms in Russia and Ukraine, although they declined in relative terms in both countries. During the same period, clothing exports almost completely disappeared in Armenia, Azerbaijan, and Kazakhstan. The performance of Belarus and Georgia has been modest. Thus, by and large, CIS countries have failed to take advantage of the clothing network as a potential engine of export growth.

Their proximity to Western Europe places the EU-8 at a great advantage and makes them primary candidates for becoming rapid-response suppliers to apparel retailers throughout Europe. Moving up this route requires investment in both physical and human capital, yet it is certainly not beyond the reach of local companies. This is, however, a less viable option for most CIS countries, given their geo-

graphic location. The only way to overcome the geographic disadvantage is to compensate with improvements in business climate and transport infrastructure.

One of the CIS countries has, however, found a unique specialization niche. The combination of unequaled skills and commercial contacts that had been developed before the demise of the Soviet Union has been responsible for Armenia's participation in the diamond value chain. As a result of FDI inflows, Armenian diamond-polishing factories are firmly entrenched in a global diamond value chain, not only in commercial links but also in equity (box 7.1).

In contrast to the apparel value chain, which often involves only simple cut-make-trim operations applied to fabrics supplied by buyers and thus boils down to the use of only local unskilled labor, the furniture network is more diversified and complex, requiring a larger local input of skills and investment in capital assets. Similar to cloth-

BOX 7.1

The Diamond Global Value Chain

Exports of diamonds have shaped Armenia's overall export performance to an even greater extent than clothing has in some other transition economies. They accounted for more than 40 percent of total exports and almost two-thirds of all manufactured exports (excluding chemicals) in 2002.

Armenian diamond-cutting firms are tied to value chains ending in Belgium and Israel. One of the largest factories, "Lori," is owned by Belgian investors, whereas the Israeli-based Lev Leviev Group, which—in contrast to the Antwerp-centered link—specializes in all stages of diamond production, owns "Shoxakn," the largest company in Armenia. Belgium remains a major supplier and recipient of diamonds, accounting for 55 percent of Armenian exports and 51 percent of imports of diamonds in 2002. However, there was a major shift toward Israel in 2001–2002, with its share on the import side rising from 1 percent in 2000 to 30 percent and 48 percent in 2001 and 2002, respectively. The share in exports grew from 10 percent to 28 percent and 43 percent over the same time.

While a high dependence of the Armenian export performance on cut diamonds is beyond doubt, this does not appear to be a major threat to Armenia's external position. In fact, diamonds seem to be less vulnerable than other "single crops" to international supply or demand volatility for two reasons. First, Armenian firms are foreign-owned and deeply embedded in diamond global value chains. Second, despite the 42 percent fall in the value of diamond exports in 2001, the value of total exports contracted 10 percent, indicating that other exports expanded.

Source: Kaminski 2004b.

ing, furniture producers operating in a global value chain supply products according to specifications provided by large multinational retailers. They also tend to be locally owned. However, the relationship between supplier and multinational retailer frequently reflects a complexity of tasks involved. In consequence, the relationship between buyers and suppliers is based on a more long-term mutual commitment, with multinationals often providing assistance in technology development, production management, and personnel training (box 7.2). Skills acquired in this way can be used to develop a specialization in activities going beyond mere assembly operations to, for instance, production of specialized parts or higher value added

BOX 7.2

Case Study from the Furniture Network

As the case of Vilnius Baldu Kombinat (VBK) demonstrates, establishing commercial ties with a multinational corporation may be a successful strategy for integrating into a global distribution network.

VBK had been established as a small workshop in 1883, and since then it has become one of the largest furniture producers in Lithuania. The company produces both home and office furniture. Because the Lithuanian furniture market is too small to support a company the size of VBK, the firm has to rely on exports. About 95 percent of VBK production is exported to Belgium, Canada, France, Great Britain, Italy, Japan, the Netherlands, Sweden, the United States, and other countries. About 90 percent of output is sold to the Swedish company IKEA, which in 1999 named VBK as its best supplier in the Baltics.

The relationship between VBK and IKEA began in 1998, and the cooperation between the two companies has remained very close. IKEA has provided support to VBK in terms of technology, production organization, and personnel training. VBK is connected to IKEA's computer system, through which invoices and payment and delivery information are processed. VBK has upgraded its computer system so it is able to receive information on sales of its products in IKEA stores abroad and new orders on daily basis. While relying so strongly on one customer may be perceived as a risky strategy, VBK is not very concerned, because it is one of the top 25 IKEA suppliers out of some 2,000 companies producing for the Swedish concern. Moreover, closer technological integration with IKEA will make VBK more competitive relative to other IKEA suppliers.

The strategy chosen by VBK appears to have been successful. The company increased its sales from 4.5 million euro in 1998 to 24.2 million Euro in 2002. During the same period, its employment almost doubled, and the value of its exports increased more than tenfold. In 2001, the company was awarded the ISO 9001 quality certification and currently it is working toward the ISO 14001.

Sources: World Bank staff; VBK Web site.

furniture. As a result, the furniture network is less sensitive to the rise in labor costs and creates more opportunities for knowledge transfer and productivity spillovers.

The furniture production chain has been an important driver of manufacturing exports in the Region, as well as in Turkey, but, again, not all countries have tapped into this network (see table 7.2). Eight CIS countries have not been engaged in the furniture value chain (and they are not listed in table 7.2). Among CIS countries, only Belarus, the Kyrgyz Republic, Moldova, Russia, and Ukraine have been involved. But in two of them—the Kyrgyz Republic and Moldova—the importance of network exports has significantly declined, and high import intensities (imports of parts as percentage of network exports of parts and final products) suggest that participation of local firms in the network has been limited. Exports within the furniture network, driven mainly by parts, from Russia and Ukraine recorded significant growth, especially in 2000–2003, albeit from a

TABLE 7.2
Evolving Significance of Furniture Network Trade: Share in Manufactured Exports
Excluding chemicals

	Exports (\$ millions)	Share of network in exports of manufactured goods			Index, 2003 ^a 1995 = 100	Share of parts in network's exports			Index 2003 ^b 1995 = 100	Import intensity ^c	
		1995	1999	2003		1995	1999	2003		1999	2003
Poland	3,902	9.2	10.1	9.7	292	12	17	31	805	9	10
Lithuania	366	3.9	5.8	9.2	792	10	36	27	2,080	9	6
Slovenia	881	6.9	9.1	9.0	194	46	64	67	284	11	13
Latvia	135	7.0	9.3	8.9	289	38	45	37	285	9	10
Estonia	308	6.7	7.4	8.1	448	23	37	45	883	8	5
Romania	789	9.7	6.9	5.8	153	3	10	16	840	3	5
Slovak Rep.	859	3.3	2.4	4.8	446	13	36	24	853	30	25
Belarus	218	n.a.	3.6	4.4	168	n.a.	5	12	431	3	5
Serbia & Montenegro	35	6.2	4.2	3.2	77	12	11	11	126	15	28
Czech Rep.	1,297	2.6	3.5	3.1	323	37	62	68	587	23	20
Bulgaria	131	1.7	2.7	3.0	368	14	20	22	578	18	11
Hungary	829	3.3	2.8	2.4	356	41	73	76	663	19	23
Albania	6	1.1	1.8	1.5	399	79	74	56	283	194	69
Macedonia, FYR	5	6.5	1.0	0.6	13	9	17	17	26	22	43
Russian Fed.	144	0.4	0.4	0.6	196	24	32	37	296	25	49
Moldova	1	4.2	1.5	0.5	12	2	50	37	376	58	112
Kyrgyz Rep.	1	0.7	0.2	0.5	62	34	49	21	115	886	128
Ukraine	56	0.3	0.4	0.5	210	9	18	19	456	30	21
Turkey	457	0.5	0.7	1.2	605	24	22	23	568	33	19

Source: Authors' calculations based on national trade statistics reported to the UN COMTRADE database.

Note: a. Index refers to the change in value of furniture network exports.

b. Index refers to the change in value of exports of furniture parts.

c. The ratio of parts imports to total network exports.

n.a. = not available.

low base. This, together with low network import intensities, suggests that Russian and Ukrainian firms have entered furniture supply chains. Considering Russia's endowment in wood, the current level of involvement in the furniture supply network (at 0.5 percent of manufactured exports) remains well below potential.

On the other hand, exports within the furniture network by other economies in the Region have largely kept up with the growth of exports of manufactured goods. Two exceptions are FYR Macedonia and Serbia and Montenegro, where furniture exports practically disappeared by 2002, suggesting the demise of production links inherited from the former Yugoslavia.

