



Cooperation beyond trade

Key findings

- **Sustaining openness to trade and global value chains (GVCs)** requires cooperation beyond trade policy on taxes, regulation, competition policy, and infrastructure.
- **GVCs exacerbate the problems of tax avoidance and tax competition between potential host countries.** International cooperation is necessary to enable countries to raise tax revenues and to ensure that conditions of competition are not distorted. Ultimately, a joint approach to greater use of destination-based corporate taxation could eliminate the incentive to shift profits and compete over taxes. Meanwhile, other measures against tax base erosion and income shifting could enhance domestic resource mobilization.
- **Domestic regulation is insufficient to address international market failures, such as privacy concerns related to cross-border data transfers.** Cooperation by data-destination countries to protect foreign consumer data could reassure data-source countries that their commitments to openness will not put their citizens' data at risk.
- **Anticompetitive behavior by GVC firms can affect the distribution of gains from GVC participation.** Enhanced international cooperation around competition law enforcement would enable countries to overcome jurisdictional and capacity constraints to combat anticompetitive practices.
- **Coordination between countries on investment in transport and communication infrastructure can improve international connectivity.** Gains are larger when governments collaborate to expedite trade simultaneously.

To sustain trade openness, it is essential to “walk on two legs.” The previous chapter looked at the first leg—deepening traditional liberalization and removing distortions. This chapter looks at the second leg—widening cooperation beyond trade policy to include taxes, regulation, competition policy, and infrastructure. Enhanced cooperation among countries on *taxes* is needed to reduce both the incentives for governments to engage in inefficient tax competition and the opportunities for firms to shift profits to low-tax jurisdictions. Such steps will help governments mobilize the resources necessary to pay for labor adjustment programs and build the infrastructure needed for economic growth. Cooperation among countries on *regulation* and *competition policy* can reassure consumers that greater openness need not imply vulnerability to fraud or anticompetitive practices. Finally, cooperation and assistance on *infrastructure* can help poorer countries remedy the energy and connectivity gaps that have limited their participation in trade and global value chains (GVCs).

Tax competition and profit shifting may be affecting both the ability of countries to join GVCs and their benefits. Multinationals encourage competition between potential hosts, which results in countries using fiscal incentives to win them. GVCs have thus made it hard for countries to tax profits, especially those of firms reliant on patents for their profits, which can easily be shifted to low-tax jurisdictions. As a result, a greater share of the burden for resource mobilization has fallen on workers. International cooperation may be needed to enable states to raise tax revenues in a GVC world and to ensure that conditions of competition are not distorted. The Organisation for Economic Co-operation and Development (OECD) has already taken steps to address tax base erosion and profit shifting (BEPS) by multinationals, including changes in the transfer pricing of intermediate inputs, especially for intangibles such as services and intellectual property. These problems, as well as tax competition, may ultimately best be addressed by a destination-based corporate tax, similar to a value added tax (VAT), in all countries, which would eliminate the incentive to shift profits and compete for taxes. The consequences of such a tax for revenue in small developing countries would, however, have to be considered. A destination-based tax may not be immediately feasible, but transitional arrangements could begin to alleviate the resource mobilization problem.

The new economy has also raised concerns about market failure in international markets where regulation is still mostly at the national level, ranging

from abuse of privacy in data-based services to anti-competitive practices in platform-based services. International market failures could be addressed cooperatively in several areas that matter for GVCs. For example, for cross-border, data-based services, addressing market failures efficiently is not possible without the cooperation of the regulator in the data-destination country. Governments may fear opening markets if the gains from liberalization are likely to be eroded by anticompetitive practices in both goods and services—practices for which there is growing evidence. Cooperative solutions that support innovation and efficiency while protecting consumers will be needed to maintain an open trade system in these goods and services. But developing countries must not be left out of such cooperation; multilateral trade rules require that they be given an opportunity to join any such agreements.

