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Connected Channels: MNCs and Production Networks in Global Trade

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[–] Abstract and Keywords

Multinational corporations (MNCs) and production networks are responsible for a large and perhaps growing share of international trade. Some observers describe this trend as the sum of economic flows responding to relative factor intensities of processes and relative factor endowments of locations. Others, however, view it as strategic behavior by organizations eager to control assets and exercise influence. This chapter shows that scholars have used both of these lenses to study investment and trade linkages in East Asia, North America, and Europe. While a structural approach emphasizing organizations and strategy now seems more common in the analysis of trends in East Asia and North America, where dominant firms have built elaborate production networks, a liberal approach emphasizing west-to-east foreign direct investment continues to prevail in the analysis of Europe.

Keywords: multinational corporations, global production networks, international fragmentation, global value chain, production sharing, vertical trade, vertical division of labor, platform leadership

Introduction

Formal and informal business groups are now associated with a large and perhaps increasing share of international trade. Lanz and Miroudot (2011, 12) estimate that intrafirm shipments account for one-third of the world's commodity exports, while Borga and Zeile (2004, 2) estimate that “vertical trade”—by which intermediate goods produced in one country move through other countries, where value is added via fabrication, processing, or assembly—accounts for roughly one-quarter of global exports.

We face two major questions. The first has to do with the fact that, although there is widespread recognition of the scale of this activity, there is only limited agreement on how to explain it. Some, whom we might call liberals, tend to view it as the sum of economic flows moving through largely disembodied or neutral entities. They use equilibrium models to measure relative factor intensities of processes and relative factor endowments of locations, giving only scant attention to the organizational context in which transnational production is embedded. Others, whom we might call structuralists, prefer to view it as a coordinated activity. Instead of corporate vessels seeking efficiencies, the business groups engaged in this transnational activity are political and social agents striving to control assets and exercise influence.

A related question is this: How should we characterize these groups? The traditional approach focuses narrowly on multinational corporations (MNCs), which are held together by equity or ownership ties. A new approach, however, insists on the increasingly important role of global production networks (GPNs), which are more loosely affiliated. The latter is a broad category that includes, but is not limited to, the former.

Let us address the second question first. Scholars have long been fascinated with MNCs, far-flung conglomerates such as GE, Procter & Gamble, Nestlé, Monsanto, and BP that engage in foreign direct investment (FDI), operating

factories, stores, and hotels or providing services such as legal advice and logistics through affiliated companies or subsidiaries in another country. Dunning (1977), who developed the complex model upon which much analysis of FDI is now based, suggests that MNCs seek to exploit ownership, location, and internalization (OLI) advantages as they move overseas. Ownership has to do with a firm's legal title to particular assets, such as technical and managerial know-how. Location has to do with the distinctive endowment of resources and factors in a particular place that determines its comparative advantage for specialized production and exporting. And internalization has to do with a conglomerated firm's ability to reduce transaction costs by establishing intrafirm channels rather than relying on the external market.

More recently, however, scholars have looked beyond MNCs to analyze GPNs, which have been described variously as "international fragmentation" (Jones and Kierzkowski 1990), "the slicing up of the value chain" (Krugman 1995), "the international disintegration of production" (Feenstra 1998), "global production sharing" (Yeats 2001), and "international outsourcing" (Milberg 2004). Unlike MNCs, they do not necessarily consist of equity ties; instead, these networks tend to be held together informally by close and durable business relationships between, for example, a machine assembler and different parts suppliers. Like some MNCs in manufacturing, however, they rely on a geographic dispersion of production activities that yields "vertical trade" and is guided by both economic and political calculations. The former includes the technological capacity of, and wage levels in, different business environments, while the latter includes tax rates, export incentives, and many other policies in the home and host countries.

Global production networks may be more obscure simply because they tend to resist measurement by our standard empirical tools for studying transnational activity. For example, FDI data can tell us about the countries and industries in which parent firms invest (or disinvest) each year, but they are not able to capture transactions such as offshore outsourcing that take place outside both established hierarchies and atomized markets (Williamson 1975). However, some sociologists have suggested that, to measure the level of fragmentation or networking in a particular sector, we can use the ratio of global trade to global value-added in that sector. Mahutga (2012, 12), building on an insight from Feenstra (1998, 34), describes the ratio this way: "As the number of countries involved in the production of a good increases, the extent to which value added in manufacturing is double counted in trade will also increase for the industry in which the good is classified."

This empirical discussion brings us back to the first, and perhaps meatier, theoretical question in the literature on MNCs and GPNs: How do they operate? Do they function according to liberal logic as neutral entities for mostly market-driven economic flows, or in line with structuralist logic, as political and social organizations that seek control and influence?

There is division even among economists. Mundell (1957), perhaps the pioneer in this field and clearly a liberal, uses neoclassical analysis to portray FDI as the global movement of physical capital in search of higher returns. But Hymer (1976), inspired by Marxist theory, counters that MNC behavior is strategic and conforms better to models of industrial organization than to traditional trade theories such as comparative advantage. He argues that these transnational entities seek to monopolistically control their assets as they invest abroad.