The shift toward specialization in furniture parts has been significant for most countries, indicating overall progress in industrial restructuring. While in 1995, only Slovenia—one of the most industrialized EU-8 country and an important supplier to EU-15 furniture producers—and (to a lesser extent) Hungary specialized in furniture parts, the situation changed by 1999. In fact, parts have become the driver of furniture network exports in Croatia, Estonia, FYR Macedonia, Poland, Romania, and the CIS countries included in the table. In Albania, on the other hand, the share of parts in network exports declined, probably resulting from the fall in import content of production by substituting domestically produced parts for previously imported items.

Producer-Driven Chains: Automotive and Information Technology Networks

Worldwide, the combination of advances in technology and creation of business-friendly environments has spurred a new global division of labor. Its trademark is dividing up the value chain into smaller components and moving them to countries where production costs could be lower. Production fragmentation in vertically integrated sectors is behind producer-driven network trade. It differs in several important respects from traditional, buyer-driven global value chains. It includes two-way flows of parts and components for further processing and development across firms located in various countries. Outside of the Region, a historical example of production fragmentation at a regional level is the Canada-United States Automotive Products Agreement of 1965, which, followed by the significant reduction in trade barriers, led to an expansion of trade in auto parts (Jones, Kierzkowski, and Lurong forthcoming). Production fragmentation has also been prevalent in East Asia (see box 7.3).

In both the IT and automotive sectors, the pressures on a global basis of technological change have led to a practical disappearance of

BOX 7.3**Production Sharing in East Asia**

Production sharing in East Asia experienced remarkably high growth during the last decades, much higher than either in Europe or in North America. “Production sharing” refers to trade in parts and components and entails the development of specialized and frequently labor-intensive activities that take place within vertically integrated international manufacturing industries. A study by Ng and Yeats (2001) analyzed the evolution of international trade in parts and components in machinery, transport equipment, and miscellaneous manufactured articles in East Asia during 1984–96. The results of the analysis showed that:

- Exports of parts and components of Asian countries increased more than 500 percent during 1984–96, as compared with a 300 percent increase in total exports.
- Trade in parts and components recorded the fastest annual growth rate in both regional and global exports, exceeding by 5 to 6 percentage points the export growth of all other goods and significantly increasing in relative importance.
- Parts and components accounted for approximately 20 percent of the region’s total exports and imports of manufactures in 1996.

Source: Ng and Yeats 2001.

“one-stop shop” industrial structures.⁴ Miniaturization, as well as exponential growth in information processing and storage capacities, combined with integration of Internet and imaging technologies, have been the major driving forces behind transformation of both auto industry and IT sectors worldwide over the last two decades. Large multinationals, which have traditionally coordinated production and marketing activities across the globe and dominated both sectors, have undergone dramatic changes over the same time period. Their common denominator has been increasing geographic dispersion of the production process. Thanks to new technologies that make it possible to trace parts and components moving through chains of production spread over several countries and continents, vertically integrated firms have been replaced by structures connected through complex, borderless supply chains. These chains include not only product manufacturing but also the front-end customer contact and support services and consist of several layers, including parent companies, subsidiaries, and subcontractors.

With the liberalization of foreign trade regimes and reduction of barriers to FDI following the collapse of central planning, the indige-

nous IT and automotive sectors developed earlier in the Region's countries had no chance of withstanding international competition unless they were taken over and restructured by foreign investors. Where soft budget constraints and high barriers to import competition remained, post-Communist supply chains had survived. Belarus manufacturers of automotive parts could continue feeding plants in Russia relatively safely behind high tariff and nontariff barriers. IT producers from Bulgaria and Latvia could do the same.

Not surprisingly, these activities turned out to be neither expanding nor sustainable. Once reforms began to take hold in CIS countries and their markets became less distorted, they had to face competition from other suppliers. The IT sectors in Estonia and Lithuania, on the one hand, and in Latvia, on the other, offer two contrasting developments showing the importance of FDI. Both countries inherited from the Soviet era a relatively well-developed IT industry that used to work for both the civilian and military sectors. However, while the Latvian electronic sector has not done well, electronic products in Estonia and Lithuania, where local firms have successfully integrated into global IT networks, have been among the best export performers. Success in the IT sector hinges critically on the presence of multinationals. Again, the evidence is overwhelming. Firms such as Nokia, Thomson, Siemens, Philips, IBM, General Electric, and their suppliers have driven modernization and development of IT sectors in all countries that have attracted sizable FDI inflows (FIAS 2003).

While the IT network is of a more recent vintage than the automotive sector (and indeed provides input into many other sectors, including the automotive network), both networks share an important characteristic: their development in a local economy requires foreign capital and know-how, because both networks are capital-intensive and, especially the IT network, knowledge-intensive. Building a competitive IT or automotive sector from scratch, without external involvement, is almost impossible today.

Developments in the automotive sector show that, without the involvement of multinational corporations, local firms are likely doomed to failure. Before the collapse of Communism, many of them produced motor vehicles mostly on the basis of licenses (for example, Fiat-Lada in Russia, Polish Fiat, and Renault-Dacia in Romania). Czechoslovakia, with a strong tradition in automotive manufacturing going back to the beginning of the last century, produced an array of motor vehicles. So did the former Soviet Union and Yugoslavia. The Czech Skoda, Yugoslav Yugo, Polish Fiat, Romanian Dacia, and Soviet Lada (a modified Fiat model) were marketed in Western Europe without much success, despite their low prices. Except for Lada or Volga in

Russia, they are no longer manufactured. Skoda flourishes as a brand name, but as an integral part of the Volkswagen Group.

Multinational corporations have been responsible for restructuring companies and subsequently engendering impressive performance in the automotive network. Examples abound. In the Slovak Republic, Volkswagen (automobiles), Siemens (cable harnesses, lights), INA Werke Schaffeler (ball bearings), and Sachs Trnava (coupling assemblies for passenger cars), just to name a few, have become household names. Piston engines for VW-Audi automobiles assembled in Hungary have set the stage for Hungary's spectacular entry into supply chains in the automotive sector. Skoda Auto of the VW Group and other car producers in the Czech Republic have attracted large international firms specializing in automotive parts and components (see box 7.4).

FDI: The Driver of Network Trade Expansion

There is abundant evidence suggesting strong links between FDI and the scope of incorporation of local IT and automotive manufacturing capacities into global production networks. Hungary, the largest exporter of network products and parts among the Region's countries, accounting for 27 percent of the Region's total network exports in 2003, was the first to open up and actively seek FDI. Hungary's FDI stock, accumulated mainly in 1990–95, amounted to 40 percent of the total FDI stock in all transition economies by the end of 1995. By 1997, the list of the top 100 Hungarian companies was filled with easily recognizable names of subsidiaries of multinational corporations.⁵

Although a relatively small economy, Hungary surged ahead of other former centrally planned economies in attracting large inflows of FDI during the early stages of the transition. In 1990–93, Hungary absorbed 45 percent of total FDI inflows to 25 countries of the Former Soviet Union and Central and Eastern Europe. Its share in these flows subsequently fell during 1994–96, once other transition economies had become attractive to foreign investors. Yet, over the whole 1990–96 period, almost one-third of total FDI flows to the Region were directed to Hungary.

The question is why? The pace of moving away from central planning and macroeconomic stability provides a good explanation of why the EU-8 economies performed better than the CIS economies in terms of attracting FDI, but it fails to explain the variation within the EU-8. After all, these countries had many similar features, including the speed of liberalization, endowments of production factors, and proximity to EU markets. Why, for instance, did the Czech Republic

BOX 7.4**Automotive Components Clusters in the Czech Republic and the Slovak Republic**

Thanks to a long tradition and successful privatization of Skoda (which in 1991 became part of the Volkswagen Group [VW]) and other automotive state-owned enterprises, the Czech Republic is the largest producer of cars in the Region. The \$2.6 billion in VW investments in Skoda Auto has provided a stimulus to the expansion of the automotive industry and attracted other global motor vehicle producers (including PSA Peugeot and Toyota). Large international firms specializing in automotive parts and components have quickly followed either through purchasing and modernizing local firms to perform multiple operations or through undertaking greenfield investments. As of 2002, there were 270 firms operating in the Czech Republic, representing 45 percent of the top 100 world suppliers of automotive parts and components.

Geographical proximity to Germany, Hungary, and the Slovak Republic meant that auto parts producers operating in the Czech Republic became suppliers to auto manufacturers in many European countries. Their clients, however, are not located solely throughout Europe. VW's Beetle plant in Mexico uses wiper systems manufactured by PAL Praha, a subsidiary of Canadian multinational Magna.

