A World Bank Group Flagship Report

WORLD DEVELOPMENT REPORT 2020

TRADING FOR DEVELOPMENT IN THE AGE OF GLOBAL VALUE CHAINS

OVERVIEW

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This booklet contains the overview from *World Development Report 2020: Trading for Development in the Age of Global Value Chains,* doi: 10.1596/978-1-4648-1457-0. A PDF of the final book, once published, will be available at https://openknowledge.worldbank.org/ and http://documents.worldbank.org/, and print copies can be ordered at www.amazon.com. Please use the final version of the book for citation, reproduction, and adaptation purposes.

Cover image: The cover image is a screen capture of an interactive visualization depicting the flow of international trade, with each dot representing US$1 billion in value. The interactive map was created by data visualization expert Max Galka, from his Metrocosm blog: http://metrocosm.com/map-international-trade/. Used with the permission of Max Galka; further permission required for reuse.

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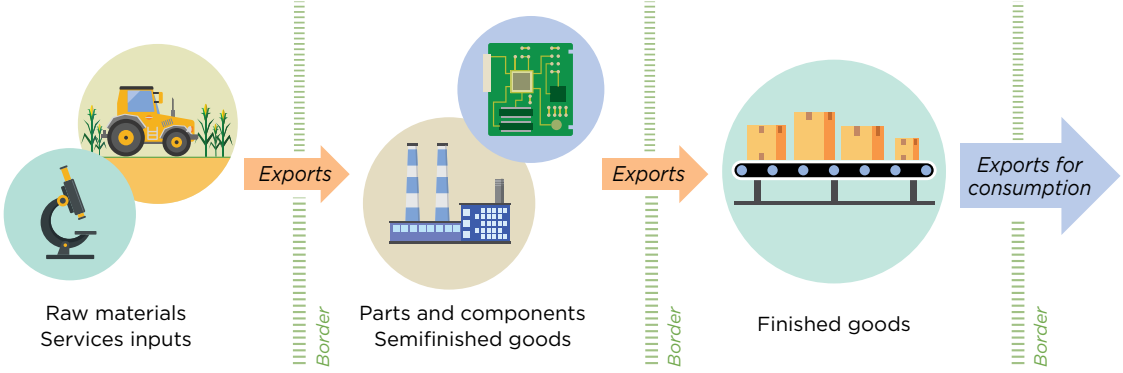
World Development Report 2020: Trading for Development in the Age of Global Value Chains

What is a global value chain (GVC)?

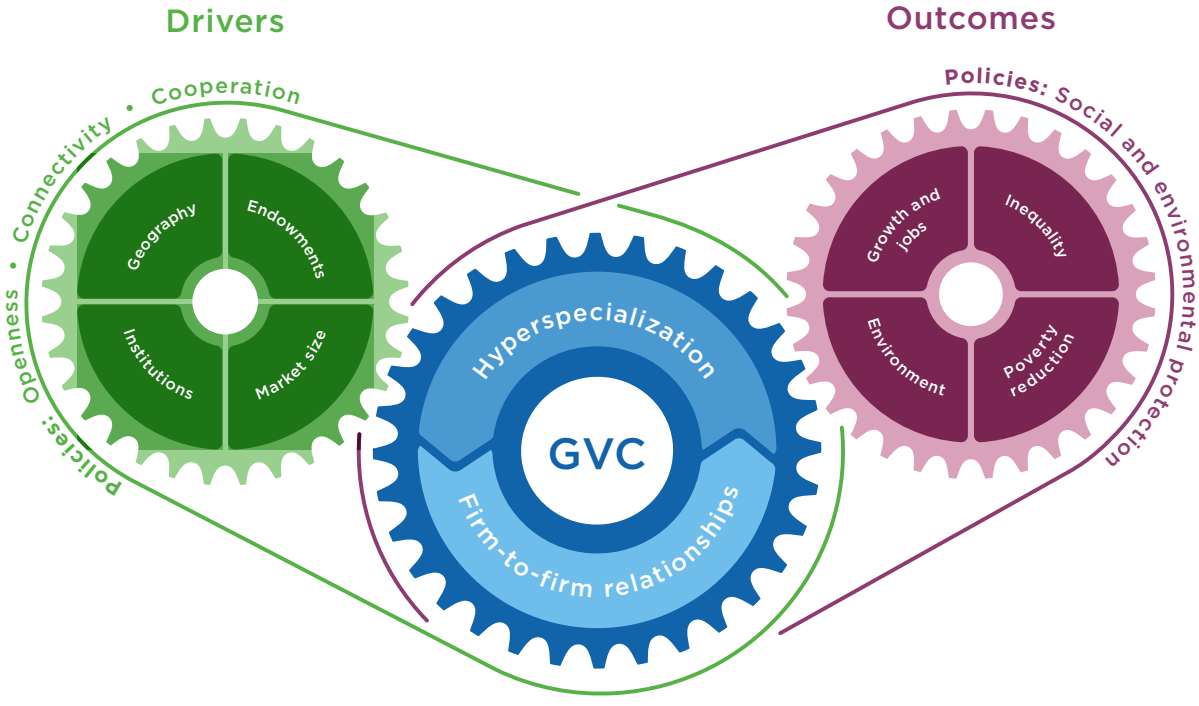
A global value chain breaks up the production process across countries. Firms specialize in a specific task and do not produce the whole product.