It should come as no surprise that sociologists have tended to view these transnational business groups as social and strategic actors, not as disembodied vessels. A valuable contribution has come from Gereffi (1994, 1995) and others (see Bair 2009), who focus on global commodity chains (GCCs) and global value chains (GVCs).¹ These scholars distinguish between producer- and buyer-driven chains. The former tend to be characterized by higher levels of vertical integration and are orchestrated by major manufacturers, such as Matsushita or Siemens, that use a far-flung division of labor, sourcing raw materials and intermediate goods from certain countries, assembling final goods in another country, and then distributing those products to markets around the world. The latter, by contrast, are led by firms that organize both supplier and consumer markets for brand-name goods produced by independent contractors to the precise specifications provided by those organizers. Initially, buyer-driven commodity or value chains were associated with labor-intensive consumer goods such as apparel, footwear, and toys, and were dominated by retailers such as Walmart or merchandisers such as Nike. More recently, however, higher-technology goods such as computers, video game consoles, and cell phones are being produced via similar arrangements. Apple is perhaps the best-known "manufacturer without a factory," contracting with original design manufacturers (ODMs) such as Foxconn Technology Group of Taiwan to produce its popular iPads and iPhones.²

As Sturgeon (2009, 128–130) notes, the GCC/GVC approach draws our attention to the governance of transnational production. Lead firms are able to coordinate the chain's activities, choosing and replacing suppliers, but also directing them to reduce costs, adopt specific business strategies, and even invest in particular locations. Other scholars have focused on different aspects of power, especially the technological capability of a firm or coalition of firms to move an entire industry in its favored direction. Gawer and Cusumano (2002) have referred to this as “platform leadership,” while Kim and Hart (2002) coined a more descriptive term, “Wintelism,” to describe the way in which the coalition of Microsoft (producer of Windows) and Intel set the standard for many years in the personal computer industry. Some contend that these forms of power depend on a relatively high level of asset specificity, based on brands or technology.

Political scientists used to write extensively about the influence of transnational business organizations, especially as they set up shop in “Third World” countries. For example, Moran (1974) analyzed the relationship between MNCs and host states, outlining a model of bargaining power that evolves over time. Gilpin (1973), by contrast, presented MNCs as tools of powerful states in the global political economy. But with notable exceptions such as Mosley (2011), political scientists today adopt a liberal line, tending to treat MNCs and GPNs as disembodied vessels for capital flows rather than as organized actors. Li and Resnick (2003) document the different ways in which democratic institutions in the host country can promote or retard FDI, while Jensen (2006) shows how federal systems empower local elites and thereby may attract flows of investment.

For some geographers and culturally minded political economists, this treatment of MNCs and GPNs is troubling. Because they view transnational business groups as spatially differentiated actors that shape, and are shaped by, the locations in which they operate, these scholars are aligned squarely with the structuralists. Henderson and colleagues (2002) note that these transnational business groups are more or less embedded in specific places, whether they be nations or regions, and thus reflect and influence the social dynamics (norms and institutions) of those places. A US MNC (e.g., General Motors) operates differently from a Japanese MNC in the same industry (e.g., Toyota), even when they invest in the same foreign market (e.g., Mexico). Likewise, transnational business organizations may have different developmental consequences, depending on how they are embedded in host environments. For example, a highly flexible network of footloose manufacturers may not allow local actors—economic or political—to capture many of the gains generated by that cross-border activity. Among other effects, wages may remain relatively flat in this sector of the host economy. Katzenstein (2005) has extended this analysis to regions, suggesting that government and business actors in East Asia, for example, are motivated by distinctive values, compared to their counterparts in Europe. Both, however, are subject to a common, globalizing force he calls “the American Imperium.”

Liberals, meanwhile, suggest that mobile capital always poses an opportunity and challenge for states and citizens, regardless of its organizational shape. States, they argue, may attract FDI by creating export-processing zones and conversely by adopting trade policies that are protectionist, which allows foreign manufacturers to jump trade barriers and enjoy rents on domestic-oriented production. But the structure of investment should not matter. Likewise, citizens will prosper or suffer from investment flows, but not based on the organization of transnational investors. For example, Rudra (2008) offers an analysis of the impact of FDI on the economic standing of different social classes in host countries, ignoring the structure of investing business groups. Freed from this taxonomical condition, capital flow becomes a more easily measured variable.

This chapter looks at three regions of the world—East Asia, Latin (especially North) America, and Europe—and summarizes the research on MNCs and GPNs in each. For the sake of comparison, the discussion is limited to transnational automobile and electronics operations in these three regions. The chapter concludes with some general observations based on this comparative analysis.

MNCs and Production Networks in East Asia

East Asia today enjoys perhaps the world's thickest web of interconnected transnational business organizations.³ Although scholars writing about this region have highlighted the activities of both MNCs and GPNs, they increasingly tend to emphasize the latter. Liberals note that economies in East Asia differ dramatically in their factor endowments and add that states there tend to pursue relatively open trade policies—a set of conditions that conspires to attract heavy flows of export-oriented FDI. Structuralists focus instead on the strategies used by

dominant firms to stitch those economies together, turning this region into the “factory to the world” that manufactures a rich blend of electronics, automobiles, machine tools, and other goods. Those products tend to be assembled in Asian locations filled with cheap labor, using designs and sophisticated inputs from Asian countries with high-tech capabilities and less sophisticated inputs from Asian countries with more modest capabilities. Over time, the vertical division of labor established and led by Japanese MNCs in the 1980s has turned into a more horizontal and open model. Developing economies in the region, such as Indonesia and Vietnam, have benefited as they have become more deeply incorporated into the thick web of business ties.