The proximity and links to the German automotive industry explain the largest presence of German-based firms in the sector. Such brand names in automotive components as Robert Bosch, employing around 5,000 workers in its Czech subsidiaries, or Siemens, with about 10,000 em-

attract less FDI in 1990–95, despite lower inflation and debt stock? Or why did Poland, with much stronger GDP growth performance, attract less FDI than both Hungary and the Czech Republic?

The short answer is that Hungary was immensely successful in turning its liabilities into assets. First, Hungary was saddled with a huge international debt at the outset of its full-fledged transition to competitive markets, but, in contrast to Poland, it had never sought rescheduling nor had it defaulted in its payments to private or public creditors. Therefore, its creditworthiness was high.

Second, earlier dealings with the international financial community had helped Hungarians develop considerable financial management and negotiating skills. Therefore, despite heavy indebtedness, Hungary was perceived as a reliable and creditworthy partner. However, sustainability of capital flows requires sustainability of reform efforts. Without continued liberalization, the virtuous circle would have come to a screeching halt. Privatization policy and measures aimed at deepening the financial sector created a favorable environ-

ployees, continue to expand their activities. So do firms not only from other EU countries (especially Italy and France) but also from other countries, including the United States, Canada, Korea, and, more recently, Japan.

The Slovak Republic's impressive performance in the automotive network has also been driven by multinational corporations, such as Volkswagen, Siemens (cable harnesses, lights), INA Werke Schaffeler (ball bearings), and Sachs Trnava (coupling assemblies for passenger cars), just to name a few. Siemens has ownership shares in 14 Slovak companies, which employ more than 8,900 people. Two-thirds of the total of SKK's \$16 billion revenues in 2002 came from exporting. Siemens' subsidiaries have been involved in a variety of export activities, all centered around providing inputs into global networks of production and distribution. Osram Slovakia (part of Siemens group) contributed to the growth of exports of electrical lighting and signaling equipment, which is being sold to the EU-15 countries and the Czech Republic. Siemens has also been the driving force behind exports of pumps—one of the fastest-growing product categories exported to the EU-15.

SAS Automotive, formed in Bratislava in 2000, has been very closely integrated for their customers, as well as for their suppliers abroad. It supplies VW with completely assembled cockpits. Modules consist of dashboards, electronic components, air-conditioning, airbags, steering rods, and pedals. The module must be assembled error-free and delivered directly to the production line of the specific car within two hours of receiving the order. Logistics ensure the supply of more than 100 parts from various European countries and their effective storage and removal from the warehouse.

Sources: The Auto Parts Market; U.S. and Foreign Commercial Service; U.S. Department of State, Washington, DC, 2002; Kaminski and Javorcik 2004.

ment for FDI. So did an active policy of selling firms to strategic investors on a case-by-case basis.

Third, high indebtedness, combined with a policy decision not to reschedule the debt, brought about a quick change in policy attitudes toward FDI and gave an extra incentive to establishing a relatively transparent legal system, with the privatization policies favoring sales to the highest bidder, no matter whether domestic or foreign. There were no lengthy national debates over the alleged dangers of foreign penetration (as in the Czech Republic or Poland), and Hungary was the first to open the so-called strategic sectors (banking, telecommunications, energy, and utilities) to foreign investors.

Last but not least, Hungarian firms had had a history of direct links with Western firms. They had been involved in subcontracting since 1968. This had created a good foundation for foreign investors wanting to respond to new opportunities created by the collapse of Communism and for Hungarian managers wanting to seek foreign partnership. Investments by large multinationals paved the way for

other investments. These would include investments made by competing multinationals in similar lines of products and subcontractors following major multinationals in purchasing their products.⁶

The massive entry of multinationals dramatically affected Hungary's trade in general and network trade in particular. Both network imports and exports skyrocketed in 1995–99, recording average annual growth rates of 32 percent and 52 percent, respectively (table 7.3). However, despite FDI stocks that were almost twice as large as those in the Czech Republic, the value of Hungarian exports of automotive and IT parts and products in 1996 stood at 34 percent of Czech exports. By the following year, it was already 49 percent higher, despite very impressive growth of Czech exports. While the value of Czech network exports rose from \$3 billion in 1996 to \$3.7 billion in 1997, Hungarian network exports jumped from \$1 billion to \$5.5 billion during the same period. By 1999, their value had doubled, and Hungary accounted for more than one-third of the Region's network exports.

Differences in FDI inflows appear to explain differences in the dynamics of network trade among countries in the Region. The other members of the High Performers group (HP-7) also witnessed stronger export performance after attracting FDI inflows in the second half of the 1990s. As happened earlier in Hungary, subsidiaries of large multinationals proliferated and served as an engine behind the growth of network trade. The Czech Republic, Estonia, Poland, the Slovak Republic, and Turkey had average annual growth rates of network exports at double-digit levels throughout the 1995–2003 period, but—except for the Slovak Republic—they were significantly higher in 1999–2003 than in 1995–99. Automotive network exports have been responsible for a significant share of Turkey's exports.

TABLE 7.3

Dynamics of Producer-Driven Network Trade and Its Share in Manufactured Goods, Excluding Chemicals of HP-7, 1996–2003 (%)

	Average annual rate of growth of network				Share in manufactured goods					
	Exports		Imports		Exports			Imports		
	1995–99	1999–2003	1995–99	1999–2003	1995	1999	2003	1995	1999	2003
Czech Rep.	16.8	21.7	5.9	13.4	15.5	24.3	34.4	22.2	24.1	31.3
Estonia	14.6	17.5	8.8	8.6	25.1	27.8	29.9	30.1	27.9	31.5
Hungary	52.1	12.5	31.9	7.9	18.1	52.2	53.8	22.6	39.0	41.8
Poland	17.0	22.7	20.3	–2.0	11.9	19.5	26.2	21.6	31.2	19.2
Slovak Rep.	29.3	25.0	15.3	13.9	11.2	30.5	40.5	24.0	31.0	34.7
Slovenia	2.3	8.1	3.3	–8.0	19.7	21.5	22.0	31.8	32.1	28.0
Turkey	18.0	24.2	17.3	6.6	8.0	13.9	21.6	19.4	34.6	31.8

Source: UN COMTRADE database.

Considering the Region as a whole, one finds a strong positive correlation between FDI stock in manufacturing and producer-driven network exports. As can be seen from data in table 7.4, there is a full correspondence between ranking of the Region's economies in terms of network exports per capita and FDI stocks in manufacturing per capita. Further down the ladder, Belarus and Bulgaria are outliers, albeit for different reasons. Belarus' network exports are significantly larger than FDI stock would suggest, whereas the reverse is true for Bulgaria.⁷

This, however, does not change the overall conclusion about a strong predictive power of differences in FDI in manufacturing to explain the variation in network export performance. The value of the correlation coefficient for FDI stock in manufacturing per capita (end of 2003) and producer-driven network exports in 2003 is 88 percent (figure 7.1). The value of the correlation coefficient between