Finally, more cooperation is needed on infrastructure gaps. Coordination failures in infrastructural investment affect GVC investment, expansion, and upgrading. Multinational agreements can help address this problem. Consider the Trade Facilitation Agreement (TFA) of the World Trade Organization (WTO), which encourages countries to coordinate improvements in trade facilitation. Each country does not fully internalize the benefits to foreign traders of reductions in domestic trade costs, and gains are larger when governments on both sides of the border invest in expediting trade simultaneously. The WTO agreement addresses this coordination problem and provides low-income countries with financial assistance for the necessary investments. A similar approach could exploit synergies in other infrastructure investments in transport, energy, and communications.

Taxes

Although GVCs are not the cause of the tax competition between governments or the tax avoidance by firms, they do magnify the challenges facing the international tax system (see chapter 3). Firms are more sensitive to tax differences when factors of production are mobile and production processes are fragmented across countries. Cross-border trade between corporate affiliates creates opportunities for tax avoidance because multinational enterprises can reduce their tax burden by manipulating transfer prices and other artificial mechanisms. Profit shifting has become easier for firms and harder for governments to identify as the importance of intangible assets and the digital delivery of services has grown.

A global consensus is emerging around the need to reform international corporate taxation. As long as the current system relies on the physical location where value is created (and booked) for tax purposes, it is open to abuse and compromises the revenue collection efforts of governments.¹ As elaborated in chapter 3, an estimated 30 percent of global cross-border corporate investment stocks are routed through offshore hubs, and the associated tax losses for developing countries amount to about \$100 billion.² Overall, non-OECD countries lose out on approximately 1.3 percent of GDP as a result of profit shifting.³

International efforts are already well under way to address tax avoidance by large multinational firms. New measures are contained in the OECD/G20 Inclusive Framework on BEPS, including updated guidance on transfer pricing.⁴ Transparency in international tax matters is being enhanced by an OECD initiative that supports the exchange of data between tax administrations.⁵ And overall coordination between governments in implementing the BEPS measures is supported through the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS, which enables quick updates to international tax treaties between signatory governments.⁶

Although countries have made significant progress within the BEPS framework in reducing opportunities for corporate profit shifting and base erosion, implementation of the relevant measures by developing countries is still lagging.⁷ Guidance on when and how to apply transfer pricing methods leaves firms and tax administrations with significant discretion.⁸ The complexity of many BEPS rules and lack of data, particularly on segments of GVCs located in other jurisdictions, pose further obstacles. As a result, developing countries find it difficult to implement key parts of the BEPS package.

More important, however, the current BEPS package fails to address inefficient tax competition. The revenue losses from tax competition are estimated to outweigh those of tax avoidance.⁹ Indeed, reducing the opportunities for tax avoidance by firms increases the incentives for tax competition between governments.¹⁰ For example, analysis suggests that the 2017 U.S. federal corporate income tax reform, which combined a cut in the headline rate with tighter rules to prevent profit shifting, provoked other countries to reduce their headline rates by about four points to compete.¹¹ Meanwhile, regional coordination could be helpful for aligning policy makers' incentives on taxes, but in practice such efforts fall short in eliminating undesirable forms of tax competition.¹² For example,

the West African Economic and Monetary Union (WAEMU) has instituted legal arrangements for tax coordination that are among the most advanced in the world, but because of gaps in implementation they are ineffective in many areas.¹³

Tax competition is a legitimate fiscal policy tool that countries can use in aligning their tax systems with development priorities to, for example, attract foreign direct investment (FDI) that supports high-quality and sustainable jobs, as well as technology transfers that spur productivity spillovers. Yet often tax competition results in inefficient outcomes with costs exceeding benefits.¹⁴ This situation leads to negotiated tax breaks to attract foreign investment that benefit favored businesses and economic sectors, while undermining competition and producing little in terms of jobs added or productivity enhanced.