How do GVCs work?

Interactions between firms typically involve durable relationships.

Economic fundamentals drive countries' participation in GVCs. But policies matter—to enhance participation and broaden benefits.



Overview

GVCs can continue to boost growth, create better jobs, and reduce poverty—provided that developing countries undertake deeper reforms and industrial countries pursue open, predictable policies.

International trade expanded rapidly after 1990, powered by the rise of global value chains (GVCs). This expansion enabled an unprecedented convergence: poor countries grew faster and began to catch up with richer countries. Poverty fell sharply.

These gains were driven by the fragmentation of production across countries and the growth of connections between firms. Parts and components began crisscrossing the globe as firms looked for efficiencies wherever they could find them. Productivity and incomes rose in countries that became integral to GVCs—Bangladesh, China, and Vietnam, among others. The steepest declines in poverty occurred in precisely those countries.

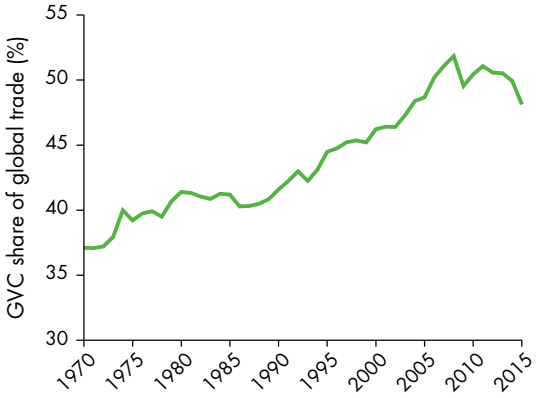
Today, however, it can no longer be taken for granted that trade will remain a force for prosperity. Since the global financial crisis of 2008, the growth of trade has been sluggish, and the expansion of GVCs has slowed. The last decade has seen nothing like the transformative events of the 1990s—the integration of China and Eastern Europe into the global economy and major trade agreements such as the Uruguay Round and the North American Free Trade Agreement (NAFTA).

At the same time, two potentially serious threats have emerged to the successful model of labor-intensive, trade-led growth. First, the arrival of labor-saving technologies such as automation and 3D printing could draw production closer to the consumer and reduce the demand for labor at home and abroad. Second, trade conflict among large countries could lead to a retrenchment or a segmentation of GVCs.

What does all this mean for developing countries seeking to link to GVCs, acquire new technologies, and grow? Is there still a path to development through GVCs? Those are the central questions explored in this Report. It examines the degree to which GVCs have contributed to growth, jobs, and reduced poverty—but also to inequality and environmental degradation. It spells out how national policies can revive trade growth and ensure that GVCs are a force for development rather than divergence. Finally, it identifies inadequacies in the international trade system that have fomented disagreements among nations and provides a road map to resolving them through greater international cooperation.

This Report concludes that GVCs can continue to boost growth, create better jobs, and reduce poverty, provided that developing countries undertake deeper reforms and industrial countries pursue open, predictable policies. Technological change is likely to be more of a boon than a curse for trade and GVCs. The benefits of GVC participation can be widely shared and sustained if all countries enhance social and environmental protection.

Figure O.1 GVC trade grew rapidly in the 1990s but stagnated after the 2008 global financial crisis



Sources: WDR 2020 team, using data from Eora26 database; Borin and Mancini (2019); and Johnson and Noguera (2017). See appendix A for a description of the databases used in this Report.

Note: See figure 1.2 in chapter 1 for details. Unless otherwise specified, GVC participation measures used in this and subsequent figures throughout the Report follow the methodology from Borin and Mancini (2015, 2019).

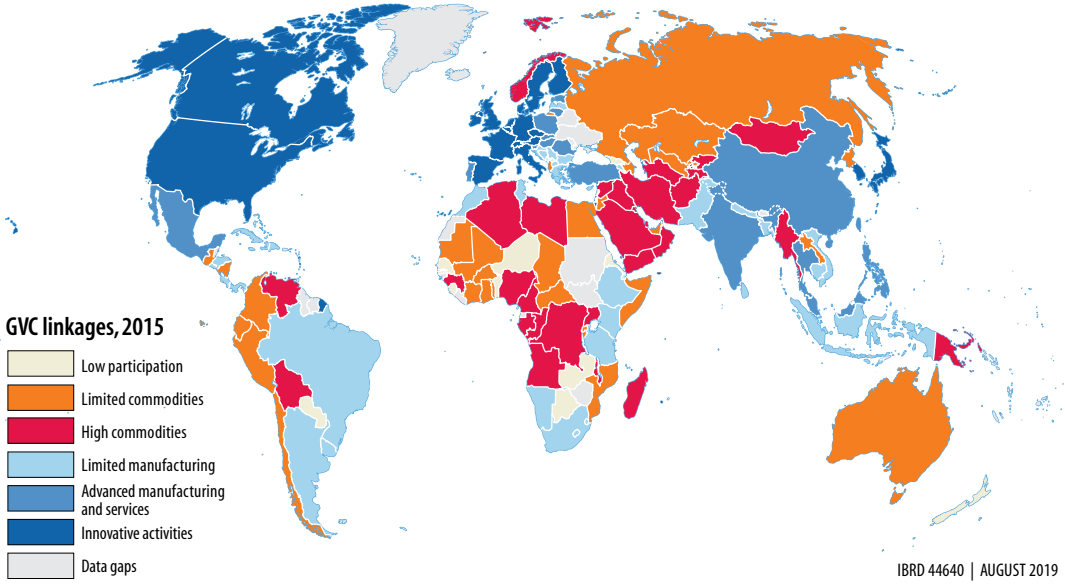
The expansion of GVCs could stall unless policy predictability is restored