TABLE 7.4
Overview of Trade in Producer-Driven Networks in 1996, 1999, and 2003

% and \$ millions

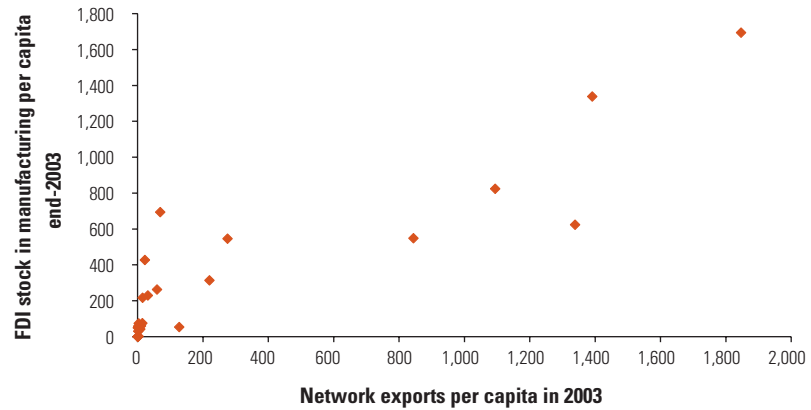
	FDI stock in manufacturing per capita (\$) 2003	Networks' exports per capita (\$) 2003	Share in ECA networks' exports 2003	Share of networks in manufactured imports 2003	Index 2003 ^a 1995 = 100	Share of networks in exports of manufactured goods (chemicals excluded)			Import intensity	
						1995	1999	2003	1999	2003
Hungary	1,694	1,847	27.4	41.8	1,463	18.1	52.2	53.8	56	49
Czech Rep.	1,338	1,391	20.8	31.3	579	15.5	24.3	34.4	46	43
Slovak Rep.	624	1,339	10.6	34.7	1,102	11.2	30.5	40.5	59	49
Slovenia	824	1,094	3.2	28.0	165	19.7	21.5	22.0	56	48
Estonia	548	844	1.7	31.5	442	25.1	27.8	29.9	67	54
Poland	547	275	15.4	30.2	608	11.9	19.5	26.2	117	52
Lithuania	314	220	1.1	26.5	349	18.5	13.8	19.1	75	42
Belarus	54	127	1.8	15.5	151	n.a.	32.1	25.3	29	29
Croatia	694	69	0.5	27.9	205	5.7	5.5	8.0	136	146
Romania	262	59	1.9	18.8	609	4.1	5.7	9.7	149	90
Latvia	230	32	0.1	25.4	101	10.9	3.3	4.9	432	261
Bulgaria	428	22	0.3	25.2	112	7.6	4.9	3.9	197	226
Serbia & Montenegro	217	15	0.2	26.5	158	10.5	12.8	11.2	116	155
Russian Fed.	75	15	3.1	24.8	93	12.7	8.9	9.4	60	89
Macedonia, FYR	60	11	0.0	28.0	50	6.9	3.2	2.4	160	208
Ukraine	43	9	0.8	23.0	66	8.3	5.8	4.0	81	109
Kazakhstan	74	4	0.1	23.3	100	3.8	2.9	3.0	436	669
Kyrgyz Rep.	3	3	0.0	26.0	163	6.7	22.5	11.1	155	225

Sources: Trade figures: UN COMTRADE Statistics. FDI figures: cumulative net FDI inflows 1990–2003 calculated on data from IMF International Financial Statistics, combined with information on the shares of FDI in the manufacturing sector taken from various national sources.

Note: Table includes countries with the value of networks' exports exceeding \$10 million in 2003.

a. Index in terms of value of exports of producer-driven exports.

FIGURE 7.1

FDI and Exports of Producer-Driven Network Products (\$)

Sources: Trade figures: UN COMTRADE Statistics. FDI figures: cumulative net FDI inflows 1990–2003 calculated on data from IMF International Financial Statistics, combined with information on the shares of FDI in the manufacturing sector taken from various national sources.

the share of producer-driven network exports in exports of manufactures (excluding chemicals) in 2003 and the FDI stock in manufacturing (end of 2003) is slightly higher, at 90 percent. Considering that several countries in the Region—Poland, Romania, Russia, and Ukraine—have relatively large domestic markets, this is a rather surprisingly strong positive correlation between FDI inflows and exports of network products.

There are stark differences among countries in the Region, as well as Turkey, in the extent of participation in these two networks. On the export side, the HP-7 plus other new EU members accounted for 92 percent of the Region’s total network exports in 2003. Adding Bulgaria and Romania, which are EU accession countries, raises the share to 94 percent. With a share of around 4 percent, CIS economies are yet to become involved in intraproduct trade. On the import side, the EU-8 and Turkey took 82 percent of network imports into the Region in 2003, while the corresponding figure for the CIS was around 13 percent.

IT Final Products and Automotive Parts: New Drivers of Networks’ Exports

In line with global trends, trade in IT network products has displayed stronger dynamics than that in the automotive network. The share of IT network exports in producer-driven supply chains increased in most countries in the Region. Most spectacular was the increase in Czech IT exports, which grew from \$0.7 billion to \$5.1 billion

between 1999 and 2003. This was still, however, around 50 percent of the value of Hungarian IT exports, which accounted for 45 percent of the Region's total IT exports in 2003, down from a peak of 54 percent in 1999. Around two-thirds of the Region's IT exports have originated in these two countries since 1999. Except for several CIS countries and Albania, network exports grew at double-digit rates over 1999–2003. Strong growth in the automotive network has been responsible for the fall in the share of IT products and parts exports from the Slovak Republic and Turkey. Note that IT exports from both countries grew at a hefty annual rate of around 25 percent. By any standards, this has been an impressive growth performance.

TABLE 7.5
Trade in IT Network in Comparative Perspective and Exports of Automotive Parts in 1999 and 2003 (%)

	Share of IT in producer-driven network				Share of parts in IT				Share of parts in automotive				Memorandum: Average annual growth rate of IT Exports 1999–2003
	Exports		Imports		Exports		Imports		Exports		Imports		
	1999	2003	1999	2003	1999	2003	1999	2003	1999	2003	1999	2003	
Hungary	52	58	52	57	30	21	52	57	71	79	66	58	19
Czech Rep.	13	36	45	52	56	26	45	52	47	57	59	59	65
Slovenia	9	12	27	26	35	25	27	26	37	47	41	42	18
Croatia	33	61	28	35	37	49	28	35	96	84	15	14	40
Slovak Rep.	14	12	31	27	46	44	31	27	30	37	68	72	26
Estonia	80	72	62	53	58	54	62	53	52	45	26	21	19
Poland	30	22	43	38	40	42	43	38	41	66	60	41	20
Bulgaria	28	64	38	39	49	41	38	39	66	60	20	18	43
Lithuania	57	41	41	34	73	73	41	34	28	14	27	17	25
Romania	42	43	70	54	78	19	70	54	83	89	59	36	40
Latvia	58	61	47	40	57	25	47	40	62	56	25	21	29
Serbia & Montenegro	3	9	37	45	46	34	37	45	80	85	20	24	56
Russian Fed.	37	22	50	41	54	43	50	41	50	43	45	24	–2
Kazakhstan	49	41	36	33	17	15	36	33	21	24	17	26	10
Macedonia, FYR	7	14	30	52	26	63	30	52	70	86	19	23	19
Albania	47	57	29	33	10	54	29	33	21	73	16	16	–3
Belarus	9	9	34	37	36	31	34	37	31	29	60	57	3
Armenia	15	69	48	50	76	83	48	50	79	90	14	15	18
Ukraine	29	24	40	30	51	43	40	30	78	66	34	30	–2
Moldova	67	29	56	35	17	36	56	35	16	34	34	26	–12
Azerbaijan	32	14	53	32	42	29	53	32	4	4	26	43	–17
Kyrgyz Rep.	8	3	46	30	26	40	46	30	53	57	49	43	–24
Georgia	19	29	44	38	20	62	44	38	15	13	8	21	3
Turkey	30	24	52	37	6	5	52	37	47	34	48	50	25

Source: UN COMTRADE Statistics. For Ukraine and Serbia and Montenegro, available data are for 2002.

Two different patterns of specialization appear to have been emerging. While most of the Region's economies that got involved in automotive networks moved toward specialization in automotive parts, participation in IT networks has relied more on assembly operations. For the major IT producers in the Region—the Czech Republic, Estonia, and Hungary—the share of final products in IT exports has significantly increased, indicating the shift toward final production. Countries that succeeded in expanding exports of final products have also increased imports of IT parts. On the other hand, countries that remain outside IT supply chains (that is, CIS and SEE) tend to specialize in parts production.

Producer-Driven Network Trade and Reintegration of EU-8 Countries

Given geographical proximity, it comes as no surprise that around three-fourths of producer-driven network trade is with the EU-15.⁸ However, while the share of the EU-15 continued growing and the network trade of CIS economies almost disappeared, there are signs that some of the Region's countries, all former CMEA members, increasingly trade among themselves and that the most successful among them increasingly rely on supplies from the Region.

“Reintegration” varies in scope and intensity across networks. Although the share of the Region's economies in total trade of automotive parts of the Czech Republic, Hungary, Poland, and the Slovak Republic—which account for more than 80 percent of the Region's trade—declined between 1999 and 2003, the value of this trade was more than 50 percent above its level in 1999. “Regional” imports of parts of such countries as Hungary or the Slovak Republic at least doubled in terms of value. The rebound of trade in parts between the Czech Republic and the Slovak Republic augurs well for future growth. There are no signs, however, of any increase in network exports between the EU-8 and the CIS. The share of the CIS in automotive parts trade with the EU-8 fell from 2 percent in 1999 to 1.8 percent in 2003 in exports and from 1.2 percent to 0.8 percent in imports. Increasingly, however, motor vehicles manufactured in the EU-8 are sold in markets within the Region. The share of these markets in total Czech exports of motor vehicles was 21 percent in 2003, up from 16 percent in 1999.