History

Until the 1980s, Japanese industry had been reluctant to invest heavily overseas. Managers of manufacturing firms, in particular, preferred to exploit social networks in the domestic political economy, networks that included close personal relationships with government officials; bankers, parts suppliers, and distributors; and long-term employees. That reluctance crumbled after 1985, when the governments of Japan, the United States, France, West Germany, and the United Kingdom agreed to a significant appreciation of nondollar currencies, especially the yen. Export-oriented firms in Japan, often supported by low-interest loans from their own government, increasingly shifted production to South Korea, Taiwan, Thailand, Malaysia, Indonesia, and the Philippines. Over time, and especially after Deng Xiaoping’s more aggressive economic reforms began to take effect, manufacturing FDI flowed even more heavily from Japan to coastal China.

Observers described an emerging “yen bloc” in East Asia as Japanese machine assemblers, followed by their long-standing parts suppliers, general trading companies, and main banks, set up operations in the region. Even government agencies, especially JETRO (Japan External Trade Organization) and JICA (Japan International Cooperation Agency), jumped into the networking business, advising both Japanese manufacturers investing in East Asia and host country officials striving to turn their economies into nodes in the evolving web of networks. In the automobile industry these production networks manufactured parts for all of Southeast Asia and finished vehicles for the domestic market in this subregion. Toyota, for example, set up large assembly plants in Thailand, Malaysia, Indonesia, and the Philippines. But it also helped set up specialized supply operations in different locations: Thailand became the base for pressed parts, diesel engines, and electronics; Malaysia for steering gears and electronics; Indonesia for pressed parts and gasoline engines; and the Philippines for transmissions. Toyota sourced different parts from these specialized bases throughout the region, as well as from suppliers in Japan, then sold finished vehicles in the same market in which they were assembled.⁴ By contrast, in the electronics industry Japanese production networks often relied on a triangular pattern of trade, importing components from Japan or Japanese suppliers in the region, assembling them at affiliates in East Asia, and exporting finished goods to consumers in the United States and Europe. As of 1992, for example, Sony’s Penang affiliate purchased half of its computer drive inputs from the parent firm in Japan and another 40 percent from suppliers in Malaysia, Singapore, and Thailand. But 95 percent of these “Southeast Asian” suppliers were Japanese affiliates operating in the region. Sony exported all of the drives it assembled in Penang, and most shipments went to the United States or Europe.⁵

In the 1990s Hatch and Yamamura (1996), as well as scholars at the Berkeley Roundtable on the International Economy (BRIE), conducted empirical research on East Asian production networks in the electronics industry. Ernst (1994, 1997) noted, for example, that large parent firms based in Japan tended to control manufacturing affiliates in the region, requiring them to use Japanese expatriates as managers and technicians, and to acquire inputs from long-standing domestic suppliers or their Asian affiliates. This, he argued, made Japanese production networks less flexible and less open than networks directed by MNCs based in other countries. Borrus (1997) extended this finding, arguing that a primary reason for the revival of the US electronics industry in the 1990s was the ability of American MNCs to tap into the relatively flexible and open supply base of what he called the “China circle,” consisting of ethnic Chinese manufacturers on the mainland, in Taiwan, and throughout Southeast Asia. Thanks to their access to this dynamic supply base, he contended, US producers gained a competitive edge over their stodgier rivals from Japan.

At the same time, scholars noted that despite efforts by Japan to maintain its technological edge and avoid “industrial hollowing,” less advanced economies in East Asia were steadily catching up. The region’s network-based macro-economy was developing in a “flying geese pattern,” with industries in Japan, the lead goose,

adopting successively more sophisticated technologies and shedding others, which second-tier economies then acquired, adapted, and eventually shed to third-tier economies. It quickly became apparent that “Little Tigers” or “New Dragons” were chasing Japan and building impressive, high-tech industries of their own.⁶

Scholars using the GCC or GVC approach (see, e.g., Feenstra and Hamilton 2006) heralded the rise of what they called “demand-responsive economies” in Asia, especially South Korea and Taiwan. These economies boasted a large number of manufacturers that initially gained technical expertise by capitalizing on backward linkages, producing household appliances, footwear, and other simple goods for big retailers and merchandisers in the United States, Europe, and Japan. Eventually, however, many of these suppliers and OEM producers became MNCs, with their own production networks churning out relatively sophisticated products. In South Korea, *chaebol* owners met the demands of buyer-driven value chains primarily via internalization. They used their well-greased connections to secure internal financing for expanded production in existing firms or new members of the corporate group. In Taiwan, by contrast, the smaller suppliers satisfied demand by subcontracting with other, even nimbler, firms, many in Southeast Asia.

With the dawn of a new millennium, some of these Korean and Taiwanese manufacturers emerged as technological rivals to the Japanese MNCs that had spun the very first web of East Asian production networks. In semiconductors, for example, Samsung of Korea acquired its own brand reputation, becoming nearly as well-regarded as Hitachi. And in computers, for example, Acer of Taiwan closed some of the gap with Toshiba.

But many scholars note that smaller companies in other, less developed parts of Asia also have tapped into the region’s sprawling web of production networks, helping their economies grow without large “national champions.” Baldwin (2012) notes that heavily populated developing economies like China and India may enjoy success in squeezing technology from MNCs, but less populous developing economies might do better to emulate Thailand, where dozens of suppliers now earn profits producing and exporting automobile parts for Japanese, Korean, American, and European assemblers. Thailand, he writes, is benefiting from an economic policy that encourages its manufacturers to join a GVC rather than build one of their own: its “success in becoming the Detroit of Southeast Asia shows supply-chain industrialization can work even without muscular technology transfer policies” (34).