GVCs have existed for centuries. But they grew swiftly from 1990 to 2007 as technological advances—in transportation, information, and communications—and lower trade barriers induced manufacturers to extend production processes beyond national borders (figure O.1). GVC growth was concentrated in machinery, electronics, and transportation, and in the regions specializing in those sectors: East Asia, North America, and Western Europe. Most countries in these regions participate in complex GVCs, producing advanced manufactures and services, and engage in innovative activities (map O.1). By contrast, many countries in Africa, Latin America, and Central Asia still produce commodities for further processing in other countries.

In recent years, however, trade and GVC growth have slowed (figure O.1). One reason is the decline in overall economic growth, and especially investment. Another reason is the slowing pace and even reversal of trade reforms. Furthermore, the fragmentation of production in the most dynamic regions and sectors has matured. China is producing more at home.[1] In the United States, a booming shale sector reduced oil imports by one-fourth between 2010 and 2015 and slightly reduced the incentives to outsource manufacturing production.[2]

Recent increases in protection could also affect the evolution of GVCs. Protectionism could induce reshoring of existing GVCs or their shifts to new locations. Unless policy predictability is restored, any expansion of GVCs is likely to remain on hold. When future access to markets is uncertain, firms have an incentive to delay investment plans until uncertainty is resolved.

Map O.1 All countries participate in GVCs—but not in the same way



Source: WDR 2020 team, based on the GVC taxonomy for 2015 (see box 1.3 in chapter 1).

Note: The type of a country's GVC linkages is based on (1) the extent of its GVC participation, (2) its sectoral specialization in trade, and (3) its engagement in innovation. Details are provided in figure 1.6 in chapter 1.

GVCs boost incomes, create better jobs, and reduce poverty

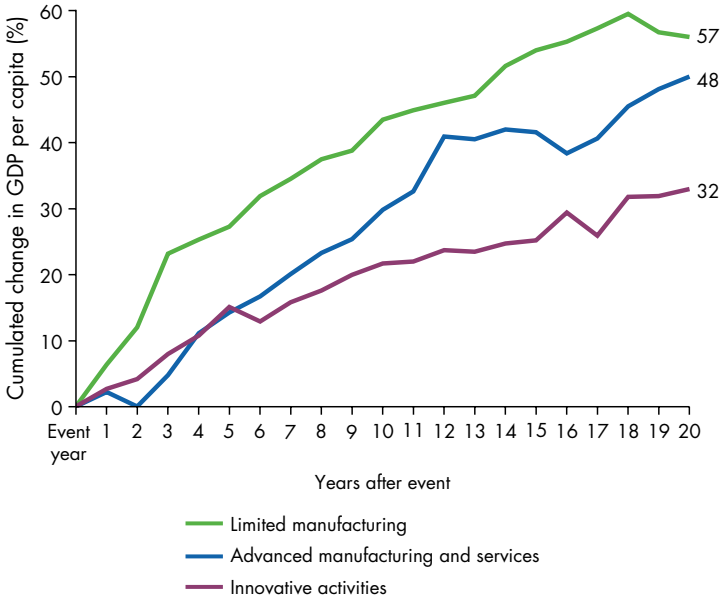
Hyperspecialization enhances efficiency, and *durable firm-to-firm relationships* promote the diffusion of technology and access to capital and inputs along chains. For example, in Ethiopia firms participating in GVCs are more than twice as productive as similar firms that participate in standard trade. Firms in other developing countries also show significant gains in productivity from GVC participation. A 1 percent increase in GVC participation is estimated to boost per capita income by more than 1 percent, or much more than the 0.2 percent income gain from standard trade. The biggest growth spurt typically comes when countries transition out of exporting commodities and into exporting basic manufactured products (for example, garments) using imported inputs (for example, textiles) (figure O.2), as has happened in Bangladesh, Cambodia, and Vietnam.

Eventually, however, these high growth rates cannot be sustained without moving to progressively more sophisticated forms of participation. But the transitions from limited manufacturing to more advanced manufacturing and services, and finally to innovative activities (the GVC taxonomy used in this Report is explained further in box 1.3 in chapter 1), become increasingly more demanding in terms of skills, connectivity, and regulatory institutions.