Finally, the BEPS package does not extend taxing rights over corporate income to countries where a firm has no presence but makes sales (market countries). Traditionally, the income of affiliates of a multinational corporation (MNC) is taxed in the country where production takes place, with the "residence" country in which the MNC's headquarters is physically located taxing the residual profits. Safeguards (antiabuse measures) are in place in many jurisdictions to prevent profit shifting between them purely for lowering an MNC's aggregate tax bill. However, the digitalization of the economy has spurred many market countries to contest this distribution of taxing rights. The Internet makes it possible for companies to generate vast profits in countries in which they have no physical presence and are not liable for corporate income taxes. Profit may be generated out of intangible assets that are difficult to tax, such as customer data. In the absence of a coordinated solution at the global level, countries are threatening to impose income taxes on companies that generate income from economic activities in their country even if they do not have a physical presence in that country (so-called destination-based income taxes).¹⁵

Against this backdrop, the OECD/G20 Inclusive Framework is negotiating larger reforms of the international corporate tax architecture.¹⁶ To further advance the agenda, other proposals and analyses have been developed by the International Monetary Fund (IMF),¹⁷ the World Bank,¹⁸ and academia.¹⁹ The various reform options come with different costs and benefits for developing countries from both an administrative and a revenue generation perspective.²⁰

Two of the OECD/G20 Inclusive Framework reform proposals embody stronger antiabuse rules

within the current international tax framework: the *income inclusion rule* and the *base-eroding payment rule*, together known as the global anti-base erosion (GLOBE) proposal. The income inclusion rule allows countries in which MNCs are headquartered (the residence country) to tax income held by MNC subsidiaries in low-tax jurisdictions abroad. This rule does not directly benefit developing countries, which typically are not residence countries for major MNCs. However, it does offer those countries an indirect benefit by reducing the incentive for tax competition between countries. The base-eroding payment rule would not allow MNCs to take deductions for payments to related parties abroad if those payments are suspected of being motivated by tax avoidance and are not subject to a minimum effective tax rate in the foreign country. Although such a rule is relatively straightforward to enforce by means of MNC self-assessment and disclosure obligations, it is difficult to identify base eroding payments if they go first through intermediate countries that meet the minimum effective rate. Where successful, however, the rule can directly help developing countries to raise revenue.²¹

A third option, the *diverted profits rule*, would provide developing countries with a more direct benefit and could be adopted as part of any reform package that includes antiabuse measures. This option is not currently under consideration by the OECD/G20 Inclusive Framework. A diverted profits rule would reallocate profits posted in (very) low-tax jurisdictions over and above that allocable to any productive activities in those entities. These residual profits would then be allocated more fairly across jurisdictions in which MNCs operate based on a formula using a set of factors that indicate profit generation such as assets, labor, and sales. A main advantage of this rule is that it would allocate low-taxed profits to all countries in the same GVC instead of to the parent entity. A main obstacle will be reaching agreement between countries on a formula for distributing low-taxed profits.²²

Two proposals considered by the OECD/G20 Inclusive Framework—*user value* and *marketing intangibles*—grant greater taxing rights to the destination countries in which goods and services are consumed. These proposals would allocate to source countries only a portion of residual profits, with the allocation formula based on the value of the market. Destination countries would then have the right to tax businesses that interact with their economies—either through the location of users or through links to certain marketing intangibles such as market research or brands/trademarks—even if those businesses have no

physical presence there. Again, however, the benefits reaped by developing countries depend on the specific design. For example, by focusing on where consumption takes place, these two proposals may disadvantage countries with production- or resource-based economies. These options are also highly complex, creating implementation challenges for low-capacity tax administrations.²³

The reform options currently under consideration by the OECD/G20 Inclusive Framework would go a long way toward correcting the distortions present in the current system. However, alternatives, such as a destination-based cash flow tax (DBCFT), could eliminate tax competition and avoidance more completely.²⁴ With a DBCFT, taxes are collected in the destination country, thereby extending the OECD/G20 Inclusive Framework proposals that focus on the reallocation of residual profits. This tax would eliminate the incentive for firms to shift profits between affiliates and for governments to lower tax rates to compete for investment. Moreover, unlike the OECD/G20 Inclusive Framework's GLOBE proposal, governments would not need to agree on a minimum tax rate.

The DBCFT would replace the existing corporate income tax with a new tax on the receipts of corporations less their expenditures, similar to a VAT. It would tax all cash inflows (from sales of products, services, and real assets, borrowing, and the receipt of interest, but excluding injections of equity) with a deduction for all cash outflows (purchase of materials, products, labor, and other services, real assets, lending, repayment of borrowing, and interest payments, but excluding equity repurchases and dividends).²⁵ However, to eliminate the incentive for tax competition it would include a "border adjustment": receipts from exports would not be included, but imports consumed locally would be taxed at the domestic rate. Like the VAT, it is a domestic tax based on the location of sales to consumers (the "destination" of the product) rather than on the location of profits, production, or corporate residence.²⁶ As such, the DBCFT removes incentives for tax competition and tax avoidance by MNCs.²⁷ But by exempting the labor element of value added from taxation, it provides an incentive for job creation.