Interestingly, IT network trade displays a much stronger bias in favor of local suppliers and consumers. It appears that some producers in these countries have become part of supply chains feeding parts for further processing in Hungary, a regional powerhouse in IT man-

ufacturing that accounts for almost half of IT exports from the Region. Hungary has emerged as a focal point using inputs manufactured in other EU-8 economies. Its rise to prominence in this new role has been not only swift but also spectacular. In 2002, Hungary accounted for 40 percent of intra-EU-8 IT imports, up from 5 percent in 1995. Hungarian IT network imports from other EU-8 economies increased from \$66 million in 1999 to \$436 million in 2002. Its imports from the Czech Republic increased from \$5 million in 1999 to \$200 million in 2002, from Poland from \$20 million to \$125 million, and from the Slovak Republic from \$7 million to \$23 million. Parts were dominant in these imports, with the average share of Hungary's imports from the EU-8 amounting to 62 percent in 2002: they accounted for 79 percent of imports from the Czech Republic, 38 percent from Poland, and 93 percent from the neighboring Slovak Republic.

Two-way trade in IT products has picked up also in other country pairs, but not with or among CIS economies. Trade in parts has been a driver of a rapid expansion in intra-EU-8 trade in the IT network. EU-8 markets took almost 10 percent of their own total exports of IT parts and accounted for 6 percent of their imports in 2002. Considering that the respective shares were at around 4 percent three years earlier, this is a significant change. Trade in parts between the EU-8 and the CIS is practically nonexistent, although the EU-8 share in CIS total imports of IT network products increased from 4 percent in 1999 to 5.2 percent in 2002. However, this is not two-way trade and, therefore, does not indicate a network-type arrangement.

Producer-Driven Network Trade and Twin Gaps: Factor Content and Trade Balance

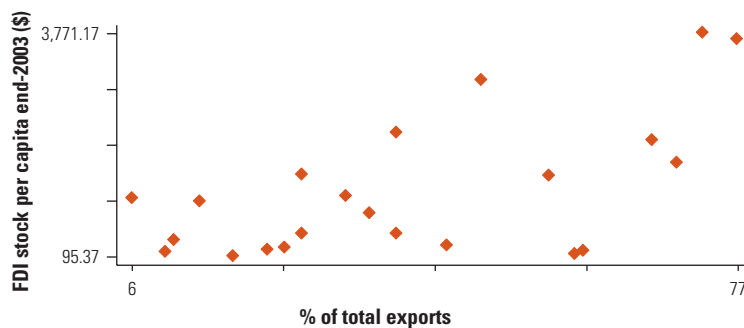
Network trade appears to have profoundly affected factor intensities of exports as well as trade balance. Countries whose firms have become parts of a new division of labor based on producer-driven network trade have also experienced the shift toward capital-intensive and skilled-labor-intensive products. In addition, they have witnessed closing the gap between network product imports and exports.

Despite their endowments of educated and skilled labor, expansion in unskilled-labor-intensive products has characterized the adjustment in foreign trade flows following the implementation of stabilization-cum-transformation programs in many of the Region's transition economies. Some countries have witnessed a closing of this gap: others' exports are still heavily tilted toward unskilled-labor-intensive products (for example, Uzbekistan) or dominated by natural-resource-based products (for example, Russia).

It appears that countries that became part of producer-driven networks are those where skilled labor and capital-intensive goods account for the largest share of total exports. The value of the correlation coefficient between network exports per capita and the shares of skilled labor and capital-intensive products in total exports of 81 percent in 2003 is high. Furthermore, economies with higher network trade per capita have also registered a stronger growth in skilled labor and capital-labor-intensive exports. The correlation between the change in the value of these exports between 1995 and 2003 and network exports per capita is positive at 74 percent. Finally, as illustrated in figure 7.2, countries with larger FDI stocks per capita are also those with a higher share of skilled labor and capital-intensive products in total exports.

The networks' export orientation appears to be increasing. The initial participation in network trade is associated with increased imports. However, with time, successful entry into networks has led to falling growth rates of imports and strong growth of exports. As evident from table 7.6, each of the HP-7 economies had "network trade deficits" before FDI in these sectors resulted in restructuring or setting new production activities. Each HP-7 economy ran also sizable "deficits" in network trade in both 1995 and 1996, with imports four times (Turkey) or more than twice (Estonia, Hungary) the value of exports. With time, these deficits turned into surpluses for most HP-7 economies: Hungarian exports exceeded imports in 1997, Czech in 1998, Slovak a year later, and Estonia's in 1999. The remaining HP-7 economies remain in "the red," but exports have grown faster than imports. Except for Poland, IT imports have been responsible for these countries' deficits.

FIGURE 7.2
FDI Stock per capita and Share of Skilled Labor and Capital-Intensive Exports in 2003



Sources: UN COMTRADE; IMF International Financial Statistics.

Hence, “network firms,” once firmly established, have become mostly net foreign currency earners, not only through their own foreign trade activity but also by attracting other foreign investors or developing backward linkages with local producers. Because foreign-owned firms do not operate solely in network sectors, an important question to which we now turn concerns their overall impact on trade balance and economy.

Foreign-Owned Firms and Trade Balance

The presence of foreign firms has a profound effect on a host country’s participation in international trade, because it is often associated with an increase in both exports and imports. Empirical evidence suggests that firms with foreign capital tend to be more export-oriented than domestic firms and are responsible for a larger share of exports in many transition economies; see chapter 4. The contribution of foreign firms to host-country exports may not be immediate. A surge in FDI inflows frequently results in a spike of imports because multinationals bring capital equipment for their newly established production plants. Because it takes several years to establish links with local suppliers, in the initial period of operation, they may also rely on imported intermediate inputs before switching to local sourcing.

TABLE 7.6
Producer-Driven Networks’ Exports of HP-7 in Percentage of Imports of Networks’ Products, 1995–2003

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total “producer-driven” networks									
Czech Rep.	66	65	83	109	108	107	115	139	123
Estonia	55	47	55	63	70	112	87	70	66
Hungary	61	43	106	116	124	123	118	121	124
Poland	46	37	34	38	40	59	69	74	78
Slovak Rep.	60	63	67	86	107	119	99	104	135
Slovenia	69	75	75	78	66	77	83	88	85
Turkey	33	26	19	26	34	25	73	83	72
Total Region and Turkey	47	44	48	58	65	68	78	85	83
Automotive networks									
Czech Rep.	112	108	128	170	169	176	171	187	164
Estonia	58	48	41	32	37	39	41	39	40
Hungary	68	53	113	119	125	129	136	129	123
Poland	68	49	40	43	49	87	98	97	99
Slovak Rep.	103	74	93	109	132	150	122	131	164
Slovenia	81	85	88	93	82	97	100	109	101
Turkey	47	32	20	26	50	31	106	113	87
Total Region and Turkey	66	59	55	68	81	83	97	102	95

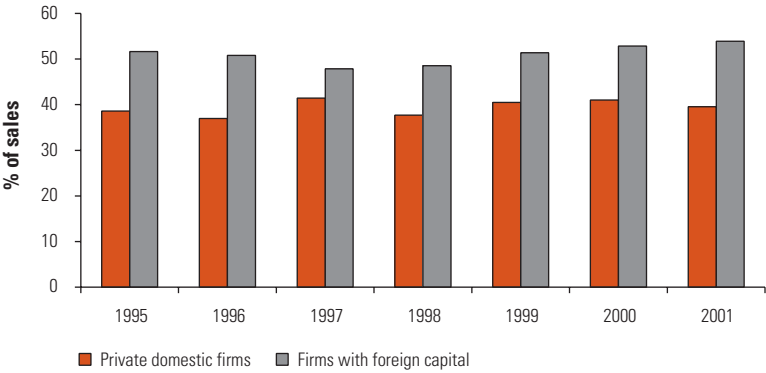
Source: UN COMTRADE statistics.

While the imports take place straightaway, there may be a delay in exporting, leading initially to a (possibly) sizable trade deficit associated with FDI. However, from the point of view of the balance of payments, this initial deterioration in the current account position is offset by inflows into the capital account.

Receiving foreign investment often helps local companies become exporters. Entering foreign markets is costly because potential exporters are initially disadvantaged relative to indigenous firms because they have to bear transport costs and overcome tariffs, and they are less familiar with the tastes of local customers and local regulations. Thus, only firms with above-average productivity are able to compensate for this disadvantage and successfully make sales in foreign countries (Clerides et al. 1998, Bernard and Jensen 1999). The ability of the firm to export is likely to increase with foreign ownership, even without any changes in technology or organization. This happens when foreign ownership offers access to marketing and production channels of a parent company. Because establishing a presence in foreign markets requires not only marketing skills but also considerable resources, foreign ownership increases prospects for exports. In addition, change of ownership may be a necessary condition for a firm to become a supplier in a global production and distribution network.