GVCs also deliver better jobs, but the relationship with employment is complex. Firms in GVCs tend to be more productive and capital-intensive than other (especially nontrading) firms, and so their production is less job-intensive. However, the enhanced productivity leads to an expansion in firm output and thus to increases in firm employment.[3] As a result, GVCs are associated with structural transformation in developing countries, drawing people out of less productive activities and into more productive manufacturing and services activities. Firms in GVCs are unusual in another respect: across a wide range of countries, they tend to employ more women than non-GVC firms.[4] They contribute therefore to the broader development benefits of higher female employment.

Because they boost income and employment growth, participation in GVCs is associated with a reduction in poverty.[5] Trade in general reduces poverty primarily through growth. Because gains in economic growth from GVCs tend to be larger than from trade in final products, poverty reduction from GVCs also turns out to be greater than that from standard trade. In Mexico and Vietnam, for example, the regions that saw more intensive GVC participation also saw a greater reduction in poverty.

Figure O.2 GDP per capita grows most rapidly when countries break into limited manufacturing GVCs



Sources: WDR 2020 team, using data from the World Bank's WDI database and the GVC taxonomy for 1990–2015 based on Eora26 database.

Note: The event study quantifies the cumulated change in real GDP per capita in the 20 years following a switch from a lower to a higher stage of GVC engagement. See box 3.3 in chapter 3 for the methodology.

The gains from GVCs are not equally shared, and GVCs can hurt the environment

The gains from GVC participation are not distributed equally across and within countries. Large corporations that outsource parts and tasks to developing countries have seen rising markups and profits, suggesting that a growing share of cost reductions from GVC participation are not being passed on to consumers.[6] At the same time, markups for the producers in developing countries are declining. Such a contrast is evident, for example, in the markups of garment firms in the United States and India, respectively.

Within countries, exposure to trade with lower-income countries and technological change contribute to the reallocation of value added from labor to capital. Inequality can also creep upward in the labor market, with a growing premium for skilled work and stagnant wages for unskilled work.[7] Women also face challenges: GVCs may offer more women jobs, but they seem to have even lower glass ceilings. Women are

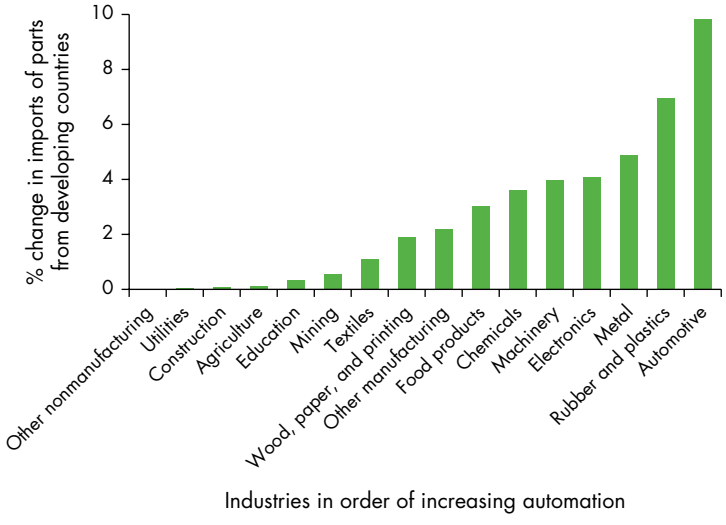
generally found in the lower value-added segments; it is hard to find women owners and managers.[8]

GVCs can also have harmful effects on the environment. The main environmental costs of GVCs are associated with the growing, more distant trade in intermediate goods compared with standard trade. This leads to higher carbon dioxide (CO_2) emissions from transportation (relative to standard trade) and to excess waste (especially in electronics and plastics) from the packaging of goods. The growth generated by GVCs can also strain natural resources, especially if accompanied by production or energy subsidies, which encourage excess production. On a more positive note, the concern that firms may choose to locate the most polluting stages of production in countries where environmental norms are laxer is not borne out by the data.

New technologies on balance promote trade and GVCs

The emergence of new products, new technologies of production such as automation and 3D printing, and new technologies of distribution such as digital platforms is creating both opportunities and risks. But the evidence so far suggests that on balance these technologies are enhancing trade and GVCs.

Figure O.3 Automation in industrial countries has boosted imports from developing countries



Source: Artuc, Bastos, and Rijkers 2018.

Note: The figure depicts the automation-induced increase in industrial countries' imports of materials from developing countries by broad sector over 1995–2015. The change in imports of parts is measured in log points; a 0.10 increase in log points is roughly equivalent to a 10 percent increase in imports.

Innovation is leading to the emergence of new traded goods and services, which contributes to faster trade growth. In 2017, 65 percent of trade was in categories that did not exist in 1992.

Surprisingly, new production technologies are also likely to boost trade. Automation does encourage countries to use less labor-intensive methods and reduces the demand for the labor-intensive products of developing countries. However, the evidence on reshoring is limited,[9] and the evidence on automation[10] and 3D printing[11] suggests that these technologies have contributed to higher productivity and a larger scale of production. As such, they have *increased* the demand for imports of inputs from developing countries (figure O.3).

