

An Investment Perspective on Global Value Chains

Christine Zhenwei Qiang | Yan Liu | Victor Steenbergen

OVERVIEW



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Overview

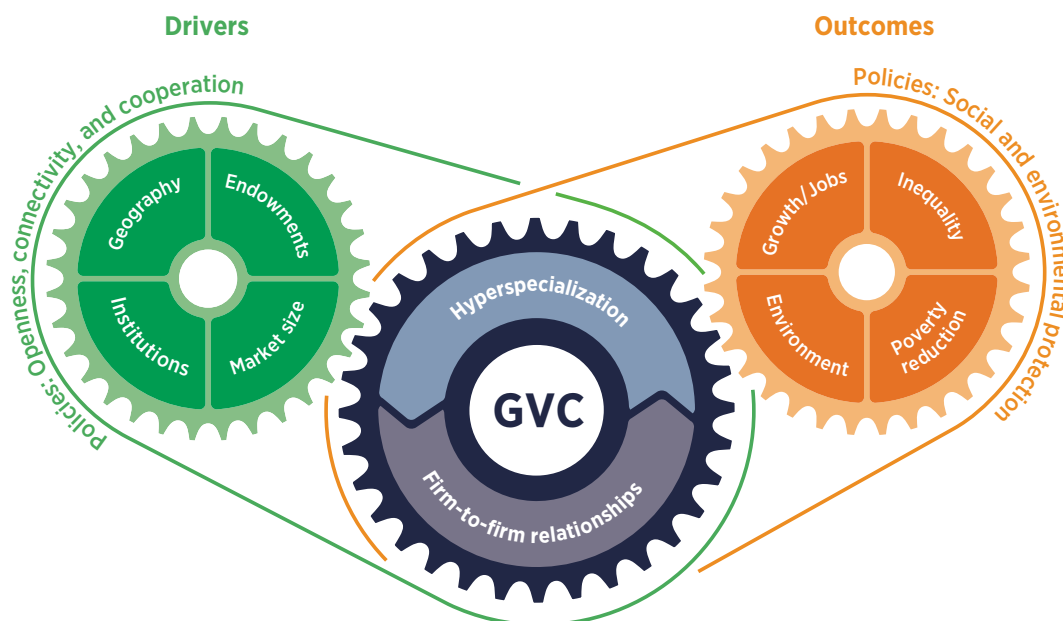
Summary

The benefits of global value chain (GVC) participation have been extensively documented in the literature (Constantinescu, Mattoo, and Ruta 2018; Rocha and Winkler 2019; World Bank 2020a). *World Development Report 2020: Trading for Development in the Age of Global Value Chains* defines two features of GVCs—hyperspecialization in specific tasks and durable firm-to-firm relationships (figure O.1)—that distinguish them from traditional trade. Hyperspecialization by firms at different stages of value chains enhances efficiency and productivity, and durable firm-to-firm relationships foster technology transfer and access to capital and inputs along value chains. The result is increased productivity and income growth—more so than what countries achieve through domestic production but also than what they achieve through trade in finished goods (World Bank 2020a).

To better understand GVCs, it is essential to appreciate the role of multinational corporations (MNCs), which are at the heart of most GVCs. The emergence and evolution of GVCs are actually the result of MNCs' investment and trade decisions as MNCs have relocated their production activities worldwide. GVCs involve cross-border flows of all factors of production: capital, goods, services, people, technology, and knowledge.

Countries' GVC entry and upgrading are aggregate outcomes of their domestic firms' internationalization pathways. Integrating the domestic economy into MNCs' production networks opens up new opportunities for local firms, which no longer have to wait for the emergence of an in-country industrial base or the upstream capabilities formerly required to compete internationally. This can ultimately help developing countries industrialize more rapidly.

This report takes a close look at GVCs from an investment perspective. It summarizes the latest theories and the literature surrounding MNCs' and domestic firms' strategies and approaches, and the relationships, interactions, and dynamics among these firms along the various GVCs. The underlying analyses combine global foreign direct investment (FDI) data, trade data, and novel firm-level and transaction-level data to uncover the dynamics between investment and GVCs. The report also features six case studies analyzing the horticulture GVC in Kenya; tourism GVC in Mauritius; apparel GVC in Honduras; electrical and electronics GVC in Malaysia; and digital economy GVC in the Republic of Korea, India, and China; and providing a comparative analysis of GVC participation by Rwanda and West Bengal (India). These case studies were based in part on interviews the authors conducted between January and March 2020 with representatives of multinational corporations,

FIGURE O.1 Hyperspecialization and firm-to-firm relationships increasingly define global value chains

Source: World Bank 2020a.

Note: GVC = global value chain.

domestic firms, and government officials. The six case studies—and many other examples throughout the report—aim to provide practical insights for developing countries in different contexts on how they can develop strategies and approaches that leverage FDI to strengthen their GVC participation and upgrading.

The recent COVID-19 (coronavirus) pandemic brings added context to this report. The outbreak has triggered new questions about GVCs and has accelerated precrisis global trends. How MNCs and their supplier firms respond to the supply and demand shocks as well as policy uncertainties will play a critical role in crisis responses and recovery. The resilience of the GVCs during the first year of the pandemic signified the strong firm-to-firm relationships and networks.

The report concludes that participation in GVCs can confer considerable benefits on domestic firms because firms can learn from MNCs through investment, partnerships, and trade. The knowledge and experiences they gain through these interactions can raise firms' productivity and help them obtain the necessary production capabilities and foreign market knowledge to compete in international markets and to upgrade their roles in GVCs.

Even as new technologies, the drive for sustainability, and the changing origin of MNCs play an increasing role in shaping future GVCs, the pandemic has further revealed the complex interdependence of firms and economies around the world. GVCs are always evolving, and the search for diversification, resilience, and sustainability continues for both economic and political reasons. This report calls for global leaders to resist the lure of protectionist policies and work together to restore investor confidence and secure the hard-earned gains derived from GVCs.

Technology and hyperspecialization stimulated multinational activities in global value chain expansions

A primary impetus for GVC expansion in the past three decades came from MNCs, which were enabled by dramatically reduced communications and trade costs and have moved their operations to the global arena through production fragmentation, offshoring, and outsourcing.

Intensified multinational activities led to a period of hyperglobalization characterized by a surge in FDI as well as rapid increases in the share of trade in world gross domestic product and share of GVC trade in total trade. This rising importance of FDI and GVCs has provided new opportunities for many firms to participate in GVCs through a wide variety of investment, trade, contractual, and partnership arrangements. Until recently, most countries were excluded from participating in the production of complex products such as autos and electronics because of the required capital investments and technological knowledge. Now it is possible to specialize in a narrow stage of production, enabling more countries to participate.

Although all countries participate in GVCs, they have different comparative advantages and specialize in different sectors and segments of production. This report classifies sectors into six broad GVC archetypes in order of ascending average product complexity: commodities, labor-intensive services, labor-intensive goods, regional processing, knowledge-intensive services, and knowledge-intensive goods, as adapted from MGI (2019). These archetypes are used as an organizing framework in most chapters of this report to analyze how specific GVCs affect MNCs' strategies, domestic firms' internationalization pathways, and government policies intended to encourage GVC integration. At the same time, the report recognizes the high degree of heterogeneity within individual sectors and archetypes, as reflected in different stages of production, product differentiation, and differences in production technologies, and includes caveats, limitations, and examples to avoid overgeneralization.

Commodity exporters are most common in Sub-Saharan Africa and the Middle East. Labor-intensive services (such as tourism and transport) are the biggest GVC archetype for many small African, Caribbean, and Pacific countries. Countries specializing in labor-intensive goods (textiles, apparel, and leather products) are scattered around the world, and include Benin, Cambodia, Pakistan, and El Salvador. Regional processing (such as food processing) is the dominant GVC archetype for many countries in Sub-Saharan Africa and Latin America. A handful of countries, largely in North America, Western Europe, and the East Asia and Pacific region, participate primarily in knowledge-intensive goods GVCs (such as electronics and cars). Although no country has knowledge-intensive services as its dominant GVC archetype, such services are usually only second to knowledge-intensive goods GVCs in value in many advanced economies, notably Singapore, the United Kingdom, and the United States. See table O.1.