Gone, then, is the traditional model of vertically organized networks dominated by Japanese MNCs. Scholars tend to agree that Asia today is home to a complex, crisscrossing pattern of production networks that are at once more global and more regional than before. They are more global in the sense that they increasingly include production of intermediate goods for European and American MNCs, not just for Japanese and Korean MNCs. But they also are more regional in the sense that the finished goods produced by these networks increasingly are consumed in Asia. As a result of successful supply-chain industrialization, consumers in the region are now wealthy enough to purchase a larger and larger share of the fruits of network labor. Urban Chinese families, in particular, have developed a strong appetite for high-technology goods. This means that triangular trade is giving way to greater intraregional (or intra-Asian) trade.

The Impact of MNCs and Production Networks on East Asia

By spinning the first of what has become a dynamic web of regional production networks, Japanese MNCs and Japanese state agencies, collectively and individually, enjoyed tremendous political clout in Asia, especially in Southeast Asia, from the mid-1980s until roughly the end of the twentieth century. On the public side, agencies such as MITI (Ministry of International Trade and Industry) dispatched officials to Bangkok, Jakarta, Kuala Lumpur, and Manila, advising their counterparts on such things as how to build supporting industries for automobile and electronics manufacturing. Concessionary yen loans helped finance “hard infrastructure” such as roads, power lines, and new industrial estates, while Japanese government grants helped finance “soft infrastructure” such as new Japanese-style organizations reflecting cooperation between the state and industry.⁷ On the private side, Japanese MNCs became leading suppliers of jobs, exports, and (to a more limited extent) new technology in countries throughout Southeast Asia. It is safe to say that those developing countries came to depend increasingly on Japan, and that dependence manifested itself in government policy and industry practice. In 1985, for example, Malaysia turned to Mitsubishi for help in developing its first “national automobile,” the Proton Saga. And in 1991, when Chrysler was trying to introduce the Jeep Cherokee into Thailand, the Thai government treated the four-by-four SUV as a luxury car, which called for a hefty excise tax, even though it had tagged Mitsubishi’s rival four-by-four as a pickup truck, which qualified it for a far lower excise tax. American and European automobile

manufacturers also complained routinely that they could not persuade Japanese parts producers, who dominated the supply base in Southeast Asia, to sign contracts with them; they chose instead to deal exclusively with Japanese assemblers like Toyota or Nissan.⁸

Before long, however, host governments cooled on Japan and its MNCs in the region. They were especially frustrated by exclusionary behavior (hiring only Japanese managers, using predominantly Japanese suppliers) that seemed to limit technology transfer. The Thai Board of Investment, in a brochure designed to encourage non-Japanese MNCs to invest in Thailand's automotive and auto parts industries, expressed it this way: "The Japanese have never been keen on transferring design and engineering expertise to their Thai counterparts."⁹

But the auto industry was unique. In other industries, alternative production networks emerged, attracting the interest of host governments and suppliers in Asia. Nearly every economy in the region is now part of networks created by not only Japanese but also Korean, Taiwanese, European, and American MNCs, capitalizing on complementary labor skills and technology levels and creating a remarkable number of backward and forward linkages within and across industries. In the production of electronic machinery, Hayakawa, Ji, and Obashi (2009, 9) find that the scale of an industry in one country is positively correlated with that industry's scale in neighboring countries. This suggests that Asian countries, by participating in regional networks that break the manufacturing process into different pieces, are enjoying simultaneous expansion of output. Wang, Powers, and Wei (2009) demonstrate that developing economies in Asia, led by China, have become far more integrated into the region's web of networks, especially in electronics. "In contrast, automobile production still mainly involved Japan and Korea in 2000, with developing Asia just starting to show up in the value chain" (32–33).

It is rather obvious today that the web of production networks in East Asia has dramatically reshaped host economies, from Dalian to Jakarta, while also influencing the regional and global economies. These networks have dramatically expanded trade, raising both levels of employment and income in areas most integrated into the web through their different advantages in labor costs or technological capacity. A joint study carried out by IDE-JETRO (Japan) and the WTO (2011, 68) suggests that cross-border trade generated new employment opportunities for all of the ten Asian countries it studied, but that China, which has emerged as the new hub of the region's networks, benefited the most—by far. In 2000 intraregional trade generated fifty-six million new job opportunities for China; in 2005 that number was eighty-nine million. What studies like this often fail to note, however, is that the effects of trade generated by FDI and production networks vary wildly within individual countries. For example, cities and towns along China's Pacific coast, compared to more rural and inland areas, have benefited disproportionately from this paradoxical process of manufacturing fragmentation and trade integration. The process has contributed to the widening income gap in various Asian countries, but especially China.

The Impact of Public Policy on MNCs and Production Networks in East Asia

Governments have influenced the behavior and organization of MNCs and production networks in Asia. As Hatch (2004) notes, this is perhaps most obvious through a quick comparison of the region's automobile and electronics industries. Most host governments have maintained relatively high tariff walls around auto assemblers. This allowed Japanese automotive MNCs to hang onto market share in the region, but also caused them to sell heavily in domestic rather than foreign markets. Baldwin (2012, 17–19) notes that Malaysia also used an import substitution policy to build its own automobile network, but fell short because its car manufacturers proved to be inefficient. By contrast, host governments eliminated tariffs on electronics, making that industry highly competitive. Japanese computer and semiconductor MNCs, for example, lost their dominant position in the region's markets, which became relatively efficient and export-oriented.