Similarly, digital platform firms are reducing the cost of trade and making it easier for small firms to break out of their local markets and sell both goods and services to the world. But there are signs that the rising market power of platform firms is affecting the distribution of the gains from trade.[12]

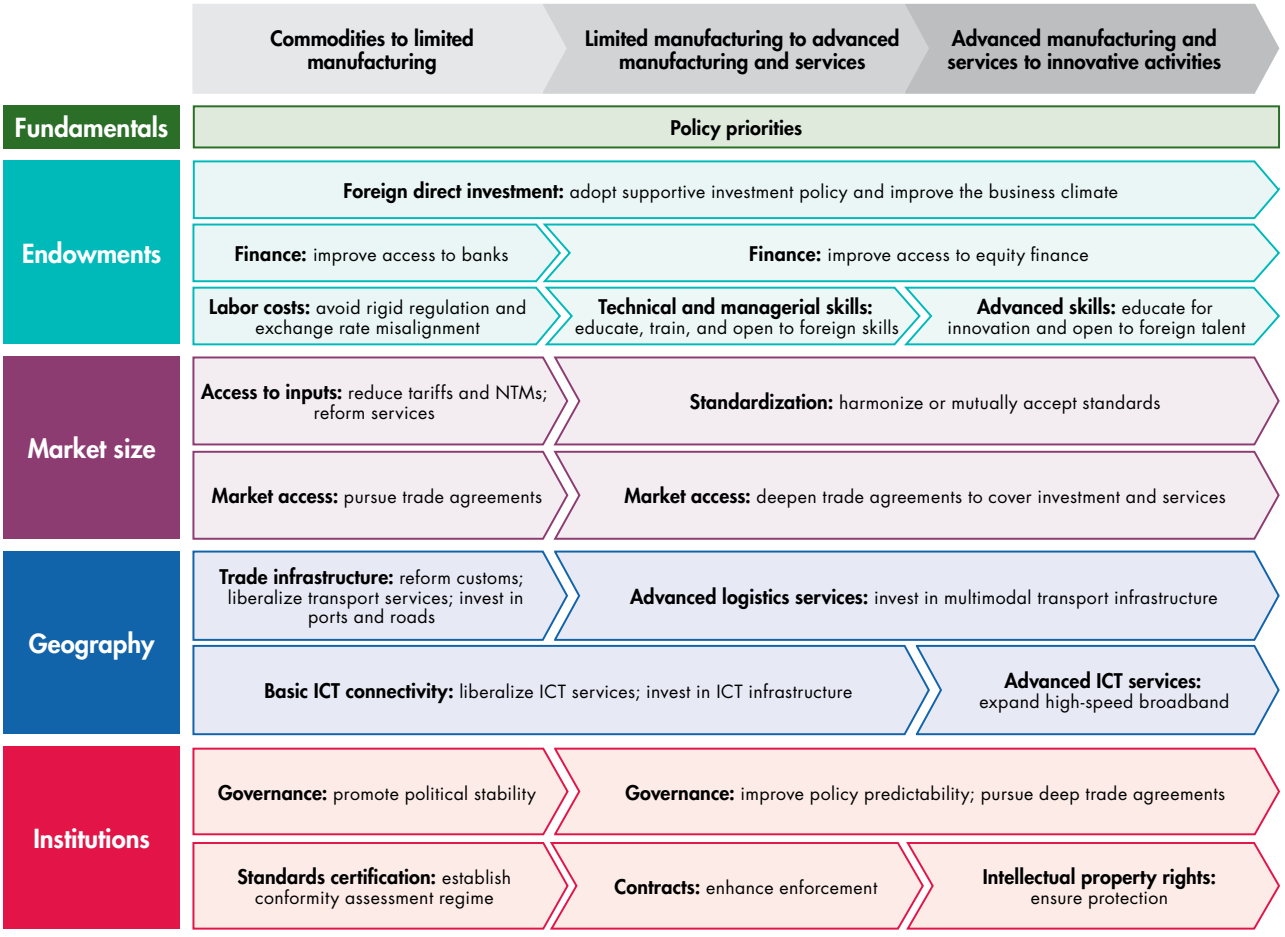
National policies can boost GVC participation

In principle, breaking up complex products such as cars and computers allows countries to specialize in simpler parts and tasks, making it easier for those at an early stage of development to participate in trade. But a country's ability to participate in GVCs is by no means assured.

GVC participation is determined by factor endowments, geography, market size, and institutions. These fundamentals alone need not dictate destiny, however; policies also play an important role. Policies to attract foreign direct investment (FDI) can remedy the scarcity of capital, technology, and management skills.[13] Liberalizing trade at home while negotiating trade liberalization abroad can overcome the constraints of a small domestic market, liberating firms and farms from the limits of domestic demand and local inputs. Improving transportation and communications infrastructure and introducing competition in these services can address the disadvantage of a remote location.[14] And participating in deep integration agreements can spur institutional and policy reform, especially when complemented by technical and financial assistance.[15]

Based on an analysis of the drivers of various types of GVC participation, this Report identifies the policies that promote integration into more advanced GVCs (figure O.4). Importantly, national

Figure O.4 Transitioning to more sophisticated participation in GVCs: Some examples of national policy



Source: WDR 2020 team.