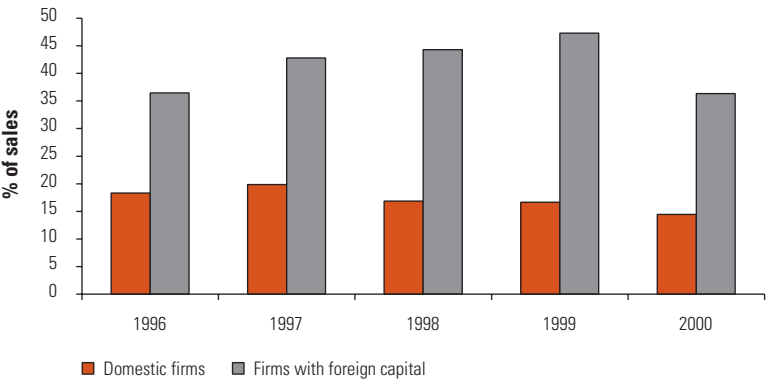
The data confirm that firms with foreign capital tend to be more foreign-trade-oriented than domestic enterprises and are therefore bound to make a relatively larger contribution to integration of a host country into the world economy. As illustrated in figures 7.3 and 7.4, foreign firms exported on average a larger share of their output in each year during the 1995–2001 period in the Slovak Republic and the 1996–2000 period in Lithuania. These two countries are no exceptions, as a similar pattern was observed in many other EU-8 countries. The difference in export intensity between domestic and foreign firms may be partially the result of the fact that foreign investors acquire more productive and successful local companies, which tend to be exporters. However, even if this is the case, this usually does not impede the capacity of the acquired firm to export. To the contrary, it usually makes it even more competitive in both domestic and external markets. For instance, an econometric analysis of Indonesian data suggests that a foreign acquisition of a local plant leads to an increase in the share of output exported by between 10 and 20 percentage points, depending on the industry and the time period considered. This increase in the average export share is a result both of increased export intensity of previously exporting firms and of acquired firms entering foreign markets for the first time (Arnold and Javorcik 2004).

FIGURE 7.3
Export Intensity of Domestic and Foreign Firms in the Slovak Republic, 1996–2001



Source: World Bank staff calculations.

FIGURE 7.4
Export Intensity of Domestic and Foreign Firms in Lithuania, 1996–2001



Source: World Bank staff calculations based on data from the Lithuanian Statistical Office.

As noted, the initial spike in imports associated with FDI inflows tends to disappear over time as multinationals develop linkages to local suppliers in a host country. The Czech Republic may serve as an example. The results of a World Bank survey suggest that multinationals operating in that country were actively engaged in local sourcing in 2003 and expected this trend to continue in the future. Ninety percent of interviewed multinationals reported purchasing inputs from at least one Czech company. Czech companies constituted the most important supplier group, followed by other European suppliers (located in the EU-15 or the EU-8) and other multinationals operating in the Czech Republic. When asked about the share of inputs purchased from each type of supplier (in terms of value), the multinationals indicated sourcing on average 48.3 percent of inputs from Czech enterprises, as com-

pared with 33.3 and 12.6 percent from firms in the EU-15/EU-8 and foreign firms located in the Czech Republic, respectively. The share of inputs coming from the other regions appeared to be negligible (Javorcik and Spatareanu forthcoming). Besides having positive implications for the trade balance, local sourcing undertaken by multinational companies may bring an additional benefit in the form of technology spillovers to domestic producers (see box 7.5).

Why Some Countries Got Involved and Others Are Yet to Tap into Networks

The preceding analysis suggests that (i) participation in international production and distribution networks has been an important way of

BOX 7.5

Empirical Evidence on FDI Spillovers

Spillovers from FDI take place when the entry or presence of multinational corporations increases productivity of domestic firms in a host country and the multinationals do not fully internalize the value of these benefits. Spillovers may take place when local firms improve their efficiency by copying technologies of foreign affiliates operating in the local market, either based on observation or by hiring workers trained by the affiliates. Another kind of spillover occurs if multinational entry leads to greater competition in the host country market and forces local firms to use their existing resources more efficiently or to search for new technologies (Blomström and Kokko 1998).

When local firms benefit from the presence of foreign companies in their sector, we refer to this phenomenon as horizontal spillovers. To the extent that domestic firms compete with multinationals, the latter have an incentive to prevent technology leakage and spillovers from taking place. This can be achieved through formal protection of their intellectual property, trade secrecy, paying higher wages, or locating in countries or industries where domestic firms have limited imitative capacities to begin with. Recent economic research based on firm-level panel data, which examined whether the productivity of domestic firms is correlated with the extent of foreign presence in their sector or region, however, casts doubt on the existence of horizontal spillovers from FDI in developing countries. For instance, Aitken and Harrison's analysis (1999) of Venezuelan data, work by Djankov and Hoekman (2000) on the Czech Republic, and Konings' (2001) study of firms in Bulgaria, Romania, and Poland in the early 1990s either fail to find a significant effect or produce the evidence of negative horizontal spillovers. An exception is a study by Javorcik and Spatareanu (2003), which finds positive intraindustry spillovers in Romania in the late 1990s. The picture is more optimistic in the case of industrialized countries, as demonstrated by Haskel,

entering foreign markets for the Region's countries and that (ii) FDI has been the driver behind the Region's involvement in international production chains. Indeed, the data presented indicate that countries heavily involved in network trade are the countries that have received large FDI inflows. Thus, examining the reasons why some countries have not been successful in attracting FDI can explain why they have been left out of international production and distribution networks, particularly because many determinants of FDI inflows also determine the country's ability to participate in international trade.

The cross-country differences in the amount of FDI received over the past decade have been startling. According to the data presented in table 7.7, while Tajikistan received only \$11 of FDI per capita as of end-2003, the corresponding figure for the Czech Republic was 342 times larger, at \$3,771. All of the HP-7, with the exception of Turkey,

Pereira, and Slaughter (2002) and Keller and Yeaple (2003), who give convincing evidence of positive FDI spillovers taking place in the United Kingdom and the United States, respectively.

While foreign affiliates may want to prevent knowledge leakage to local firms against whom they compete, they may have an incentive to transfer knowledge to their local suppliers in upstream sectors. The phenomenon, referred to as "vertical spillovers," can take place through several channels. Multinationals may transfer knowledge about production processes, quality control techniques, or inventory management systems to their suppliers. By imposing higher requirements with respect to product quality and on-time delivery, they may provide incentives to domestic suppliers to upgrade their production facilities or management. The pressure from multinationals is often the driving force behind obtaining the quality certifications, as 17 percent of Czech companies surveyed by the World Bank reported getting an ISO certification in order to become suppliers to multinationals (Javorcik and Spatareanu forthcoming). Finally, the increased demand for intermediate products resulting from multinational entry may allow local suppliers to reap the benefits of scale economies.

The case study of a Czech producer of aluminum castings for the automotive industry may serve as an illustration. When the company signed its first contract with a multinational customer, the staff from the multinational visited the Czech firm's premises for two days each month for an extended period of time to assist with the quality control system. Subsequently, the Czech firm applied these improvements to its other production lines (not serving this particular customer), thus reducing the number of defective items produced and improving its overall productivity (Javorcik 2004a).

The evidence consistent with the presence of spillovers taking place through contact between multinationals and their local suppliers has been found by Schoors and van der Tol (2001) in Hungary and Javorcik (2004a) in Lithuania. The magnitude of the effect is economically meaningful, because a one-standard-deviation increase in the foreign presence in the sourcing sectors is associated with a 15 percent rise in output of each Lithuanian firm in the supplying industry.

Source: World Bank staff.

have been very successful in attracting FDI inflows. The Czech Republic, which topped the list, was closely followed by Hungary. Estonia received \$3,013 in FDI per capita, while Slovenia received \$2,028. The Slovak Republic's inflows of FDI, which only recently became very sizable, have been catching up fast. Among CIS countries, only Azerbaijan and Kazakhstan managed to attract significant foreign investments, albeit mainly in oil sectors, which accounted for 98 and 66 percent of total inflows, respectively. None of the other CIS countries have performed well in this area.