Foreign direct investment and global value chain participation are mutually reinforcing

There are mutually reinforcing dynamics between FDI and GVCs. Trade with foreign markets induces initial FDI from the lead firm by lowering its entry costs into the

TABLE O.1 Key players in the six archetypes of global value chains, 2019

GVC archetype	Commodities or sectors used for illustration	Top five exporters	Top five countries with the highest RCA
Commodities	Mineral fuels and oils (HS2 code: 27)	Russian Federation, United States, Saudi Arabia, Canada, Iraq	Kuwait, Brunei Darussalam, Azerbaijan, Republic of Congo, United Arab Emirates
Labor-intensive services	Transportation, hotels, tourism, and restaurants	China, United States, Germany, Japan, United Kingdom	Bermuda, Cayman Islands, Aruba, Georgia, Botswana
Labor-intensive goods	Textiles and clothing (HS2 code: 50–63)	China, Bangladesh, Vietnam, Germany, Italy	Pakistan, Cambodia, Benin, El Salvador, Mauritius
Regional processing	Food and beverage products (HS2 code: 16–24)	Germany, United States, Netherlands, France, China	Malawi, Cabo Verde, Seychelles, Belize, Côte d'Ivoire
Knowledge-intensive services	Professional services, computer and IT services, R&D	United States, Germany, Japan, United Kingdom, France	United States, Japan, Germany, France, United Kingdom
Knowledge-intensive goods	Transportation equipment (HS2 code: 86–89)	Germany, United States, Japan, Mexico, France	Slovak Republic, Japan, Czech Republic, Germany, France

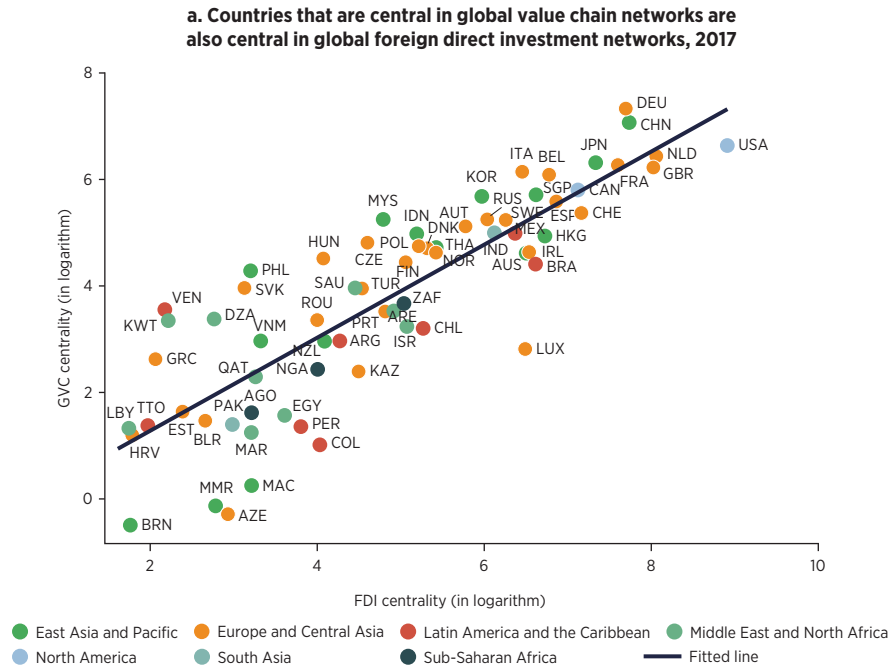
Sources: United Nations Comtrade; United Nations Conference on Trade and Development–Eora Global Value Chain database; World Bank calculations.

Note: This table shows the top five exporters and top five countries with the highest RCA in selected products across the six GVC archetypes in 2019 (or 2015 for services). GVC = global value chain; HS2 = 2-digit Harmonized System codes; IT = information technology; RCA = revealed comparative advantage; R&D = research and development.

host country; lower entry costs and high switching costs encourage the lead firm to bring its GVC partners into the host country as well, and a herd effect triggers subsequent FDI. Finally, FDI stimulates further GVC entry and upgrading through spillovers and agglomeration effects. As a result, GVC expansion has mirrored the growth of MNCs' investments to unbundle production processes and relocate them worldwide.

Both FDI and GVC network analyses were conducted for this report to reveal the interrelationship between investment, trade, and GVCs in greater detail, and to depict the relationships among various actors and how they influence each other. GVCs are complex and multifaceted networks encompassing flows of people, capital, goods, services, information, and ideas. Each actor's own characteristics are only half the story in a globally interconnected world.

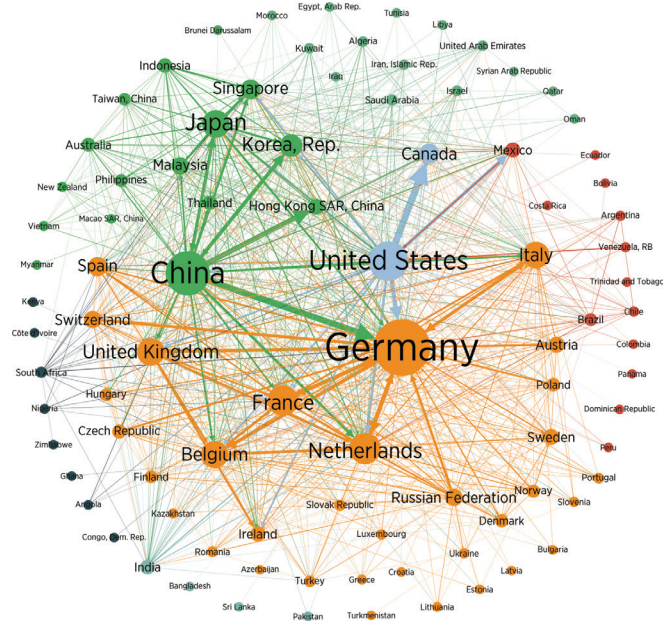
Countries' importance in the global FDI network is highly correlated with their importance in GVC network (figure O.2, panel a). Although countries take different development paths, their growing importance in the GVC network is often preceded by increasing FDI links with the rest of the world. FDI and GVC participation are concentrated in three regions, each with a central node (figure O.2, panel b): Western Europe (Germany), East Asia and Pacific (China, which replaced Japan since 2011), and North America (United States). Many countries in these three regions are both FDI hubs and GVC hubs. A few countries in Sub-Saharan Africa and Latin America have relatively high FDI and GVC centrality, such as Brazil, Mauritius, Mexico, Nigeria, and South Africa. But most other developing countries are marginal nodes in both the FDI and the GVC networks.

FIGURE 0.2 Global value chain network and correlation with foreign direct investment network

Source: World Bank calculations based on United Nations Conference on Trade and Development–Eora Global Value Chain database and International Monetary Fund bilateral foreign direct investment database.

Note: The x axis shows countries' weighted degree in the 2017 adjusted foreign direct investment network in natural logarithm. The y axis shows each country's weighted degree in the 2017 global value chain network in natural logarithm.

b. Germany, China, and the United States are the central nodes in global value chain trade networks, 2019



Sources: United Nations Conference on Trade and Development–Eora Global Value Chain database.

Note: The size of each node represents its weighted degree, which measures the corresponding economy's centrality to global value chains. Data for 2018 and 2019 are forecast based on the International Monetary Fund *World Economic Outlook*.

Foreign direct investment accompanied countries' upgrading into new global value chains

Almost all countries that have upgraded into new GVC archetypes in the past three decades have benefited from strong FDI inflows in related sectors. The most remarkable examples of countries' upgrading journeys include Costa Rica, which has successfully transformed its export composition from primary products to high-tech manufacturing and knowledge-intensive services industries thanks to a robust inflow of FDI in the past decades. FDI also played an indispensable role in China's move from labor-intensive goods to knowledge-intensive goods during the same period. China's FDI liberalization in 1992 generated a large influx of FDI. As of 2001, about 400 of the world's 500 largest MNCs had entered China. From 2001 to 2010, China's knowledge-intensive goods exports jumped by 700 percent, and the country became the world's second-largest GVC hub since 2011.