Kimura and Obashi (2011, 13–14) argue that although countries in the region, especially members of the Association of Southeast Asian Nations (ASEAN), have tried to liberalize trade both unilaterally and through bilateral and regional agreements, much more could be done. MNCs and their production networks have prospered despite limited progress in reducing tariffs. They note that some countries in the region have emerged as major nodes in production networks by investing in shipping terminals and other transportation infrastructure. Singapore is the region's leading entrepot.

Summary

Although scholars offer competing explanations, they tend to agree that East Asia has emerged as the world's leading center of transnational business networks for export-oriented manufacturing. Some attribute this outcome to local conditions, such as an abundant supply of cheap labor and different levels of technological capacity; others emphasize the organizational strategies used by firms enjoying market power.

MNCs and Production Networks in Latin America

The Americas have long been at the center of debates regarding the costs and benefits of economic globalization, including the role of MNCs and production networks in the development process. North America in particular is unique because it is home to neighboring countries with starkly different levels of development and diverse resource endowments. Today the region's developing economies are scrambling not just to attract foreign investment, but also to cultivate the manufacturing capabilities necessary to upgrade beyond their traditional comparative advantage in lower-wage labor. This section recounts the history of FDI in Latin America and examines the developmental implications of the region's role in transnational production coordinated by foreign lead firms.

History

During the nineteenth and early twentieth centuries, European investors played an important role in Latin America (Grosse 1989). Key sectors included railroads and utilities, but foreign ownership was also significant in mining and oil in Mexico and South America, and in agricultural commodities such as bananas and sugar in Central America and the Caribbean (Chapman 2007; Ayala 1999). The political clout of foreign capital was amply demonstrated during the opening decades of the twentieth century, with multiple interventions by the US military in what came to be known as "banana republics."

Through the middle decades of the twentieth century, international investors repositioned themselves within changing political economies. Mexico is a case in point. In 1938 President Lazaro Cardenas nationalized the country's oil industry in what was one of the region's earliest and most significant expropriations. By 1946 FDI from the United States had plunged 50 percent (Gereffi and Evans 1981). When investment resumed, much of it flowed into the manufacturing sector—a pattern that was repeated elsewhere, as the adoption of import-substituting industrialization (ISI) strategies stimulated market-seeking FDI into the region's largest economies. Latin American governments encouraged foreign investment in manufacturing because they believed that multinationals could play an important role in developing the domestic industrial base prized by the ISI model. Companies in strategic sectors such as autos were invited to establish subsidiaries from which they could serve a growing (and protected) national market. In return, they were expected to comply with policies, such as local content rules and joint ownership requirements, designed to ensure technology transfer and other positive spillovers. By 1967 two-thirds of US FDI in Mexico and Brazil was in manufacturing, with foreign firms generating between 30 and 40 percent of total industrial output in these economies (Bulmer-Thomas 1994).

The debt crisis and the subsequent "lost decade" witnessed a sharp contraction of FDI in Latin America, which fell from \$7.5 billion in 1981—the year before Mexico's default—to \$2.8 billion in 1986. Within a few years the region's position as the leading destination for foreign investment had eroded. In 1980 almost 70 percent of all FDI flows to developing countries went to Latin America; by 1986, this percentage fell to less than 20 percent (Paus 1989).

In the aftermath of the debt crisis, countries throughout the region implemented reforms to liberalize trade and restore macroeconomic stability. Governments eliminated restrictions that prohibited foreign investment in certain sectors or required joint ventures with national firms. Privatization of state-owned assets created new ownership opportunities for multinational corporations. Tariff barriers were reduced, bringing to an end the import protection that foreign and domestic enterprises had enjoyed. Many of the policies designed to promote linkages between multinationals and local firms were eliminated. The far-reaching process of economic restructuring and liberalization carried out during the 1980s and early 1990s replaced the earlier emphasis on domestic industrialization with an outward-looking strategy of global economic integration and export promotion. This shift in development strategy, from an import-substitution to an export-led model, corresponded to a shift in the nature of FDI, from "horizontal"/domestic market to "vertical"/foreign market, as subsidiaries that had been established to serve domestic markets were reconfigured as links in international value chains (Dunning and Narula 2004).

The Impact of Reform and Regional Integration on MNCs and GPNs in North America

Following the economic reforms of the late 1980s, governments in North America turned their attention to the promotion of preferential trade agreements to stimulate investment and intraregional trade flows. The initial impetus for the North American Free Trade Agreement (NAFTA) originated with Mexican President Carlos Salinas de Gortari, who hoped that a free trade agreement with its northern neighbors would assure foreign investors of Mexico's commitment to reform. Signed by the leaders of Canada, the United States, and Mexico in 1993, NAFTA went into effect on January 1 of the following year. The agreement proved successful in stimulating increased investment in Mexico; between 1994 and 2002, an annual average of \$13 billion in FDI flowed into Mexico, as compared with average yearly inflows of \$4.5 billion in the eight years prior to the agreement.

Fueled by increased FDI, Mexico's manufactured exports soared in the immediate post-NAFTA period. Growth in clothing exports, in particular, caused significant concern among the countries of Central America and the Caribbean, whose less-diversified industrial sectors depend heavily on the garment trade (Heron 2003). These nations lobbied the US government for an agreement giving them "NAFTA parity"; their efforts resulted in the passage of the Caribbean Basin Trade Partnership Act in 2000 and in 2004 the signing of the Central American Free Trade Agreement (CAFTA) among the United States, the Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua (Bair and Peters 2006).