Based on the prevailing tax rates, global adoption of a DBCFT system could have significant redistributive effects on revenues across countries.²⁸ Countries with trade deficits, limited revenues from natural resources, and low per capita income would be more likely to benefit under such a tax, at least initially.²⁹

Importantly, countries that lose from a switch to a destination-based system can raise tax rates to compensate because pressures from profit shifting and tax competition are removed.³⁰

Skepticism about the feasibility of a destination-based system is valid. MNCs that currently engage in aggressive tax planning would lose and are likely to resist such a system, as occurred recently in the United States.³¹ Unilateral adoption would in the immediate term increase the prices of imported items and lower export prices, which should result in an exchange rate adjustment that would fully offset such price effects. But the need for such a large and immediate appreciation presents an important risk of major economic distortions. Border adjustment for direct taxes may also raise questions about WTO consistency, compared with that for indirect taxes such as the VAT where it is explicitly allowed. However, because the DBCFT is economically equivalent to a VAT plus a wage subsidy, both of which are WTO-compatible, technical adjustments in the form of the tax may be made to achieve compliance.³² Furthermore, a globally coordinated switch to a DBCFT may be more generally acceptable. Another concern is that administering and enforcing such a tax could be complex, but perhaps not much more so than current rules or those experienced under a VAT.³³

Notwithstanding the OECD/G20 Inclusive Framework's ongoing negotiations, governments in developing countries can take immediate steps to address issues related to profit shifting and tax competition, primarily by adopting stronger antiabuse rules—mechanical, simple, and transparent. Countries can greatly benefit from the application of mechanical rules for transfer pricing in some GVCs where application of the arm's-length principle is straightforward.³⁴ Countries also need to revise their tax treaty networks to renegotiate or cancel cost-ineffective tax treaties.³⁵ Depending on how the ongoing efforts unfold to reach a consensus on rule design by 2020, developing countries should also consider adopting the antiabuse GLoBE proposals, supplemented with a diverted profit rule.

Observers are optimistic that the final solution proposed by the OECD/G20 Inclusive Framework will move toward granting greater taxing rights to jurisdictions where users and markets are located and incorporating stronger antiabuse rules. Such proposals are a step in the right direction—but only when low-capacity countries can implement them easily and allocation rules do not compromise the taxing ability of producer and resource countries.

Regulation

In the conventional producer-centric view, regulatory cooperation is a complement to liberalization. In the alternative consumer-centric view, regulatory cooperation is a precondition for liberalization. Both are important in facilitating the operation of GVCs.³⁶

Producer-centric cooperation to address regulatory heterogeneity

Regulatory heterogeneity can impede the compatibility of parts that is vital for GVCs. It arises when requirements differ across countries because of differences either in institutions (leading typically to “horizontal” differentiation, such as in electrical plugs and legal services) or in social preferences (leading to “vertical” differentiation, such as in the stringency of food, paint, or financial regulations). The traditional case for regulatory cooperation arises from the fact that regulatory heterogeneity segments international markets in a way that prevents the exploitation of economies of scale in production. For example, because each East African country has its own regulatory requirements for service professionals, compliance costs cannot be spread out over the provision of professional services in other East African countries but must be incurred separately in each market. According to one estimate, the European Union (EU) stock of FDI could increase by 20–35 percent if regulatory heterogeneity were reduced in response to a common services regulation directive.³⁷

Such regulatory heterogeneity cannot be addressed by imposing traditional trade disciplines because the problem is not due to protectionist or explicit anticompetitive intent. But there is an economic cost of such heterogeneity because each country is independently choosing its regulations without considering their negative impacts on foreign producers and thus on competition. There are, then, potential gains from international cooperation in which each country forgoes the benefits of maintaining different nationally optimal regulations for the benefits of integrating markets through some form of regulatory convergence.