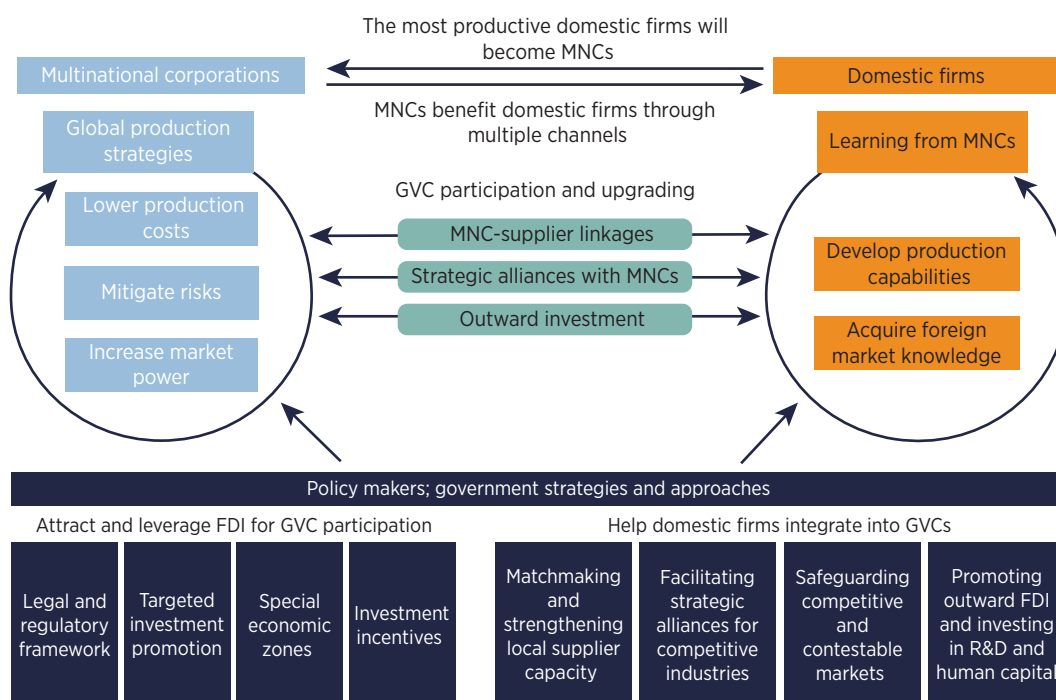
Other changes over the same period include Guatemala and Indonesia upgrading from commodities to regional processing, and Albania and Papua New Guinea joining labor-intensive services GVCs. Several countries also changed their export baskets noticeably, driven by increasing FDI inflows in more recent years, including Ethiopia and Vietnam, though they have not completely changed their dominant GVC archetypes. In contrast, a few other countries, such as Azerbaijan, the Democratic Republic of Congo, Iraq, and the Kyrgyz Republic, which previously specialized in labor-intensive services, have downgraded to become heavily reliant on commodity exports.

This report brings together the three key stakeholders in GVCs from an investment perspective: MNCs, domestic firms, and policy makers (figure O.3). To stimulate economic transformation through GVCs, policy makers in developing countries need to better understand MNCs' business strategies and support domestic firms' internationalization pathways.

Multinational corporations are the main architects of global value chains

MNCs are firms that operate direct business activities and own assets in at least two countries. Early MNCs invested abroad primarily to seek raw materials from developing countries. After World War II, many MNCs began operating in manufacturing, and the past three decades have seen more geographically fragmented activities in both manufacturing and services. MNCs increasingly outsource and develop business activities with a variety of external partners, ranging from subcontractors to suppliers to partners in research and development (R&D) or production activities. New structures have been developed to account both for these external networks and for networks of affiliates internal to the companies (Dietrich and Krafft 2012).

FIGURE O.3 A unifying framework for the three key players in global value chains: Multinational corporations, domestic firms, and policy makers



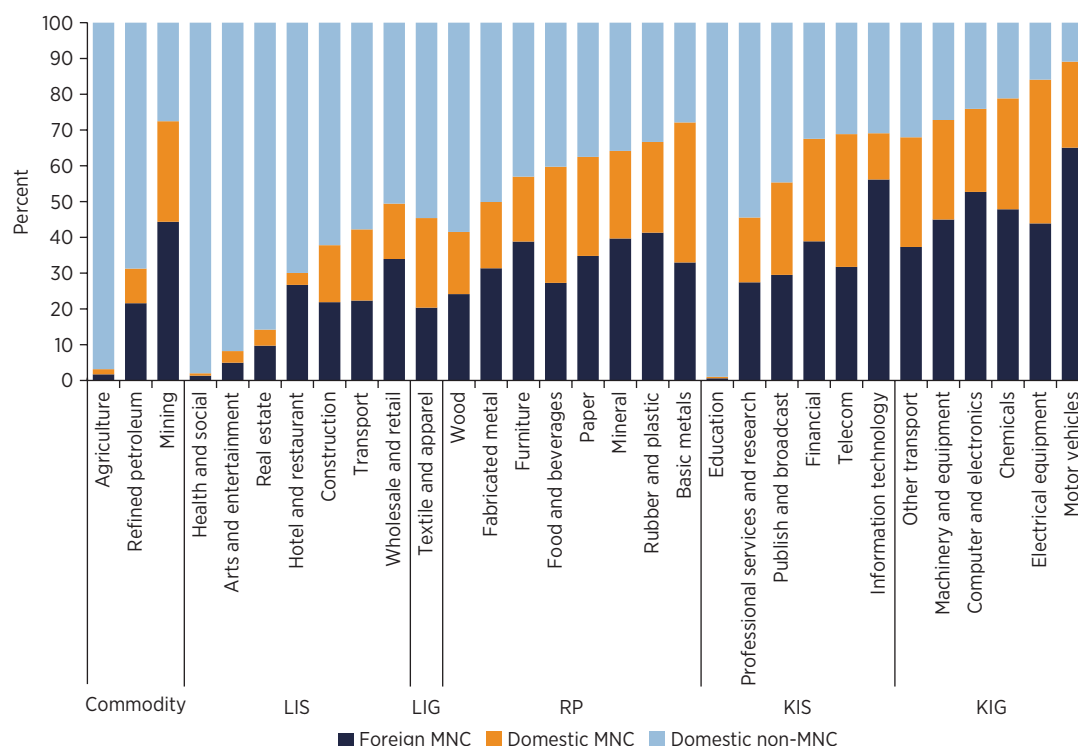
Source: World Bank.

Note: FDI = foreign direct investment; GVC = global value chain; MNC = multinational corporation; R&D = research and development.

MNCs have proliferated since the 1970s. Global estimates indicate that there were roughly 7,000 parent MNCs in 1970; this number had jumped to 38,000 by 2000 (OECD 2018) and was estimated at more than 100,000 in 2011 (UNCTAD 2011). Together, these MNCs had close to 900,000 affiliates in foreign countries.

MNCs account for a significant share of global output and trade in most sectors. According to the Organisation for Economic Co-operation and Development's Analytical Activities of MNEs (multinational enterprises) database, MNCs and their affiliates accounted for 36 percent of global output in 2016, including about two-thirds of global exports and more than half of imports. Their contribution is especially pronounced in knowledge-intensive goods sectors and in regional processing sectors (figure O.4). Motor vehicle manufacturing is the most internationalized sector: MNCs make up 90 percent of its exports. Regional processing is the second-most traded product group, and MNCs are responsible for about 70 percent of exports within it. Given the bulky or perishable nature of these products, most of the trade in this group happens in regional rather than global value chains.

FIGURE 0.4 Multinational corporations' contributions to global exports rise with average product complexity



Source: World Bank calculations based on the Organisation for Economic Co-operation and Development's Analytical Activities of MNEs (multinational enterprises) database.

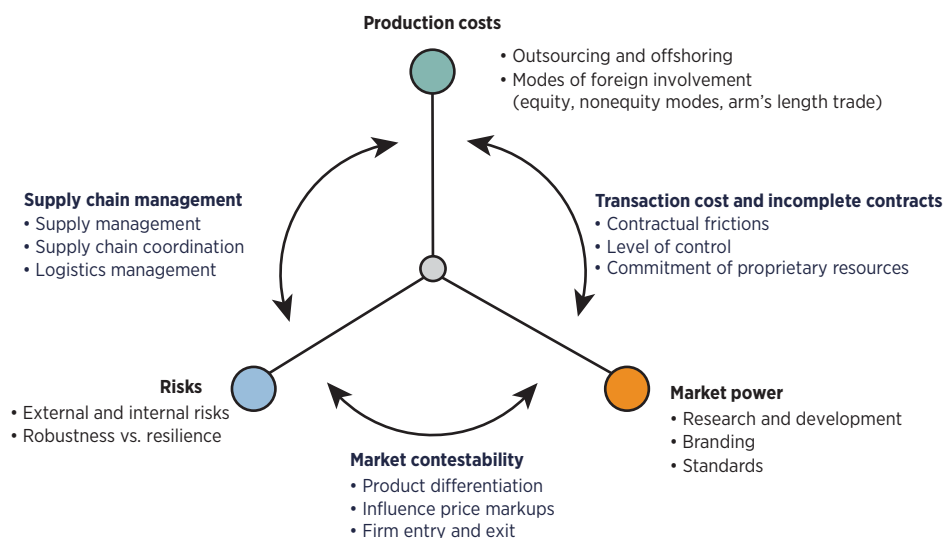
Note: Data are averaged from 2008 to 2016. KIG = knowledge-intensive goods; KIS = knowledge-intensive services; LIG = labor-intensive goods; LIS = labor-intensive services; MNC = multinational corporation; RP = regional processing.