Implications of MNCS and GPNS in North America

The passage of NAFTA and then CAFTA triggered a new round of debate about the degree to which the increased investment and trade stimulated by these agreements would yield more enduring benefits than those associated with the export-processing model typified by Mexico's maquiladoras. Unlike in East Asia, where numerous economies managed to parlay "triangular trade" into sustained growth and industrial upgrading during the post-World War II period, cross-border production networks between US firms and assembly plants in Mexico and the Caribbean had produced mostly disappointing results through the 1980s (Sklair 1993). However, there is some evidence that this is changing since the establishment of NAFTA, at least in Mexico's two largest manufacturing sectors: autos and electronics.

As the global auto industry has become organized into regional production blocs, Mexico has emerged as a central manufacturing hub for the North American market. In 1994 the country hosted eight auto assembly plants and produced fewer than one million vehicles per year. By 2010 the number of plants had more than doubled, to twenty-two, and output reached 2.2 million units. More important, domestic suppliers are playing a growing, if still relatively small, role in these production networks (Contreras and Carrillo 2012). The evolution of the electronics industry has been more uneven. After a sharp contraction in the early 2000s, Mexico's electronics sector upgraded to more sophisticated, higher value-added manufacturing, including larger products (such as flat-screen TVs) for which proximity to the US confers particular advantage. Yet in Mexico's most dynamic electronics cluster, located near Guadalajara, upgrading has not been accompanied by expanded employment, and national companies have a minimal presence (Sturgeon and Kawakami 2010).

The effect of FDI on productivity in Mexico has been found to be positive (Waldkirch 2010), though at least one study showed that including reverse FDI flows (i.e., repatriated profits and dividends) in the net FDI capital variable attenuated the effect (Ramirez 2006). Aitken, Harrison, and Lipsey (1996) concluded that FDI had a positive effect on wages in Mexico, but Waldkirch (2010), using data from the post-NAFTA period, found no positive effect on overall wages and a marginal negative effect on the wages of unskilled workers. Beyond research on FDI, scholars are asking how the incorporation of subcontractors and suppliers into nonequity production networks is affecting the region's developing economies. Some have expressed concern that insofar as countries are hosting narrower "slices" of a disaggregated value chain, they may find opportunities for positive spillover and learning effects minimized, especially if these "slivers of specialized activity" are of the low value-added sort (Buckley and Ghauri 2004).

Although MNCs based in the global North continue to play the pivotal role in most of the GPNs crisscrossing Latin America, intraregional investment is growing as a percentage of all FDI flows. In 2012, 14 percent of all FDI in Latin America originated from another Latin American country. This trend reflects the emergence of indigenous multinational firms within the region, referred to as "multilatinas" (Santiso 2008) or "trans-Latinas" (ECLAC 2012).

Mexico is home to the largest number of domestic MNCs, while Brazil has the largest FDI stock abroad. Latin America's largest multinationals have emerged from a diverse set of sectors, including construction, mining, telecommunications, and food and beverages.

Summary

The manufacturing sector absorbs about half of the FDI flowing into the economies of Mexico, Central America, and the Caribbean. In contrast to South America, which receives significant investment from European countries in primary sectors, the developing economies of the northern subregion continue to depend heavily on the United States, both as a source of manufacturing FDI and as a market for their exports. Given the role that these countries play in production networks coordinated by foreign lead firms, competition with Asian exporters in global industries is increasingly seen as a prerequisite for successful development.

MNCs and Production Networks in Europe

The fall of the Iron Curtain in late 1989 has resurrected Europe's prewar economic landscape, consisting of western, central, and eastern European countries. The fast-emerging east-west integration built on centuries-old cultural proximity gained momentum from the economic underdevelopment of countries in Central and Eastern Europe (CEE) due to their isolation from growing markets in the west. Unlike in East Asia and Latin America, the debate over MNCs and GPNs in this region appears to revolve around their role in deepening the European Union (EU). Scholars have carefully analyzed the transformational and integrative impact of production networks in Central and Eastern Europe. Before 1989, the industrialized CEE differed from Asia and Latin America in that it did not offer a large low-skilled, cheap labor force that could be used to absorb low-end production processes. Today, however, this area not only offers opportunities for MNCs to establish production networks, but also motivates small and medium enterprises (SMEs) to cooperate with suppliers in CEE. The common cultural tradition and the intensive and deep prewar ties create a welcoming environment that clearly differs from the tensions that US and Japanese MNCs often face in their regions.

From a theoretical point of view, the focus of the literature is on trade and FDI as integrative vehicles. The major concerns about Asia and Latin America—the difference between horizontal and vertical intra-industry trade (IIT), efficiency-seeking or strategic FDI, and the political clout of MNCs—do not appear to dominate the debate over Europe.

History

Enlargement of the EU in 2004 and 2007 propelled western European manufacturing companies to allocate production of parts and components to the new member states in CEE because they hoped to exploit comparative advantages. Although MNCs did not prune production networks in peripheral economies along the Mediterranean Sea, FDI flowed even more heavily to CEE countries. Only Greece failed to attract higher levels of FDI. According to Kokkinou and Psacharis (2004), this was a result of disincentives associated with the Greek government, especially its complicated tax system and its relatively corrupt bureaucracy.