Note: ICT = information and communication technology; NTMs = nontariff measures.

policies can and should be tailored to the specific circumstances of countries and to specific forms of participation in GVCs.

Attracting FDI is important at all stages of participation. It requires openness, investor protection, stability, a favorable business climate, and, in some cases, investment promotion. Some countries, such as those in Southeast Asia that have benefited from foreign investment in goods, still restrict foreign investment in services. Others try to draw in investment through tax exemptions and subsidies, but they risk antagonizing their trading partners, and the net benefits may not be positive. Nevertheless, countries such as Costa Rica, Malaysia, and Morocco have attracted transformative GVC investments by large multinational corporations through the use of successful investment promotion strategies.

Overvalued exchange rates and restrictive labor regulations raise the cost of labor, preventing labor-abundant countries from taking advantage of their endowments. For example, manufacturing labor costs in Bangladesh are in line with its per capita income, but in many African countries, labor costs are more than twice as high.

Connecting to markets through trade liberalization helps countries expand their market size and gain access to the inputs needed for production. For example, large unilateral tariff cuts by Peru in the 2000s are associated with faster productivity growth and expansion and diversification of GVC exports.[16] Trade agreements expand market access, and they have been a critical catalyst for GVC entry in a wide range of countries, including Bangladesh, the Dominican Republic, Honduras, Lesotho, Madagascar, and Mauritius. Because goods

and services economies are increasingly linked, reforming services policies—in telecommunications, finance, transport, and a range of business services—should be part of any strategy for promoting GVC activity.

For many goods traded in GVCs, a day's delay is equal to imposing a tariff in excess of 1 percent. Improving customs and border procedures, promoting competition in transport and logistics services, and enhancing port structure and governance can reduce trade costs related to time and uncertainty, mitigating the disadvantages associated with a remote location.

Because GVCs thrive on the flexible formation of networks of firms, attention should also be paid to contract enforcement to ensure that legal arrangements within the network are stable and predictable. Protecting intellectual property rights is especially important for the more innovative and complex value chains. Strengthening national certification and testing capacity to ensure compliance with international standards can also facilitate GVC participation.

Many of the traditional approaches to industrial policy, including tax incentives, subsidies, and local content requirements, are likely to distort production patterns in today's GVC context. Other proactive policies are more promising—especially when they address market failures:

- To strengthen domestic capacity to support upgrading in value chains, countries should invest in human capital.[17] The Penang Skills Development Centre in Malaysia is an example of an industry-led training center that has played an important role in supporting Malaysia's upgrading to electronics and engineering GVCs.
- Targeted policies to unblock constraints to GVC trade can be effective. For example, in Bangladesh the introduction of bonded warehouses, combined with the "back-to-back" letters of credit (ensuring access to working capital), is acknowledged as a catalyst for the country's integration into the apparel GVC.
- Countries can connect domestic small and medium enterprises (SMEs) with lead firms in GVCs—by supporting training and capacity building while providing information to lead firms about supply opportunities. Examples of successful supplier linkage programs include Chile and Guinea in mining, Kenya and Mozambique in agriculture, and the Czech Republic in the electronics and automotive sectors.
- For countries participating in agriculture value chains, policies to help integrate smallholders are particularly important. In Africa, 55 percent of jobs are in agriculture, which is the source of more than 70 percent of the earnings of the poor. Ensuring that smallholders benefit requires additional support, such as through agricultural extension services, access to risk management instruments (such as insurance), and coordination to exploit scale through producer organizations.

Improving the business and investment climate for GVCs on a national scale can be costly and take time, spurring many countries to set up special economic zones (SEZs) to create islands of excellence. But the results so far suggest that relatively few SEZs are successful, and only when they address specific market and policy failures. Getting the conditions right, even in a restricted geographical area, requires careful planning and implementation to ensure that the resources needed—such as labor, land, water, electricity, and telecommunications—are readily available, that regulatory barriers are minimized, and that connectivity is seamless. The few successful zone programs in countries such as China, Panama, the United Arab Emirates, and now in Ethiopia—as well as the numerous examples of SEZs that have failed to attract investors or grow—offer important lessons on how to use SEZs for development.

Other policies can help ensure GVC benefits are shared and sustainable

Beyond policies to facilitate participation in GVCs, complementary policies are needed to share their benefits and attenuate any costs. These include labor market policies to help workers who may be hurt by structural change; mechanisms to ensure compliance with labor regulations; and environmental protection measures.

As GVCs expand, some workers will gain, but others could lose in some locations, sectors, and occupations. Adjustment assistance, which is especially important in middle- and high-income countries, will help workers adapt to the changing patterns of production and distribution that GVCs bring about. Adjustment policies can include facilitating labor mobility and equipping workers to find new jobs.[18] Because unemployment resulting from structural change tends to be persistent, wage insurance can help keep workers employed in lower-paying jobs without experiencing income loss, leading to better long-term outcomes. For example, Denmark's successful "flexicurity" model gives employers the

freedom to hire and fire workers with few restrictions, but it supports workers with generous unemployment benefits and active labor market programs.