Multinational corporations' business decisions aim to lower costs, mitigate risks, and increase market power

GVCs encompass a myriad of firm-to-firm relationships and the full range of activities required to bring a product or service from conception to its end use. These activities must be managed and coordinated. MNCs organize their international production networks through investment, trade, people, and information flows. Their objectives and business decisions have profound implications for the global economy (Buckley 2009, 2010; Buckley, Driffield, and Kim, forthcoming; Buckley and Strange 2011). Understanding GVCs is impossible without understanding how MNCs make their global production decisions.

MNCs have three main objectives in organizing their global production: lowering production costs, mitigating risks, and increasing market power (figure 0.5). These three objectives are rooted in the theory of firms, industrial organization, and international trade and investment. MNCs balance rewards and risks in all these decisions, and they leverage their market power to raise their markups or negotiate

FIGURE 0.5 Multinational corporations balance three interconnected objectives in organizing their global production



Source: World Bank.

better terms of trade with suppliers. MNCs' "make or buy" decisions define the firms' boundaries. Their choices about which markets to serve, where to operate plants, what products to export, and which countries to source inputs from are interdependent (Bernard et al. 2018). These decisions affect variable production costs and prices and influence exports of products to markets and imports of inputs from source countries.

Despite their unrelenting quest for efficiency, MNCs also try to minimize and mitigate value chain risks by reducing production length, diversifying suppliers, and increasing supply chain visibility. However, the relationship between risks and all these measures is complicated and depends on the GVC archetype and its network structure. MNCs are increasingly willing to trade efficiency for risk mitigation as they grapple with increasing geopolitical tensions, environmental concerns, natural disasters, and volatile demand. Increasing uncertainty calls for more rigorous risk management.

MNCs are generally the largest and most productive firms in their respective markets. They use their market power to charge higher markups and improve their terms of trade with suppliers and customers. MNCs gain market power through a combination of strategies in addition to firm-specific assets. Some sectors (such as utilities and digital services) tend to be natural monopolies because of economies of scale and network effects. MNCs in such sectors benefit hugely from first-mover advantages. In many sectors, MNCs also gain market power through intangibles such as branding, design, and technology. They tend to invest aggressively in R&D, patenting, and marketing to establish their dominance. Most MNCs adopt multiple strategies that allow them to benefit disproportionately from GVCs.

The three objectives and MNCs' business strategies are inherently interconnected—MNCs often make purchasing, production, and selling decisions simultaneously. Their business strategies affect the gains that GVCs bring with respect to the distribution of value added, linkages to domestic firms, knowledge spillovers, allocation of resources, and consumer welfare. By understanding MNC objectives and strategies, developing countries can better stimulate their integration into GVCs and increase the development benefits from MNC activities in their economies.

Domestic firms' internationalization is a learning process through interactions with multinational corporations

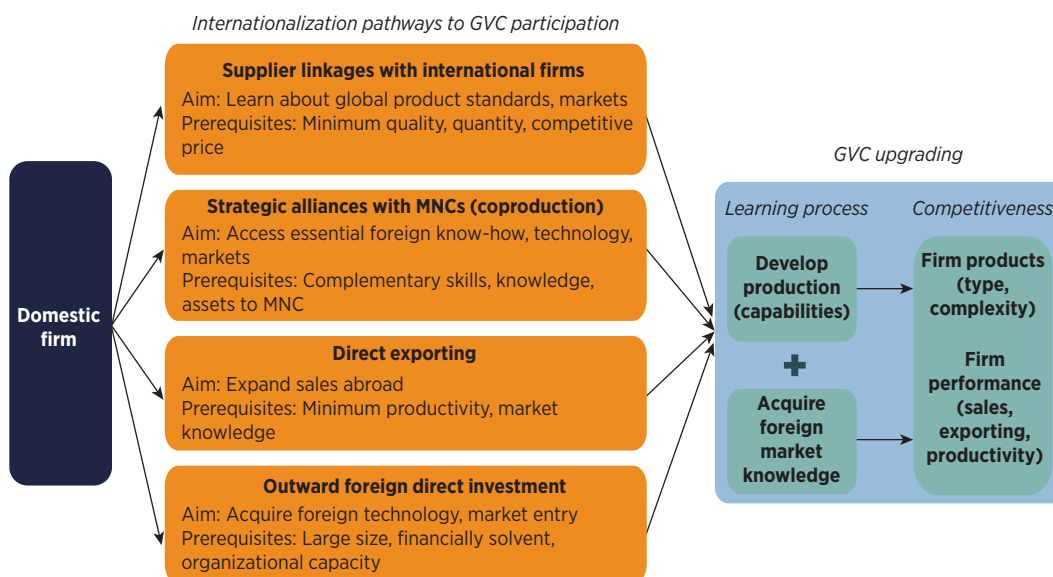
Although GVCs are dominated by MNCs, studies often underestimate the importance of smaller firms in GVCs and the extent to which they participate in them. For example, Slaughter (2013) finds that the typical US MNC buys more than US\$3 billion in inputs from more than 6,000 US small and medium enterprises (SMEs)—about 25 percent of all inputs the MNC purchases. One concept to correct is that GVC participation does not always require that a firm directly export goods or services. Instead, firms may be integrated into GVCs indirectly by producing and supplying intermediates to exporting firms or by offshoring part of their production facilities (Cusolito, Safadi, and Taglioni 2016).

Domestic firms internationalize, and thus participate in GVCs, through four main pathways: supplier linkages in a GVC network, strategic alliances with MNCs, direct exporting, and outward FDI (figure O.6). Supplier linkages depend on the presence of an international partner (possibly an MNC or domestic exporter) that is willing and able to source local inputs, together with capable domestic firms that are able to produce these inputs according to the appropriate production specifications. Strategic alliances rely on the complementary capacities and market knowledge of a domestic firm and an MNC. Direct exporting requires that domestic firms have both the minimum production capabilities and the overseas market knowledge to compete internationally. Outward FDI is a pathway for only a small number of domestic firms that meet the minimum firm scale and financial solvency requirements to be able to afford investing abroad.

In practice, these pathways are not mutually exclusive and can build on each other to help firms gain the technical and commercial knowledge to internationalize. Companies generally undertake the internationalization process as a cautious, step-wise progression and choose the pathways that appear more familiar and less risky (de Caldas Lima 2008). Firms that are successful in one area (for example, supplier linkages) also become increasingly likely to extend their involvement in other global production networks (for example, by coproducing with MNCs, direct exporting to international markets, or possibly shifting production processes or sales affiliates abroad) (Alcacer and Oxley 2014).

This report's quantitative case study from Rwanda and West Bengal, India (chapter 11), finds that all pathways of entry into GVCs raise the probability that a firm will become a direct exporter (figure O.7). Domestic firms were also found

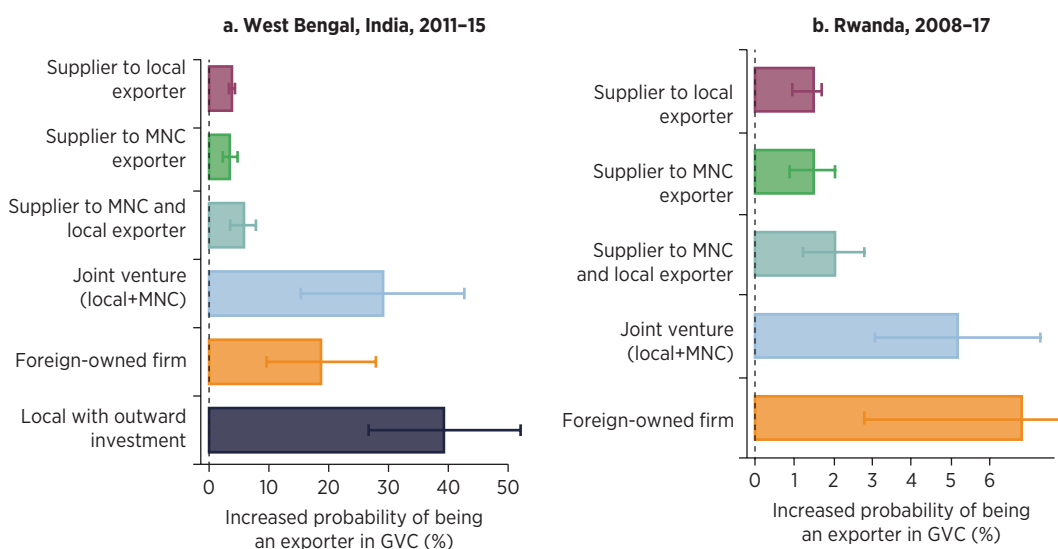
FIGURE 0.6 Domestic firms can improve their competitiveness by participating in global value chains and interacting with multinational corporations



Source: World Bank.

Note: GVC = global value chain; MNC = multinational corporation.

FIGURE 0.7 The more closely domestic firms interact with multinational corporations, the higher their probability of becoming direct exporters themselves



Source: World Bank calculations; see chapter 11 of this report.