The 1989 miracle offered western European companies new opportunities to invest and produce in a large and diversified region. In 1997, well ahead of eastern enlargement, the EU signaled clearly in its "Agenda 2000" that it would follow through on the pre-accession strategy by negotiating and implementing accession agreements with the applicant countries in CEE.

From the middle of the 1990s, progress in transition ("transition factor"), along with the advantages of pre-accession agreements with the EU ("EU factor"), combined to induce western companies to explore local capabilities and/or to use CEE as a regional supply base. There is evidence that MNCs predominantly create intrafirm production networks via FDI and extend them by subcontracting with local companies. SMEs on the German-Polish and German-Czech border have established contract-based regional production networks that are often embedded in the institutional concept of Euroregions. Grix and Knowles (2002) stress the importance of the "networks of reciprocal trust" as a basis for cross-border businesses. Due to the strong prewar ties Germany had with countries on its eastern border, it is unsurprising that German companies are the largest investors in CEE.

A number of studies (e.g., Damijan et al. 2013) confirm that FDI promoted the industrial restructuring and export growth of CEE economies. At the end of the 1990s around 80 percent of Hungary's exports and 40 percent of Poland's exports to the EU originated from foreign firms (Kaminski 2001, 33). Evidence suggests that foreign firms increasingly integrated local CEE producers into their regional production networks.

In addition to the "transition factor" and the "EU factor," scholars have identified gravity determinants, especially proximity to Germany, as the major forces driving FDI in and manufacturing-related trade with CEE in the 1990s (see, e.g., Kaminski 2001). Mode of privatization, changes in the institutional environment, macroeconomic stability, success in reducing sovereign debt, and speed of opening-up seem to be the major factors explaining the differences in FDI inflows to the new members. Multinationals engaged in manufacturing were attracted to CEE by the large pool of skilled workers, low unit labor costs, and existing foundation of capital-intensive production.

Resmini's (2000) analysis of FDI flows to this subregion shows a pattern that varies according to industry. Market-driven FDI dominates in traditional sectors; transition success, as well as proximity to Western Europe, attracts FDI in science-based and capital-intensive sectors; and wage differentials affect FDI in scale-intensive sectors. Overall, Güngör and Binatli (2010, 26) conclude that efficiency-seeking motives prevail across the region rather than market-seeking and resource-seeking motives. Approaches that go beyond the advantage- and gravity-based explanation of production networks improve the explanatory value of western European companies' engagement in CEE. According to Altomonte (1998), institutional climate and economic uncertainty are factors that significantly influence the decision to reach out to transition countries as well as the location, mode of entry, scope, and type of relocated activities.

The Impact of New West-East Production Networks on CEE Countries

Studies by Mateev and Tsekov (2013), as well as others, reveal the following about MNCs' FDI in CEE. Germany is the leading source of FDI, Hungary the leading destination, and the automotive industry the leading investor. FDI stock, as of 2010, had reached more than 50 percent of GDP (Pojar, 2012, 23). Last but not least, FDI positively contributed to export restructuring via MNCs' production networks (see, e.g., Damijan et al. 2013). Spillover effects to domestic firms are not generally confirmed.

Despite limits on measuring cross-border production networks, the considerable west-east FDI flows, accompanied by a significant increase in IIT in intermediate and equipment goods, especially in machinery, electrical, and automotive industries, suggest a vertical specialization pattern (Damijan et al. 2013). Production networks allow MNCs to improve their market competitiveness by exploiting CEE countries' production competitiveness.

A simplified view of intra-EU west-east trade generates the following conclusions. First, in the early 1990s low-tech industries shifted labor-intensive production to CEE countries, mostly for assembling. Second, at the end of the 1990s those CEE countries became net exporters of parts in capital- and skill-intensive industries. Third, the quality of their exports has increased markedly, reaching the level of western EU industries in recent years. Fourth, since the mid-1990s FDI has been an important driver of the trade specialization pattern in CEE. Ambroziak's (2012, 20) empirical test (which excludes Bulgaria and Romania) confirms that the estimated impact of FDI on all types of IIT was positive and highly significant. Likewise, Kutan and Vuksic (2007) argue that FDI has increased production capacity in CEE countries, resulting in increasing export supply capacity.

Kravtsova and Radosevic (2012) suggest that FDI in CEE countries has generated positive spillovers for domestic firms, helping them increase their competitiveness. Negative effects would occur if foreign firms "steal the market" of domestic firms. Kosova (2010), using data from the Czech Republic, shows evidence of both possible outcomes.

The effect of FDI on employment in CEE countries seems ambiguous. Due to the rapid evolution from low-tech to medium- and high-tech FDI, the originally large demand for low-skilled workers was replaced by a relatively small demand for high-skilled workers. Empirical studies suggest that the effects of FDI on employment in CEE generally have been modest. FDI inflows in manufacturing may have a negative effect, indirectly, on local suppliers, but this may be outweighed by the positive effect of direct employment by MNCs (Hunya and Geishecker 2005). Studies on the "feedback" effect of this FDI on labor markets in western Europe do not show a general pattern; in fact, results differ among countries, industries, and the skill level of workers (see, e.g., Castellani et al. 2008). Empirical studies on the effects of FDI and trade on wages in CEE countries show different results depending on the country,

industry, type of FDI, and trade, as well as on the relation between imports and exports (Egger and Stehrer 2001; Stehrer and Wörz 2006).

EU's Multilevel Governance and Its Impact on European MNCs

It is difficult to evaluate the impact of European MNCs on the policy-making process in the European Union, just as it is difficult to evaluate the impact of EU policy making on MNC practice. In both cases one has access to only limited evidence and must resort to speculation.