Labor regulations, when well designed and enforced, help ensure the safety and health of workers. Private firms can contribute, especially when their consumers are sensitive to labor conditions in the firm's global operations. There is also an important role for national policy supported by international cooperation in establishing and monitoring appropriate labor standards. In Vietnam, working conditions improved when firms participated in the International Labour Organization-International Finance Corporation (ILO-IFC) Better Work Programme, alongside complementary government action to publicly disclose the names of firms that fail to meet key labor standards.[19]

Pricing environmental degradation can prevent GVCs from magnifying misallocations of resources.[20] Prices of goods should reflect both their economic and socioenvironmental costs. Appropriate pricing of environmental damage would also encourage innovation in environmentally friendly goods and production processes. Reducing distortions, such as those created by energy and production subsidies, and shifting toward taxing carbon would improve resource allocation and reduce CO_2 emissions.[21] In addition, environmental regulations, especially for specific industries and pollutants, could curb the damage caused by GVC-related production and transport.

International cooperation supports beneficial GVC participation

The international trade system is especially valuable in a GVC world. GVCs span boundaries, and policy action or inaction in one country can affect producers and consumers in other countries. International cooperation can help address the spillover effects of national policies and achieve better development outcomes. Because the costs of protection are magnified when goods and services cross borders multiple times, the gains from coordinated reduction of barriers to trade are even larger for GVCs than for standard trade. In view of the inextricable link between foreign investment and GVCs, creating an open and secure climate for investment is vital for GVC participation, especially by capital-scarce countries.

Developing countries have benefited enormously from the rules-based trade system, particularly its guarantees against trade discrimination, incentives to reform, market access around the globe, and recourse in case of disputes—even against the trade heavyweights. Today, however, the international trade system is under tremendous pressure. Three decades of trade-led catchup growth in developing countries has contributed to shifts in economic power across countries and increased income inequality within countries. The growing symmetry in the economic size of countries is placing in sharp relief the persistent asymmetry in their levels of protection. Meanwhile, the trade system, which adapted to changes in the past, has faltered in recent years, most notably with the failure of the Doha negotiations. Regional initiatives such as the European Union and NAFTA have also been hurt by disagreements among member countries.

The trade conflict between the United States and China is leading to protection and policy uncertainty, and it is beginning to disrupt GVCs. If the trade conflict worsens and causes a slump in investor confidence, the effects on global growth and poverty could be significant—more than 30 million people could be pushed into poverty (measured as income levels below $5.50 a day), and global income could fall by as much as $1.4 trillion. That said, even in the status quo, adverse effects are likely to have resulted from the trade practices that provoked the conflict.

To sustain beneficial trade openness, it is essential to "walk on two legs." The first priority is to deepen traditional trade cooperation to address remaining barriers to trade in goods and services, as well as other measures that distort trade, such as subsidies and the activities of state-owned enterprises. In parallel, cooperation should be widened beyond trade policy to include taxes, regulation, and infrastructure.

Deepen traditional cooperation

Looking ahead, the first priority should be to deepen traditional trade rules and commitments. International cooperation has so far delivered uneven openness in goods and services. Trade liberalization is overdue in agriculture and services, and some industrial goods remain restricted in certain markets and by nontariff measures. Trade preferences have reduced certain tariffs faced predominantly by the poorest countries—but not the tariffs these countries impose on their imports. Special and differential treatment for developing countries has in some cases accommodated sluggish reform, ultimately inhibiting GVC participation and integration into the global economy.

In addition, the escalation of tariffs in some of the world's largest markets—which serve to protect higher value-added production—is inhibiting

processing activities in agroindustry and other labor-intensive areas such as apparel and leather goods in developing countries. Restrictive rules of origin in preferential agreements are curtailing sourcing options. Subsidies and state-owned firms are distorting competition, and the existing rules do not guarantee competitive neutrality. For services, international negotiations have delivered little liberalization beyond that undertaken unilaterally. Important GVC-relevant services, such as air and maritime transportation (which most need coordinated liberalization), have been excluded from negotiations because of the power of vested interests.

Traditional trade negotiations may deliver more meaningful outcomes if the major developing country traders engage as equal partners and even leaders instead of seeking special and differential treatment; if the large industrial countries continue to place their faith in rules-based negotiations instead of resorting to unilateral protection; and if all countries work together to define a negotiating agenda that reflects both development and business priorities.

Widen cooperation on taxes, competition, and data flows

Taxing capital is increasingly difficult in an era of global firms, fragmented production, and growth in intangible assets such as intellectual property. Cooperation should ensure fair access to tax revenues—which rich countries need to help displaced industrial workers and poor countries need to build infrastructure. Ultimately, a joint approach to greater use of destination-based taxation could eliminate firms' incentives to shift profits and countries' incentives to compete over taxes, but the consequences for tax revenue in small developing countries would have to be considered. Meanwhile, other measures to combat tax base erosion and income shifting could alleviate associated challenges for domestic resource mobilization.