Note: GVC = global value chain; MNC = multinational corporation.

to engage in more than one pathway to GVC entry (for example, supplying some MNCs while engaged in a joint venture with another MNC). The more closely domestic firms interact with international firms, the more likely they will start exporting themselves. As such, investment-based GVC participation (that is, joint ventures and outward FDI) is a stronger predictor of becoming an exporter than supplier linkages. These observations further illustrate that the most powerful engine of capacity building lies in firm-to-firm interactions (Sutton 2014) and that firms move into deeper levels of the pathways to GVC entry when they feel more confident and ready.

Domestic firms can achieve GVC upgrading by increasing their interactions with MNCs and by continuing to learn from them. This way, domestic firms can obtain the necessary production capabilities and foreign market knowledge to directly compete in international markets. Increased interactions strengthen firms' ability to produce more, or more complex, products, or with better quality, and in turn, improve overall firm performance. An event study of MNC suppliers in Costa Rica (Alfaro-Ureña, Manelici, and Vasquez 2019) uses firm-to-firm transaction data and finds that becoming a supplier to an MNC resulted in strong and persistent improvement in performance, including a 20 percent expansion of sales to non-MNC buyers, a 26 percent expansion in firms' workforces, and a 6–9 percent increase in total factor productivity four years after becoming a supplier. Similar evidence comes from a study in the Czech Republic (Javorcik and Spatareanu 2009) as well as from surveys of MNCs in which multinationals reported that between 35 percent and 50 percent of their suppliers had increased their technological competence because of continued engagement through supplier links (Ivarsson and Alvstam 2005, 2011).

Although foreign firms can spur productivity spillovers to domestic firms (Havránek and Irsova 2010), it is important to remember that MNCs are not actively trying to foster technological development in their suppliers and partners. When technological development and upgrading do occur, domestic firms are often the main instigators, constantly adapting their operations to better suit the global production networks established by MNCs (Calof and Beamish 1995) and respond to opportunities that they identify in the GVCs in which they participate (Jordaan, Douw, and Qiang 2020). For supplier linkages, firms should focus on the three L's: labeling, linking, and learning. For strategic alliances, they should aim to absorb the technical know-how within the alliance for their own competitive advantage. For outward FDI, firms become MNCs and need to develop their own GVC strategies. In many cases, firms make use of multiple strategies to increase their competitiveness in the international market.

Government policies can help integrate countries into global value chains through strong economic fundamentals and “light-handed” industrial policies

Governments have often played key roles in promoting GVC participation in the past decades. Governments shape key elements of GVCs through their macroeconomic policies, infrastructure building, enabling regulatory environment, and human capital development (World Bank 2020a). These government policies and actions constitute

a set of necessary minimum conditions for investment attraction and GVC participation. In some cases, governments have played a more direct role, in what some describe as “soft” or “light-handed” industrial policies (Harrison and Rodríguez-Clare 2010; Taglioni and Winkler 2016). These descriptors refer to government policy making at the micro level, aimed at solving specific sectors’ market failures caused by externalities, imperfect information, and coordination problems.

Policy makers can help improve and showcase a country’s comparative advantages to attract and link MNCs. Investment policies aim to solve specific market or government failures aligned with common determinants of FDI and trade within a country. These policies may focus on regulatory reforms to reduce restrictions or procedural burdens on investors. Or they may aim to provide public goods (for example, high-quality infrastructure) to MNCs within a special economic zone. In other cases, foreign investors may simply be made aware of a country’s endowments through its investment promotion agencies. Governments also use investment incentives to tilt MNCs’ decisions to locate to a new country.

Government policies can assist domestic firms with internationalizing and integrating into GVCs through continuous learning from engagements with foreign firms. Successful support programs tend to combine information provision (increasing exposure), matchmaking (overcoming coordination failures), and temporary subsidies (to compensate for expected social benefits from these interactions) to address specific market failures and stimulate positive externalities. They may combine matchmaking with support for strengthening local supplier capacity, facilitate strategic alliances building on competitive industries, safeguard competitive and contestable markets, and remove outward FDI restrictions and invest in R&D and human capital.

Successful integration of developing countries into GVCs requires that reforms be implemented as coherent packages. Individually such policies are likely to have a marginal effect, only partially addressing existing market or government failures. A combined approach, however, can be influential in shaping the behavior of both MNCs and domestic firms (Akileswaran, Calabrese, and Said 2018). For a combination of methods to work, a sustained, coordinated, and long-term approach is required, based on incentive mechanisms that are tailored to the specific needs of the countries, types of firms, and value chains in question (Cusolito, Safadi, and Taglioni 2016).

There is no “blueprint” for strengthening GVC integration; different countries have adopted different approaches to leveraging FDI according to their own comparative advantages and target GVCs. The choice of sector is not about “picking winners.” Through GVCs, firms in developing countries enter foreign markets at lower costs, benefit from specialization in niche tasks, and gain access to larger markets for their output. Such specialization is often the result of a country’s long-term involvement in a specific sector that takes advantage of and builds on the country’s unique combination of factor endowments and firm capacity.

This report identifies examples in which packages of policies were successfully used to improve the investment climate, link up with global lead firms, and make it less costly to produce and trade products in a GVC sector or segment (box O.1). Part II of this report provides more details on each of these case studies. The efficacy of specific approaches is partly based on GVC characteristics and a country’s income level. For example, strengthening MNC-supplier linkages can be especially effective

for GVCs that are simpler and whose inputs can be supplied at arm's length, whereas targeted investment promotion may be more influential in GVCs that are dominated by a few global lead firms. From left to right in figure BO1.1 in box O.1, the sectors become more complex and increasingly demanding on domestic firms that participate in GVCs. Sectoral complexity and firm capabilities are both correlated with country income level (Bloom and Van Reenen 2010; McMillan, Rodrik, and Verduzco-Gallo 2014).

BOX O.1 Examples of approaches for leveraging foreign direct investment to integrate into global value chains by combining policy instruments

This box summarizes some examples where countries successfully used a package of policies to integrate into specific global value chains (GVCs) by linking up with global lead firms. The usefulness of the various approaches is partly based on GVC characteristics and partly the general capacity that exists within domestic institutions and local firms (figure BO1.1).

FIGURE BO.1.1 Global value chain characteristics and capacity levels help identify suitable approach

GVC characteristics	GVCs with simpler inputs that can be supplied at arm's length but need to meet stringent global requirements set by lead firms	GVCs with many low-margin, distributed suppliers with highly competitive production and trade costs to supply global MNCs	GVCs dominated by a few global lead firms with expansive supply networks and distinct requirements to avoid supply chain disruptions	GVCs that rely on intangible assets (brands, management practices, production techniques) that can be codified and protected	GVCs that rely on intangible assets that are highly specialized and difficult to protect from competitors
Strategic approach	Use MNC-supplier linkages to help local firms meet global product standards	Invest in SEZs, and use trade and investment agreements to attract export-processing FDI	Use targeted investment promotion, incentives, and facilitation to attract global lead firms	Partner with foreign firms to help expand and upgrade an existing, viable industry	Promote outward FDI and invest in human capital and R&D capacity to help domestic firms develop and compete globally
Examples	Rwanda (coffee) Kenya (horticulture)	Honduras (textiles) Ethiopia (textiles)	Malaysia (electronics) Costa Rica (electronics)	Mauritius (tourism) India (BPO to fintech)	Korea Rep., India, and China (digital economy)
Common GVC type	Regional processing and commodities	Labor-intensive goods	Knowledge-intensive goods	Labor- and knowledge-intensive services	Knowledge-intensive goods and services



Lower-income countries Higher-income countries

Prevalence of use, based on country's income level

Source: World Bank.

Note: BPO = business process outsourcing; FDI = foreign direct investment; fintech = financial technology; GVC = global value chain; MNC = multinational corporation; R&D = research and development; SEZ = special economic zone.