What explains success or failure in attracting FDI inflows? An obvious critical factor is political stability. Its absence almost always discourages FDI inflows, all other things being equal. For instance, until around 1995–97, the politically unstable Caucasus, not to mention the former Yugoslav republics, attracted very little FDI. Lack of

TABLE 7.7
Stock of Foreign Direct Investment per capita, end-2003 (\$)

	IMF	EBRD	UNCTAD
Czech Rep.	3,771	3,939	4,022
Hungary	3,697	2,335	4,241
Estonia	3,013	2,027	4,823
Croatia	2,147	1,712	2,547
Slovenia	2,028	1,875	2,184
Slovak Rep.	1,647	2,161	1,904
Latvia	1,461	1,461	1,430
Poland	1,431	1,166	1,365
Lithuania	1,091	1,184	1,436
Azerbaijan	1,049	934	1,049
Kazakhstan	1,001	1,078	1,178
Bulgaria	824	676	650
Romania	482	455	572
Macedonia, FYR	476	505	500
Albania	343	351	344
Bosnia & Herzegovina	280	258	279
Armenia	279	283	275
Georgia	261	222	202
Russian Fed.	223	67	366
Belarus	180	222	192
Moldova	156	227	186
Ukraine	131	115	144
Kyrgyz Rep.	95	84	99
Turkmenistan	44	280	270
Tajikistan	11	32	35
Serbia & Montenegro	n.a.	260	410
Uzbekistan	n.a.	42	36
Turkey	216	n.a.	234

Sources: IMF International Financial Statistics—cumulative net FDI inflows 1990–2003; UNCTAD FDI database—FDI stock end-2003; EBRD Transition Report Statistics—cumulative net FDI inflows 1990–2003.

political stability may also explain the poor performance of Turkey in attracting FDI. However, political stability is not a sufficient condition, as the example of many countries show. Belarus and the Kyrgyz Republic enjoyed stability, but no significant FDI inflows.

Empirical studies of capital flows seem to agree on two observations: official flows lead or stimulate countries' reform efforts, whereas private capital flows, with FDI as their most important component, follow or respond to reform measures. Empirical research shows that liberal reforms provide a more powerful explanation of variation in FDI flows to former centrally planned economies than to other developing countries, although there are many other factors involved, as the early success of Hungary illustrates.⁹ Indeed, leaving aside investment in nonrenewable natural resources, which are partly (albeit not fully) immune to the nature of economic regimes, there has been a rather strong positive relationship between the size of FDI inflows and progress in dismantling central planning.

Structural reforms and sound macroeconomic fundamentals are also clearly necessary conditions for attracting flows of foreign direct investment. Among various determinants of FDI examined in empirical studies, the strength of macroeconomic fundamentals as measured by GDP growth or low inflation has been found to be consistently important.

Macroeconomic stability alone, however, is not sufficient to attract foreign investors. The critical variable is institutions or, more specifically, the pace of progress in establishing market-supporting institutions that assure protection and enforcement of property rights (which were discussed in detail in chapter 4). The empirical research supports this observation. Garibaldi et al. (2002) show that the quality of institutions explains the variation in FDI flows to transition economies. In a similar vein, in the econometric analysis of factors affecting the decision of multinational firms to establish a presence in transition countries in the first half of the 1990s, Javorcik (2004b) demonstrates that greater progress in the reform process, higher effectiveness of the legal system, and a lower level of corruption all encourage FDI inflows.

In order to capture the impact of political (in)stability and the quality of institutions, we plotted indicators of governance, derived from the World Bank database, and cumulative net FDI inflows per capita. The quality of governance is defined here as an average value of the indicators of political stability, government effectiveness, and regulatory quality. These three aspects of the business environment are critical to FDI inflows.¹⁰ The indicators pertain to 1996, 1998, 2000, and 2002, and range from -2.5 (lowest score) to +2.5 (highest score). The

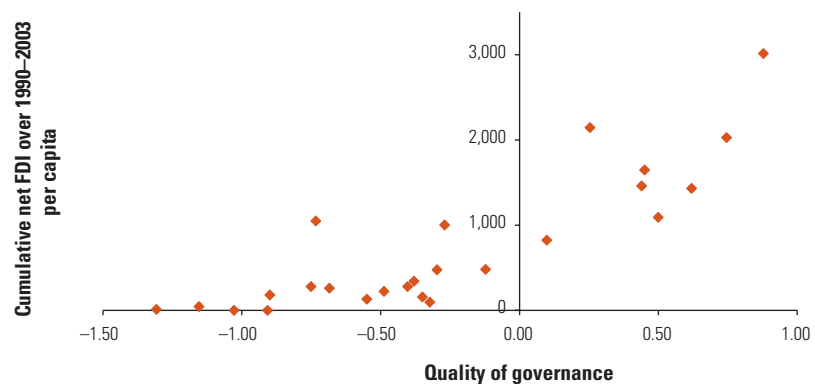
rationale behind averaging over the seven-year period is that a good climate has to exist for a sufficiently long time to affect investors' decisions.

The variation in the quality of governance corresponds very closely to the variation in cumulative FDI net inflows per capita over 1990–2003 (figure 7.5). There is a strong correlation between cumulated net FDI per capita and the aggregate measure of the quality of governance, with a value of the correlation coefficient of 83 percent. The EU-8 and Croatia both have FDI per capita exceeding \$1,000 and positive values of the quality of governance. The quality of governance is in the negative territory, that is, below 50 percent of the best-quality governance for all other countries. Investments in the oil sector explain the high FDI stock per capita in Azerbaijan and Kazakhstan in relation to their relatively low scores in quality of governance.

Although the quality of governance matters less for countries that happen to be amply endowed in natural resources, especially oil and natural gas, the exclusion of FDI in extractive industries does not significantly change the overall picture. The value of the correlation coefficient increases from 83 percent to 85 percent. Taking into account only FDI stock in manufacturing lowers the correlation coefficient to 78 percent, which may be explained by the fact that investors in services are sometimes lured not by an attractive business environment but by arrangements granting them exclusive rights. The examples include privatization of telecommunications in Albania and Armenia (see chapter 6 on the services sectors).

It may also suggest that considerations other than the quality of governance in a host country may be more important in manufactur-

FIGURE 7.5
Quality of Governance over 1996–2002 and Cumulative FDI Inflows in the Years 1990–2003 (\$)



Sources: FDI data from IMF International Financial Statistics; population data from World Bank Development Indicators.

ing than in services. Proximity to markets, which is strongly related to geography, may explain a relatively larger FDI stock in manufacturing in some countries than the values of governance indicators might imply. Examples abound. Armenia is ranked roughly on par with Albania, but the latter has accumulated a 25 percent larger FDI stock. While the values of the governance indicator for the Kyrgyz Republic and Moldova are roughly the same, the latter's FDI stock in manufacturing is 17 times higher, while the total is less than three times higher. These deviations notwithstanding, the power of governance to explain the variation in FDI inflows is strikingly high.

Geographical disadvantage may be overcome in two ways. First, good governance can compensate, although not fully, for distance to major markets. Thus, the only way for landlocked, remotely located countries to attract larger FDI inflows is to improve the quality of governance and cooperate on arrangements that would reduce the transaction costs associated with moving shipments through their respective territories. Second, acceding to regional trade agreements may increase the size of the market. Ireland's impressive growth performance, which raised its GDP per capita from 64 percent of the EU average in 1983 to 122 percent in 2002, can be attributed directly to sound macroeconomic policies and its ability to act as a magnet for U.S. investment, thanks to a friendly business environment and duty-free access to the European Union market (Barry 2000).

Trade transactions costs associated with FDI also depend crucially on the trade-facilitating infrastructure, such as the performance of the customs administration and the quality of transportation and communications networks. Long delays at the border and high variance in clearing times make it difficult for potential foreign investors to commit to a particular delivery time. Corruption at border crossings increases the costs of doing business, thus lowering the competitiveness in world markets of locally produced goods. The poor condition of transport networks increases the cost and time needed for shipping goods. High costs of communications, whether through fixed-line telephony, cellular network, and Internet increase the costs of doing business (see chapters 4 and 5 for more details).

The quality of services infrastructure is another crucial component of a business-friendly climate that facilitates both FDI inflows and participation in international production networks. Well-designed liberalization of services sectors can lead to higher competition, greater range of services available, and more efficient services provision, which in turn decreases the costs of doing business and attracts new entry by both domestic and foreign entrepreneurs (for more information on the role of services, see chapter 6).