European production networks are affected most critically by two sets of policies: external trade policy, which is laid out and enforced entirely at the level of the EU, and single market policies, which are largely determined by the Council of the EU and the European Commission but implemented by member states. The power of the Commission is enhanced by its administrative expertise, while the power of the Council is weakened by the constraints of the complex system of qualified majority voting and the resulting need to secure compromise. In highly specialized cases (e.g., antidumping policy or technical regulations), the Commission turns to industry for advice. It is well known that the Commission would like to adopt industrial policies designed to increase the competitiveness of core industries. This likely would strengthen the power of national and European trade associations. In addition, fifty of Europe's top corporate executives pool their individual knowledge and company-backed power in the European Round Table of Industrialists (ERT), lobbying policy makers on everything from antitrust to intellectual property rights. The ERT may represent a distinctively EU style of lobbying, which Woll (2012, 194) calls informational, constructive, and consensus-oriented, compared to the aggressive advocacy approach used in the United States. MNCs with headquarters in large member states and production networks that are spread over many smaller/medium-sized member states may benefit from the Council's voting system when lobbying for their interests (Coen 2007). The higher the number of involved national governments, the higher the potential power of these MNCs. But even in the case of common interests, large member states are often forced to logroll and package deals. The existing literature does not clarify whether trade associations and business groups drive the Commission into a more protectionist or more open direction, which enhances competition (Vassalos 2012).

Summary

The thick west-east production networks in Europe emerged from the political change in 1989 and the following integration of CEE countries into the EU. This allows western European MNCs to make full use of CEE's cost and proximity advantages. The deep vertical specialization is documented by high shares of intermediate and equipment goods in the EU's west-east IIT. Due to the EU's multilevel governance system and its complex decision-making processes, MNCs' power to shape external trade policy as well as common market policies is difficult to evaluate and needs further industry-specific research.

Conclusion

Although they agree that a large and perhaps increasing share of global trade occurs inside corporate channels, scholars are divided on how to explain this phenomenon. Some attribute it to economic flows that are pushed and pulled by market forces; others credit corporate strategies. At the same time, scholars differ over how to characterize the business groups engaged in this cross-border activity. For manufacturing investment, the traditional approach has described them as MNCs that either circumvent trade barriers by establishing offshore but domestic market-oriented operations or capitalize on host country incentives by assembling parts in foreign enclaves and shipping finished goods back home. More recently, students of FDI have highlighted a new model: the GPN that slices up the manufacturing process into separate pieces located in different countries based on the presumed technological capacity of host economies.

This chapter has shown that relatively complex networks are emerging in the three leading regions of the global economy, reshaping trade patterns and development prospects in Asia, Latin (especially North) America, and Europe. These networks tend to be dominated by Japanese or Korean, US, and German firms, either manufacturers or retailers, which have established close and long-standing ties with suppliers and contractors in neighboring countries. Lead firms promote and exploit government policies, especially preferential trade regimes at the regional level, while also using novel business practices that allow them to capture the gains of specialization via

segmentation. For example, automobile assemblers—whether they are headquartered in Nagoya, Detroit, or Stuttgart—are outsourcing more and more production to nominally independent but often foreign affiliates in regional hubs like Poland, Mexico, and Thailand. But our case studies also revealed differences in the nature and depth of networking in these three regions.

Asia is home to the most extensive production networks in the world today. Japanese multinationals initiated this trend in the 1980s, but Korean and Taiwanese producers soon got into the act. China then emerged as a low-cost production and export base for MNCs from around the world. Other economies in the region—including India, Bangladesh, and Vietnam—are now becoming alternative sites for low-cost manufacturing. Even though formal-legal institutions in Asia, especially Northeast Asia, are relatively weak, GPNs are well-established here and are characterized by massive spatial and technological differentiation. This suggests that transnational firms, rather than states, are driving the process of integration in Asia.

In Latin America, US producers have established low-cost bases in Mexico and different parts of Central America, often manufacturing “reverse imports” for the US market. NAFTA and CAFTA have contributed to the US-led process of production sharing, though the advantages these regimes provide may not be sufficient to offset pressures from Asian competitors. Further south and east, in places like Brazil and Argentina, US producers are less dominant; European and Latin American investors are more active here, especially in this subregion’s primary industries.

The eastward expansion of the European Union has, by contrast, created a far-flung single market that capitalizes on the lower costs, especially lower wages, in the new members’ economies. Intermediate and equipment goods account for a significant share of the EU’s west-east IIT, indicating the progress of vertical specialization.

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Notes:

(¹) In the 1990s, “value” upstaged “commodity” as the unit of analysis for many scholars in this school. They argued that it covered a broader range of transnational business activity.

(²) ODMs used to be referred to as OEMs (original equipment manufacturers).

(³) See Aminian, Fung, and Ng (2009) for a comparison of East Asia and Latin America. See Kimura, Takahashi and Hayakawa (2007) for a comparison of East Asia and Europe.

(⁴) See Hatch and Yamamura (1996, 26).

(⁵) See Hatch and Yamamura (1996, 160).

(⁶) This discussion relies heavily on Hatch (2010).

(⁷) See Hatch and Yamamura (1996, 130–145).

(⁸) See Yamamura and Hatch (1997).

(⁹) Thai Board of Investment, Investment Opportunities Study: Automotive and Autoparts Industries in Thailand, 1995.

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