Continued on next page >

BOX O.1 Examples of approaches for leveraging foreign direct investment to integrate into global value chains by combining policy instruments (*continued*)

- Using linkages between multinational corporations (MNCs) and suppliers to help local firms meet global product standards.* In many cases, the fastest way to integrate existing local firms into GVCs is to create pathways into international markets for them. Supplier linkages to foreign firms help local firms meet global product standards by stimulating the three L's: linking (providing local firms with supply channels and necessary information on global standards), learning (supporting them as they train to meet those standards), and labeling (facilitating the process of certifying their ability to meet the standards). Examples of this approach are found in Kenya's horticulture industry (English, Jaffee, and Okello 2004) and Rwanda's coffee industry (Morjaria and Steenberg 2017).
- Investing in special economic zones and using trade and investment agreements to attract export-processing foreign direct investment (FDI).* Countries can jump-start GVC participation by attracting low-cost, low-margin export-processing MNCs. To lower operating costs for such firms, governments can concentrate scarce public funding on building up certain areas (known as special economic zones) with higher-quality infrastructure and regulatory flexibility. These islands of excellence only work, however, when they address key market failures—such as access to land, high administrative costs, inconsistent electricity, and access to imported inputs—that discouraged foreign entry. To complement this public investment, governments can use bilateral investment treaties and trade agreements to lower investors' risks and trade costs. Examples of this approach were identified in the garment industry in Ethiopia (Oqubay 2015) and Honduras (Farole and Akinci 2011).
- Using targeted investment promotion, incentives, and facilitation to attract global lead firms.* A government may also target specific global lead firms in a select GVC and use promotion efforts to attract them to the country. The government sometimes may offer these "superstar" firms temporary tax incentives and firm-specific support (such as vocational training, purpose-built infrastructure, and customs support) to entice them to come. Such lead firms can help establish a new GVC cluster in the country that will help upgrade domestic suppliers and attract additional FDI over time. Examples of this approach are found in the electronics industries in Costa Rica and Malaysia (Freund and Moran 2017).
- Partnering with foreign firms to help expand and upgrade an existing, viable industry.* Another approach aims to expand and upgrade an existing, viable industry into a higher-value GVC segment. Local firms may seek out partnerships with foreign firms to access their technology, international brands, and managerial techniques. MNCs may choose to partner with such local firms to access their complementary capacities and knowledge of the domestic market. Facilitating such collaborations (through joint ventures, franchising, or licensing) can help a country's existing industries shift into higher-value tasks and segments within their GVCs. Examples of this approach can be found in India's shift from business processing to financial technology (Fernandez-Stark, Bamber, and Gereffi 2011) and Mauritius's tourism industry (Cattaneo 2009).
- Promoting outward FDI and investing in human capital and research and development to help domestic firms develop and compete globally.* A final approach is for large, competitive domestic firms to develop their own global production and sales networks by investing overseas. Governments may support this development by building human capital and helping firms to invest in research and development. Outward FDI can be stimulated by liberalizing outward investment regulation and through proactive promotion using a combination of financial and fiscal measures, information provision, development assistance programs, and international investment agreements. Prominent examples of this approach are found in the Republic of Korea, India, and China related to the digital economy (see chapter 10 of this report).

Source: Summary from the case studies in part II (chapters 6 to 11) of this report.

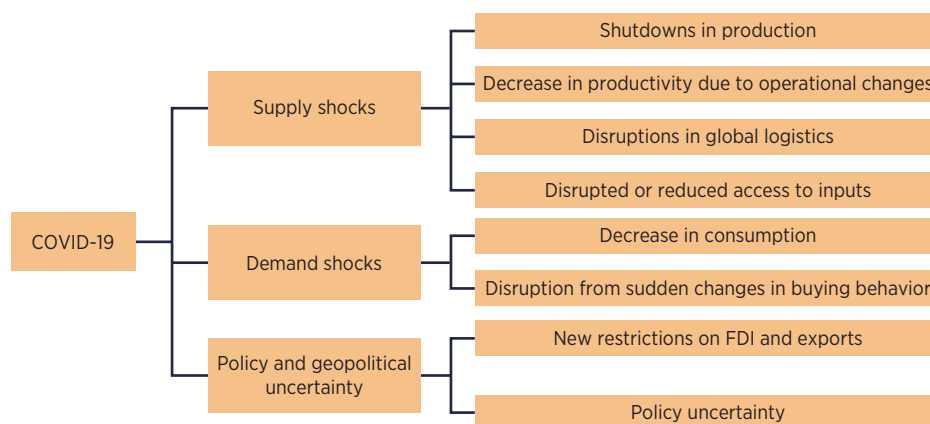
COVID-19 has triggered new challenges for global value chains

The COVID-19 pandemic has posed unprecedented challenges to GVCs worldwide. Global trade is projected to fall by 9.5 percent in 2020, a 10.6-percentage-point decrease from 2019 (World Bank 2021). Although trade is expected to recover in 2021, the timing of this recovery depends on the duration of the outbreak and the effectiveness of policy responses to it (WTO 2020). FDI, which was already in decline before the pandemic, fell by 42 percent in 2020 (UNCTAD 2021). This stark drop in trade and FDI reflects the confluence of pandemic-induced supply and demand shocks and policy and geopolitical uncertainties (figure O.8). COVID-19's impact on FDI may persist longer than that on trade as MNCs wait to make investment plans, given current weak demand and the tremendous uncertainty in the global economy.

Although declines in GVC activities are evident across nearly all sectors, certain sectors have experienced more severe supply disruptions or larger drops in demand than others. From a supply perspective, sectors whose supply chains are more concentrated in areas heavily afflicted by the pandemic and those whose supply chains are longer or more complex have felt greater supply chain pressure. On the demand side, the direct effect of lockdowns and travel bans has been greater for sectors that rely on in-person spending, such as hotels and accommodations. In addition, certain sectors, such as energy and financial services, are more procyclical than others, making them more vulnerable to the general decline in economic activity caused by the pandemic.

The adverse effects of the COVID-19 pandemic on GVCs translate into impacts on the firms involved in GVCs, which range from MNCs and other large corporations to small local suppliers and customers. The chief executives of the large firms and MNCs that anchor many GVCs generally believe that it will take years for business activities to return to precrisis levels (Murray 2020). A World Bank Group survey (Saurav et al. 2020a) of MNC affiliates in 34 low- and middle-income countries finds similar results: 97 percent of respondents have experienced some adverse impacts since the

FIGURE O.8 COVID-19 (coronavirus) affects global value chains through a combination of supply, demand, and policy shocks



Source: World Bank 2020b.

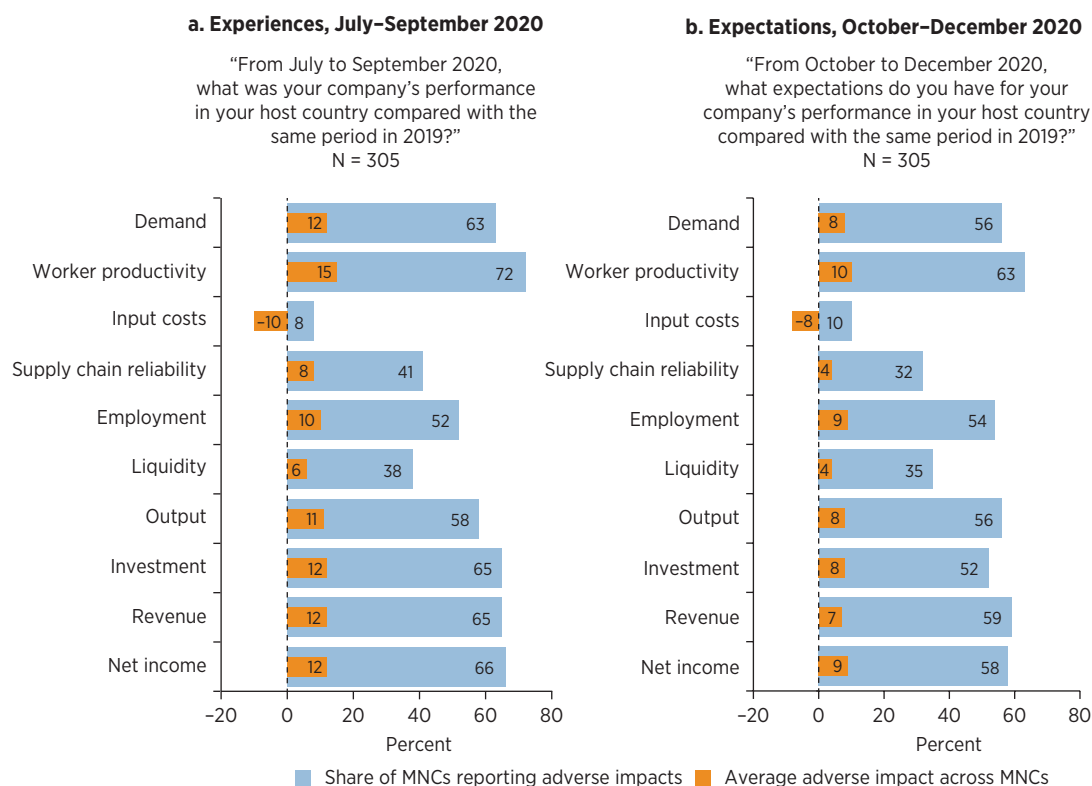
Note: FDI = foreign direct investment.

pandemic began. The most substantial impacts resulted from weak demand, reduced worker productivity, and reduced investment. Business performance improved in the third quarter of 2020, but nearly 60 percent of survey respondents still expected income and revenue to be down in the fourth quarter compared with the same period in 2019 (figure O.9), highlighting that the effects of the crisis are likely to remain widespread.