Many other factors may influence attractiveness to FDI. For instance, investors operating in high technology sectors may be looking for availability of skilled labor and protection of intellectual property rights. Those interested in simple labor-intensive assembly operations will be more sensitive to labor costs and labor market flexibility.¹¹

Lessons for Countries Left outside Global Production Chains

The experience of countries that have successfully taken advantage of opportunities offered by global markets suggests that two elements have to be in place—successful implementation of first-generation reforms (liberalization of prices, foreign trade, and exchange regimes) and consistent movement toward a rule-based institutional regime with the capacity for their enforcement. The former is relatively easy to implement, provided there is an absence of political opposition, whereas the latter requires advanced institutional capacity of the state, as discussed in chapter 4.

What other policies could be used to facilitate participation in international production networks? Three policy options are possible: (1) export processing zones (EPZs); (2) duty drawbacks or other systems offsetting import tariffs; and (3) economywide trade liberalization combined with trade facilitation measures. The problems with EPZs are threefold: first, many countries have established them, but only a few have succeeded in encouraging exports. Second, EPZs are not amenable to horizontal and vertical spillovers. Last but not least, EPZs signal to international investors a weakness in the business climate; see chapter 4.

As to the second option, although elaborate systems including effective implementation of duty drawbacks may offset the bias in favor of production for domestic markets, they require sophisticated administrative capacities. These are lacking, as demonstrated by almost universal complaints across CIS about delays in rebates of VAT and duties. Hence, the best option is economywide trade liberalization, combined with trade-facilitation measures. Establishing a business-friendly and efficient services environment can be facilitated by either adopting reforms that would have the additional benefit of speeding up accession to the WTO or, for WTO members, leveraging their obligations under WTO rules to accelerate reforms.

Locking in the reform path through international agreements has helped EU-8 countries achieve these goals. First, in order to become eligible for accession to the EU, they had to remove, albeit gradually, barriers to their trade with the EU, including behind-

the-border measures, and they had to introduce trade-facilitating measures, such as reforms of customs administration, as well as other reforms, to converge to the *acquis communautaire*. Taken together, these measures have contributed to the emergence of well-functioning services blocs and a business-friendly environment, which are a necessary condition—though not a sufficient one—to participate in a fragmentation-induced division of labor. Thus, it is no surprise that all HP-7 countries, except for Turkey, have recently acceded to the European Union. The absence of commitment to reform had slowed down the reform process of Bulgaria and Romania and adversely affected FDI inflows into their economies, hindering their integration into international production and distribution networks.

Second, in addition to the EU accession process acting as an anchor of domestic institutional and policy reforms, the emergence of a “Pan-European” free trade area for industrial products—encompassing the EU-15, EFTA, EU-8, and Turkey—has been a magnet for FDI and has created enormous opportunities for industrial exchanges (Kaminski 2001 and 2004a). The Pan-European Cumulation of Origin Agreement, which went into effect as of January 1, 1997, has allowed for “diagonal cumulation” of rules of origin (parts manufactured in any of the participating countries count as local input in entering any of these markets) across all participating countries. It has also accelerated and coordinated the schedule of removing tariff rates on industrial products.

What lessons can be drawn from the EU-8 experience for countries that have been left outside the global production chains? *The first lesson is the need for combining a strong commitment to reform with an outside mechanism that will enhance the credibility of the governments introducing domestic structural reform and provide an external stimulus to the process.* WTO accession, which is at various stages in Azerbaijan, Belarus, Bosnia and Herzegovina, Kazakhstan, Russia, Tajikistan, Ukraine, and Uzbekistan, can be used as such a commitment-creating device. However, domestic reforms alone will not be sufficient to increase the integration of geographically disadvantaged states. Even if a landlocked country had a world-class customs service, its trade flows would still be impeded by the necessity to ship products through neighboring countries with slow and corrupt border controls.

The second policy message is the need for adding both multilateral and regional dimensions to the reform process. In sum, reforming countries should rely on a two-pronged strategy encompassing improvements in both domestic and external conditions by using WTO rules as a tool to leverage both domestic and regional reforms.

Indeed, governments should leverage their obligations under WTO rules to accelerate domestic reforms. The credibility of government actions is a crucial factor in stimulating adjustment at the micro level. If firms do not believe in the permanency of liberalization or governments are pursuing other policies that make sustaining reforms difficult, firms may choose not to adjust. Instead, they are likely to devote resources to lobbying for overturning the reforms. Tying the reform process to a multilateral or regional agreement may also help implement reforms, thanks to lower period-by-period adjustment costs and strengthening complementary institutions and policies by establishing external (regional) checks.

Countries can make greater use of regional bodies to economize on the costs of implementing WTO rules. For instance, many members of the Eurasian Economic Community (EURASEC) or the CIS face pressures to reform customs administrations and domestic standards regimes.¹² Seeking regional cooperation in customs administration and in the dissemination of information about international standards and foreign governments' technical regulations, will, therefore, bring overall gains to regional partners.¹³

The following areas lend themselves to regional cooperation:

- **Border and customs procedures:** The improvements in national customs procedures, although highly desirable, will have a positive but limited impact without similar improvements in neighboring countries. Hence, there is the need for close cooperation. The same applies to transit rules.
- **Conditions of transit:** Although transit has been a subject of bilateral and regional discussions, the principle of national treatment should be extended to all service providers and enshrined into regional agreements.
- **Technical standards:** Each country should move quickly on its own to establish a market-based system of technical standards. However, this will yield higher returns if other countries within the regional grouping move in step and cooperate closely. Benefits of such cooperation will be particularly visible in small economies, which can substantially lower costs to domestic producers if, for instance, a conformity assessment is provided on a regional rather than national level.
- **Services:** Issues pertaining to services sectors should be addressed in their entirety and brought under a regional umbrella. As a first step, measures restricting market access should be listed and bound (that is, subject to a standstill). This is a long-term objective, as it

involves regulatory overhaul of sectors with often-powerful vested interests.

Changes in regulatory policies in services sectors can potentially have the largest positive impact on the reforming economy. Efficient provision of services is not only a source of foreign currency earnings and employment; their availability and low pricing also lower the costs of exports and imports alike. Considering that services contribute on average around 10–20 percent to the production costs of a product and account for all trading costs (transport, trade finance, insurance, communications, distribution, and services), savings indeed can be substantial (Hodge 2002). So can gains in competitiveness in international markets of both services and goods. Moreover, their supply is decisive for domestic firms to participate in the most rapidly expanding division of labor based on fragmentation of production, simply because without high-quality “service links,” production will not be moved to a country.

Endnotes

1. See Blonigen (2001) for a literature review.
2. For an extensive discussion of issues involved, see Jones and Kierzkowski (forthcoming).
3. For instance, according to Hill (1989), the average Japanese automaker’s production system consists of 170 first-tier, 4,700 second-tier, and 31,600 third-tier subcontractors.
4. Our definition of the IT network encompasses office equipment, telecommunication equipment, and electronics. It covers only trade in goods.
5. See the top 100 list in *The Wall Street Journal Europe’s Central European Economic Review* (July and August 1998, Vol. VI, Number 6), compiled by Dun & Bradstreet Hungaria, Inc. Among the 20 largest firms in terms of sales, there were at least seven companies that were part of large multinationals. These included IBM Storage Products (#2); Volkswagen’s Audi Hungaria Motor (#6); General Motor’s Opel Hungary (#7); Philips (#12); General Electric Lighting (#15); Lehel Hutogepgyar (#39), owned by Electrolux; and Japan’s Magyar Suzuki (#16).
6. For more details, see Kaminski and Riboud (2000).
7. Both countries, however, had unimpressive growth performance. While one may have doubts as to the sustainability of Belarus’ network exports mainly directed to the relatively highly protected automotive sector in Russia, Bulgaria’s prospects, mainly in IT networks, appear to be promising. Note that the share of network products in Belarus’ manufactured exports declined between 1999 and 2003 and that the share in Bulgaria’s increased.
8. For a discussion of the role of MNCs and network trade in “reintegrating” the EU-8 among themselves, see Kaminski and Ng (2005).

9. See, for instance, Claessens et al. (1998), Garibaldi et al. (2002), and Broadman et al. (2004).
10. We exclude the indicators of rule of law, control of corruption, and voice and accountability, because they are strongly correlated with the three measures used. Hence, taking them into account in a single aggregate indicator of governance would not bring new information. (See chapter 3 for further discussion of these factors.)
11. The results of Javorcik and Spatareanu (forthcoming) suggest that FDI inflows are deterred by rigid regulations on hiring and firing workers.
12. The EURASEC members include Belarus, Kazakhstan, the Kyrgyz Republic, Russia, and Tajikistan.
13. For a more extensive discussion along these lines, see World Bank (2005d).