In some cases, regulatory cooperation could be far-reaching and lead to harmonization or mutual recognition, which would eliminate the costs of regulatory heterogeneity for firms and liberate them from the uncertainty of discretionary licensing.³⁸ In other cases, regulatory cooperation could be valuable even if it only involves greater mutual understanding of how regulatory discretion in each jurisdiction will be

exercised because that, too, would lend predictability to commitments.

Consumer-centric regulatory cooperation to address international externalities

The alternative case for regulatory cooperation arises because regulators in the jurisdiction of the exporter do not consider the consequences of market failure for consumers in the jurisdiction of the importer. For example, weak data protection in a country that exports data processing services can compromise the privacy of citizens of other countries. An increase in the concentration and anticompetitive practices of producers in one market can lead to exploitation of downstream consumers in another market. And poor regulation of medicines, hospitals, and universities in one country can hurt the health and human capital of foreign citizens who receive or visit for treatment or education.

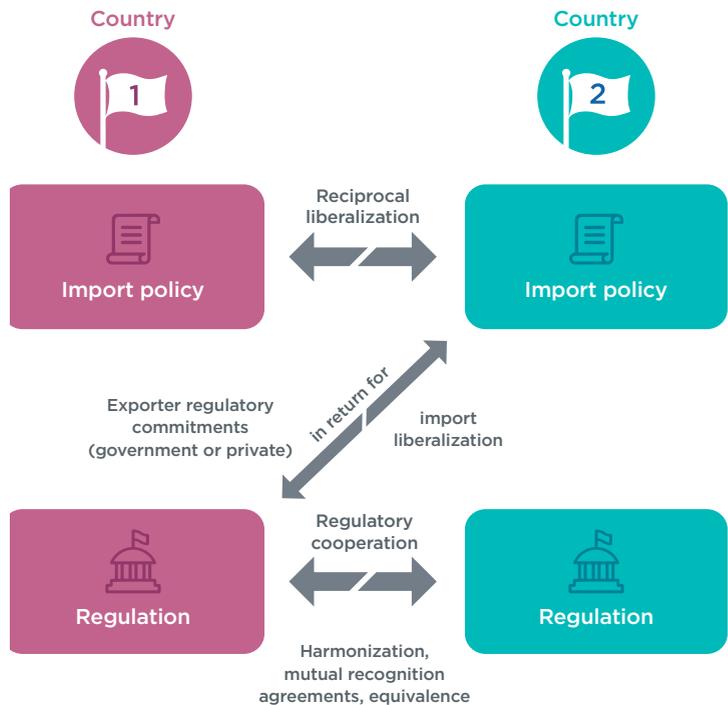
Conventional trade negotiations and rulemaking are primarily concerned with reciprocal liberalization of import policy (figure 10.1). Accordingly, rules and commitments focus on tying the hands of importers: tariffs are bound; quotas are prohibited or restrained; discrimination against imports and trading partners is prohibited or restrained; and further disciplines may be imposed on importing country product standards—such as the requirement that rules be “necessary” to achieving a legitimate objective. For the most part, trade rules do not concern themselves with exporter disciplines or commitments. The rare examples for goods include prohibitions or restraints on export subsidies, quotas, and agricultural assistance.

This asymmetric structure of trade rules in which rules and commitments are directed entirely toward importing countries and none (or very few) toward exporting countries is not conducive to consumer-centric regulatory cooperation. The result is importing countries’ unwillingness to give up protection or regulatory discretion, or both. The solution may be mutually binding commitments by exporting and importing countries.³⁹ The exporting countries would make regulatory commitments to looking after the interests of consumers in importing countries, and in return the importing countries would make commitments to allowing access to their markets (represented by the diagonal arrow in figure 10.1).