In turn, suppliers to MNCs, many of which are SMEs, are in turn facing pressure. They are exposed to ripple effects from both demand and supply shocks. SMEs are more financially fragile than larger firms and may lack the capacity to adjust their business models in light of the COVID-19 pandemic. The pandemic has thus far exacerbated preexisting credit and liquidity constraints among SMEs and posed an existential threat to many suppliers and SMEs.

Although the Schumpeterian view postulates that crises can have a cleansing effect and increase long-term productivity by eliminating inefficient firms, these firms, integrated into GVCs, are normally the most productive ones in their sectors. However, in the wake of COVID-19, they are also facing severe shocks. Losing this part of the economy would slow each country's recovery and depress overall productivity. In addition, protracted crises destroy entrepreneurial knowledge and have negative consequences for long-term growth.

FIGURE O.9 COVID-19 (coronavirus) has had adverse impacts on most multinational corporations since its outbreak, with some easing expected in the fourth quarter of 2020



Sources: Saurav et al. 2020a, 2020b.

Note: MNC = multinational corporation.

Firms take various measures to survive the crisis, enhance agility, and speed up business transformation

Firms have taken various measures to survive the crisis, such as furloughing employees, repurposing production lines, and adopting new technologies. Some of these measures were taken at the start of the outbreak to keep businesses afloat, whereas other measures are intertwined with long-term megatrends and will take time to materialize. Shrinking market demand and disruptions to supply chains push firms to aggressively reduce their expenditures. However, cost-cutting is less likely to occur in areas that are perceived to be critical to sustaining growth in the midst of the pandemic, such as digital transformation, customer experience management, and cybersecurity (Edwards 2020). In contrast to the cuts they have made to labor costs, firms are seizing the opportunity to roll out new technologies in these areas and to speed up their digital transformations.

Several businesses, across industries and countries, are repurposing their production lines and R&D capabilities to supply critical materials for the fight against COVID-19 or are pivoting to new ways to generate revenue. For example, textile companies are making hygienic masks and medical robes, cosmetics companies are making hand sanitizer, hotels have become quarantine centers, and automotive companies are evaluating their options to produce urgently needed medical devices such as ventilators. Repurposing can simultaneously serve the greater good, help businesses keep their production lines up and running in times of low demand, generate moderate revenue, and positively affect businesses' reputations (Qiang et al. 2020).

It might be premature to conclude that firms should or will shift gears from "just-in-time" GVCs to "just-in-case" GVCs. Shorter GVCs and localized production are not necessarily less vulnerable to shocks. Supplier diversification and relocation can be costly and impractical for complex products. And holding more inventory and building redundant capacity would create inefficiencies in many industries.

Eventually firms' supply chain strategies should adhere to the same principles as ever: assess costs, take risk-based precautions, and build tools to enhance agility and flexibility. Mapping supply chains, investing in digital technologies to monitor risks and make timely adjustments, standardizing inputs to facilitate replacement, stockpiling strategically important inputs, building extra capacity (in low-risk tolerance businesses), and rationalizing production lines are all options. As business leaders struggle to guide their firms through the COVID-19 crisis and to plan for the long term, decisions ranging from where to sell to how to manage supply chains will ultimately hinge on business rationales as well as expectations about the future of globalization.

COVID-19 is unlikely to significantly change global value chains

Debate continues about whether COVID-19 will significantly change GVCs. Some economists foresee little significant change and predict that adjustments will be concentrated in health-related industries because the economic rationales for most GVCs

continue to hold. Others believe that COVID-19 has become a wake-up call for a new risk-reward balance for GVCs (Baldwin and Evenett 2020) because pandemics, climate change, natural disasters, and human-caused crises may expose the world to more frequent shocks.

Indeed, the pandemic has highlighted the importance of supply chain robustness and resilience, and reopened the question of reshoring, nearshoring, and regionalization of value chains. Some economists foresee more unexpected shocks and argue for an increasing emphasis on holding more inventory, diversifying suppliers, and shortening supply chains (Javorcik 2020). Others recommend that firms “aggressively evaluate near-shore options and increase proximity to customers” (Betti and Hong 2020). Some policy makers are even calling for their countries’ manufacturers to bring their production back home for self-reliance.

Many business executives find that these prescriptions oversimplify the problem or are driven by other motives. The presence of extensive supply chain networks with diversified and geographically dispersed suppliers is actually the rescue in the pandemic rather than the problem. GVCs have proven their resilience during the pandemic by adjusting better and contributing to firms’ speedy recovery. Those calls for reshoring may be just wishful thinking: Incentives provided by a small number of governments (Japan, for instance) are too small to cover the costs of moving, let alone the continuing burden of a higher cost base (Beattie 2020). A World Bank survey of MNCs found that 37 percent and 18 percent were diversifying their sourcing and production bases, respectively, in response to COVID-19, but only a relatively small portion (14 percent) were considering nearshoring or reshoring (Saurav et al. 2020a).

Regional value chains are likely to intensify in the future, driven by new technologies and shifting global economic governance. Additive manufacturing, automation, and 3D (three-dimensional) printing could result in more integrated production processes, making nearshoring and onshoring more feasible and appealing, as companies start manufacturing goods closer to markets with higher levels of customization (UNCTAD 2020b; Zhan 2021). New production technologies such as 3D printing and others could lead to unbundling. Global economic governance is also shifting away from multilateral to regional and bilateral policy frameworks (UNCTAD 2020b). The Regional Economic Partnership Agreement signed in November 2020, for example, will further deepen investment and trade relations between member countries in Asia (Cali 2020).

However, GVCs remain critical given that the largest trading economies are located in different regions. The recently signed European Union–Vietnam free trade agreement and the European Union–China Comprehensive Agreement on Investment will further enhance integration between Europe and the East Asia and Pacific region. Other regions, including Latin America and the Caribbean, South Asia, and Sub-Saharan Africa have always relied more heavily on GVCs than on regional value chains because of limited intraregional specialization, and these regions continue to deepen their integration with global partners.

In addition, highly complex products, servicification of manufacturing, and potential services offshoring could intensify global fragmentation. High-tech sectors, for example, require a wide spectrum of knowledge and know-how that involves many countries scattered around the world (World Bank et al. 2019). More advanced production methods increasingly require embedding various digital and information

and communication technology services within the manufacturing process or as new services added to final products (such as software upgrades for cars and washing machines). These changes can lead to a hybrid, highly fragmented environment in which manufacturing activities are increasingly integrated with digital services (Bolwijn, Casella, and Zhan 2018; UNCTAD 2020a). Complex tasks in services sectors that can be performed remotely—which likely increased substantially as a by-product of the pandemic—may build up a new “frontier” of offshoring (Zhan 2020).

New technologies, market concentration, economic nationalism, drive for sustainability, and multinational corporations from the developing world will play an increasing role in shaping future global value chains

Five trends that began before the COVID-19 outbreak have been amplified or accelerated as a result of this crisis:

Technology adoption. COVID-19 has been an unexpected catalyst for technology adoption across the world. When the outbreak and lockdown measures snarled GVCs, firms realized the importance of value chain visibility and risk management, as they have in previous crises. Because of this heightened understanding, 88 percent of MNCs surveyed by the World Bank in the third quarter of 2020 reported increasing their use of digital supply chain management technologies. The pandemic drove a rapid migration to online settings across every domain, and many of those changes are here to stay. At present, many firms have to serve their customers through online channels and allow employees to work remotely whenever possible, which has created a boom for video conferencing, online shopping, contactless payment, and delivery services. The COVID-19 lockdowns have also increased interest in robotics adoption and 3D printing.

Concentration of market power in some major industries was already an emerging policy concern before COVID-19. In digital markets, network externalities associated with platform-based business models have led to winner-takes-all outcomes. COVID-19 could cause a further rise in corporations’ market power because large corporations are in the best position to withstand the economic downturn and deploy new technologies. Digital platform businesses have been among the few to experience soaring demand at a time when the rest of the economy was shutting down. History suggests that economic slowdowns widen existing divisions between companies. The same divergence has been evident since the start of the COVID-19 outbreak (Aviva Investors 2020). Moreover, there has already been a wave of business bankruptcies (Mathurin, Aliaj, and Fontanella-Khan 2020) and permanent closures since the pandemic began, and the wave is expected to grow. Increasing corporate market power could lower consumer well-being, decrease demand for labor, and dampen investment in capital, eventually distorting the distribution of economic rents and discouraging innovation.