Among consumers, concern is growing about data flows and the international expansion of digital firms, both of which play an important role in GVCs. The risks range from privacy abuses in data-based services to anticompetitive practices in platform-based services. Governments are resorting to data localization laws to limit the cross-border mobility of data and to strict rules on the handling of data domestically. Competition laws, too, remain explicitly nationalist in focus, and cooperation in bilateral or regional trading agreements has been limited. The solution may be a new type of bargain: regulatory commitments by exporting firms to protect the interests of consumers abroad in return for market access commitments by importing countries, as is the case in some recent agreements on data flows.

But developing countries must not be left out of such arrangements because that would undermine their productive engagement in GVCs. International support can help them to both make regulatory commitments in areas of export interest (such as in data-based services) and extract commitments from their trading partners when they open their markets (such as for the enforcement of competition policy).

Finally, coordination failures in infrastructure investment affect GVC investment, expansion, and upgrading, especially in the poorest countries. From a global perspective, countries underinvest in trade-related infrastructure because they do not take into account the additional benefits to their trade partners. Countries that share a border can obtain larger gains when they act simultaneously to expedite trade. Guatemala and Honduras, for example, reduced border delays from 10 hours to 15 minutes when they joined a customs union and agreed to accept the same electronic documentation. The World Trade Organization's Trade Facilitation Agreement encourages countries to coordinate improvements in trade facilitation, and provides low-income countries with financial assistance for the necessary investments. A similar approach may help exploit synergies for other investments in transport, energy, and communications infrastructure.

Notes

1. Constantinescu, Mattoo, and Ruta (2018).
2. Constantinescu, Mattoo, and Ruta (2018).
3. In Vietnam, firms that both import and export employ more workers than firms that export only and firms that do not trade, controlling for sector and province fixed effects as well as state and foreign ownership. In Mexico, firms that have relationships with buyers, as well as firms that export and import, also see higher employment than firms that only import or only export. This finding holds even when considering the regional, sector, and foreign ownership characteristics of firms. Across a country, then, firms that both import and export employ more workers than one-way traders or nontraders.
4. Rocha and Winkler (2019).
5. The poverty elasticity of growth depends on various factors, including its incidence (changes in inequality), the initial distribution of land, wealth and income, education levels among the poor, other forms of past public investment, as well as local institutions, including unions (Ferreira, Leite, and Ravallion 2010; Ravallion and Datt 2002). Also see Dollar and Kraay (2002) and Ferreira and Ravallion (2008).
6. Markups can increase because prices are higher, or because costs are lower, or a combination of both when

markets are not perfectly competitive, meaning that firms can affect prices. The effect on firms' markups depends on whether the reduction in costs, or the gains from GVC participation, are passed fully on to the consumer through lower prices.

7. Feenstra and Hanson (1996, 1997); Verhoogen (2008).
8. Rocha and Winkler (2019).
9. Oldenski (2015) provides evidence that reshoring is not widespread in the United States.
10. Artuc, Bastos, and Rijkers (2018).
11. Freund, Mulabdic, and Ruta (2018).
12. See Chen and Wu (2018); Garicano and Kaplan (2001); Höppner and Westerhoff (2018).
13. The positive association between FDI and capital, technology, and management skills is driven by GVC participation in the manufacturing sector only. There is no association between FDI inflows and countries' GVC integration of their agriculture, commodities, or services sectors. This finding could point to a more favorable role for efficiency-seeking or market-seeking FDI that looks for internationally cost-competitive destinations and potential export platforms. See Buelens and Tirpák (2017) for further evidence that bilateral FDI stocks are positively associated with the bilateral backward GVC participation as well as with bilateral gross trade.
14. APEC and World Bank (2018).
15. According to Johnson and Noguera (2017), the European Union and other preferential trade agreements, especially deep ones, play an important role in decreasing the ratio of bilateral value added to gross exports, a sign of growth in global production fragmentation.
16. Pierola, Fernandes, and Farole (2018).
17. Evidence from the Eora database by Lenzen, Kanemoto, Moran, and Geschke (2012), (https://worldmrio.com/) shows a U-shaped relationship between GDP per capita and forward GVC integration across countries.
18. Bown and Freund (2019).
19. Hollweg (2019).
20. Gollier and Tirole (2015); Nordhaus (2015).
21. Cramton et al. (2017); Farid et al. (2016); Weitzman (2017).

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Global value chains (GVCs) powered the surge of international trade after 1990 and now account for almost half of all trade. This shift enabled an unprecedented economic convergence: poor countries grew rapidly and began to catch up with richer countries.

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*World Development Report 2020: Trading for Development in the Age of Global Value Chain*s examines whether there is still a path to development through GVCs and trade. It concludes that technological change is, at this stage, more a boon than a curse. GVCs can continue to boost growth, create better jobs, and reduce poverty provided that developing countries implement deeper reforms to promote GVC participation; industrial countries pursue open, predictable policies; and all countries revive multilateral cooperation.

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