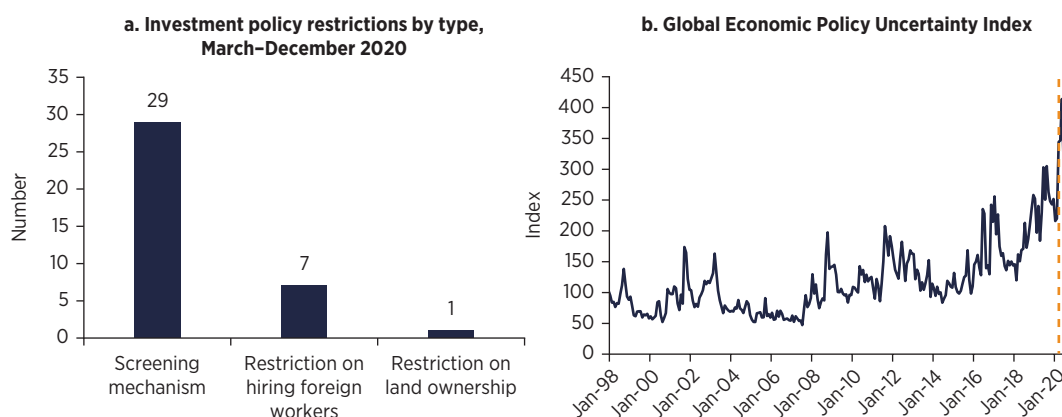
Economic nationalism was on the rise even before the COVID-19 crisis, and it has gained further momentum since the outbreak began. Defensive nationalism—closing borders, building walls, imposing tariffs, and cutting back on migration—was a defining feature of the past decade (Bush 2020). It began in developed economies,

stemming from their domestic backdrops of disappointing economic performance since the global financial crisis, rising inequality and political polarization. The pandemic has reinforced recent trends toward restrictive investment and trade policies and economic nationalism. Many countries have already adopted more stringent approaches to screening foreign investment to protect domestic businesses and industrial actors. The most common measure introduced since March 2020 has been increasing screening (29 countries), followed by restrictions on hiring foreign workers (7 countries), and tightening regulations on land ownership (1 country) (figure O.10, panel a). Some countries are also emphasizing self-reliance and taking an inward-looking stance on both economic and foreign policy (Baldwin and Evenett 2020). As a result, the global economic policy uncertain index reached a historical peak in March 2020 (figure O.10, panel b).

Awareness of and push for sustainability. The COVID-19 crisis has raised critical awareness of the links between nature, health, and sustainable development. Increased caution and scrutiny from regulatory authorities, consumers, investors, business partners, insurers, banks, and financial markets could all push firms to be more environmentally responsible and identify synergies between sustainability and business rationale. A rising number of MNCs have already pledged to work only with suppliers that adhere to their social and environmental standards (Villena and Gioia 2020). Sustainability trends are likely to accelerate and will play a bigger role in influencing the future development of GVCs, although it is important to recognize the costs associated with building up green production networks and to develop collective approaches to addressing externalities and sharing the costs and responsibilities. By transforming private sector activity through sustainable investment, countries can accelerate their recoveries and stimulate resilient growth.

More top MNCs are from developing countries and are state-owned enterprises. Many competitive firms have sprung up in developing countries amid rapid economic growth and deepening global integration in the past decade. By 2019, outward FDI flows

FIGURE O.10 The pandemic reinforced economic nationalism and escalated policy uncertainty



Source: World Bank calculations based on Forneris and de Bonneval, forthcoming; Global Economic Policy Uncertainty Index constructed by Baker, Bloom, and Davis (<https://www.policyuncertainty.com/about.html>).

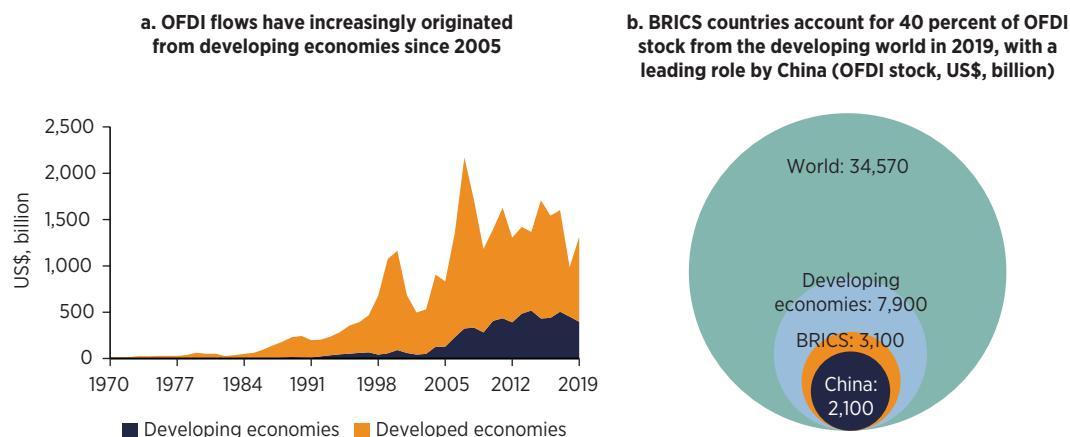
Note: Updated January 18, 2021.

from developing countries were the equivalent of more than 40 percent of that from developed countries (figure O.11, panel a). A few large developing countries made up the bulk of the developing-country outward FDI stock (figure O.11, panel b). In 2020, 158 of the Fortune 500 companies were from developing countries, more than double the 76 in 2010.¹ State-owned enterprises are also growing cross-border market players—their share among the world’s 2,000 largest firms doubled to 20 percent in the past two decades, driven by state-owned enterprises in developing markets (Qiang and Pop 2020). Outward FDI from middle-income countries increasingly aims to gain access to strategic assets such as cutting-edge technology, globally recognized brand names, and established customer networks. On the other hand, country-of-origin effects or state ownership may create a disadvantageous image among potential clients (Bilkey and Nes 1982; OECD 2016). In any event, MNCs from developing countries will play an increasing role in shaping future GVCs, and the new dynamics and impact are yet to be seen, which may have important implications for global policy coherence and coordination.

Maintaining an open system and improving countries’ investment competitiveness are key to global economic recovery

It is far too early to declare the end of GVCs and globalization, as some are doing. The COVID-19 outbreak is a stress test for globalization. This pandemic has revealed the complex interdependence of economies around the world. For years to come, many will likely cite this crisis as one of the inflection points calling for a reevaluation

FIGURE O.11 Outward foreign direct investment flows and stock



Source: World Bank calculations based on data from United Nations Conference on Trade and Development (<https://unctadstat.unctad.org/EN/>).

Note: BRICS = Brazil, Russian Federation, India, China, and South Africa; FDI = foreign direct investment; OFDI = outward foreign direct investment.

of collective attitudes toward globalization. Protectionism and nationalism, like the world's other preexisting conditions, started before the COVID-19 crisis. It is not surprising to see heightened consideration for national security (in areas such as health, food, information, and technology) and environmental sustainability in light of the outbreak. But some of the new restrictions on investment and trade are not necessarily meant to increase productivity.

Policy makers need effective strategies to preserve and improve countries' investment climate through the COVID-19 pandemic and to expand the private sector's role in driving productive jobs and economic transformation during the recovery. The crisis is disrupting the pathways by which countries achieve productivity growth—and, by extension, job and wage growth—by threatening spatial integration (by disrupting international production), reallocation (by reducing competitive pressure), and technological upgrading (by reducing cross-border investment). However, the crisis also provides opportunities for deep structural changes and for rebuilding systems better than they were before.

GVCs will continue to evolve. Financial incentives, as well as considerations of national security and environmental sustainability, will affect the geographic configuration of some GVCs and locational decisions within them. Potential GVC reconfigurations could create opportunities for some developing countries that are close to major markets, benefiting from possible nearshoring, and that have both comparative advantages in relevant sectors and business environments that are open and conducive to GVC entry.

Should new investment opportunities emerge, they will require new priorities for investment policies and investment promotion reforms. Policy makers should reflect on the market's possible shifts and let business realities guide their policy responses, building on economic fundamentals. This will entail realigning investment incentive regimes to the new national development priorities likely to emerge after COVID-19. Governments should also resist protectionist policies. Crisis-related investment screening and approval mechanisms should be limited and phased out to allow FDI to resume normal entry.

Tackling the complex challenges presented by the current global environment will require global leadership and cooperation. The pandemic has illustrated the shared public health and economic vulnerabilities that countries face. It has also highlighted the critical importance of exchanging data, sharing information on good practices, and strengthening collaboration. The magnitude and scale of the current crisis require policy makers to deploy their full set of policy tools to improve business confidence and boost countries' investment competitiveness. Global policy coordination has become even more important given that multilateralism has been challenged on several fronts. Maintaining an open system, solidifying trust among countries, and ensuring shared benefits from FDI and GVC participation are key to the world's future economic growth.

Note

1. For more information, see Fortune 500 (<https://fortune.com/global500/2020/search/>).

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