Data flows

The ability to move data freely across borders underpins a growing range of economic activity and

Figure 10.1 Regulatory commitments by exporters can be exchanged for import liberalization commitments



Source: WDR 2020 team.

international trade. The McKinsey Global Institute has estimated that cross-border data flows were 45 times larger in 2015 than in 2014, and about 12 percent of the international trade in goods was through global e-commerce platforms such as Alibaba and Amazon.⁴⁰ The U.S. International Trade Commission estimates that in 2014 global digital trade, including data processing and other data-based services, led to a more than 3.4 percent increase in U.S. GDP by increasing productivity and lowering the costs of trade.⁴¹ Recent empirical research finds that restrictions on data flows have significant negative consequences on the productivity of local companies using digital technologies and, in particular, on trade in services. These estimates underscore the importance of cross-border data flows for diffusing knowledge and technology and for enabling the fragmentation of production of goods and services across countries.

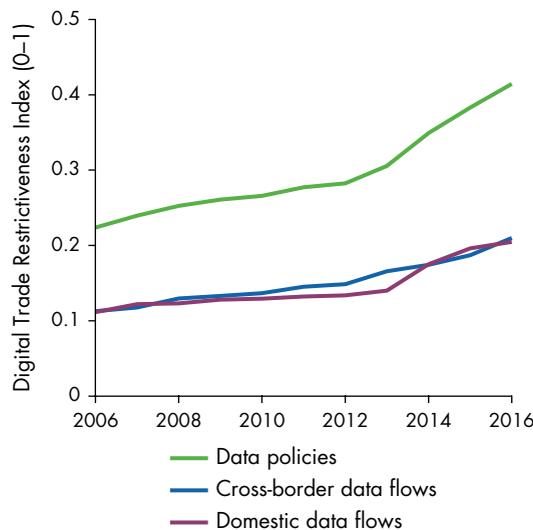
But international data flows also raise concerns. The provision online of search, communication, health, education, retail, and financial services relies on, or could lead to, the collection of personal data. Because of the global nature of the Internet, such data can be quickly and easily transferred to third parties

in other jurisdictions. This transfer can undermine domestic privacy goals when the personal data of citizens flow to jurisdictions that do not offer comparable levels of privacy protection, prompting domestic regulators to limit the free flow of data across borders.

These concerns are prompting governments to apply new regulatory policies to digital trade and data flows, severely dampening the positive impact that digital trade has on the economy.⁴² Meanwhile, policy makers are paying special attention to cross-border data flows, and so restrictions on data flows have been trending upward in recent years (figure 10.2). Burdensome data policies can be split into two types: those affecting the cross-border mobility of data, such as data localization or local storage requirements, and those affecting how data are treated domestically. In both cases, the pattern emerging from a wide swath of countries is rising policy restrictiveness.

Restrictions on data flows have large negative consequences on the productivity of local companies using digital technologies and especially on trade in services. Studies show that countries would gain on average about 4.5 percent in productivity if they removed their restrictive data policies, whereas the benefits of reducing data restrictions on trade in services would on average be about 5 percent.⁴³

Figure 10.2 Countries' restrictions on data flows increased from 2006 to 2016



Source: Ferracane, Lee-Makiyama, and van der Marel 2018.

Note: This figure is based on the ECIPE Digital Trade Restrictiveness Index (DTRI), which ranges from 0 (completely open) to 1 (virtually restricted), with higher levels indicating increasing data restrictiveness. The index covers 64 countries representing more than 95 percent of the value-added content of gross exports.

In May 2018, the European Union implemented the world's most comprehensive data protection regime, the General Data Protection Regulation (GDPR), which replaced its 1995 Data Protection Directive. Under the GDPR, personal data are allowed out of the European Union only under strict conditions. One option is for the non-EU country to adopt a privacy regime whose level of protection is “essentially equivalent” to that guaranteed within the European Union.⁴⁴ In other options, firms can accept Binding Corporate Rules (BCRs) or use Standard Contractual Clauses (SCCs), which are mechanisms to authorize companywide or transaction-specific data transfers, respectively.

These new regulations are likely to especially affect services GVCs that depend on data flows. Such data flows drive the most dynamic exports of developing countries—digitally delivered data processing and data-related business services. These services, ranging from financial accounting and tax returns to health transcriptions and diagnostics, contributed to the more than \$50 billion in developing country exports to the European Union in 2015—one-fifth of them from Africa.

Here, developing countries face a dilemma: either they must adopt EU-like national privacy regulations or their firms must incur the firm-specific costs of using BCRs or the transaction-specific costs of using SCCs. The GDPR offers a balance between privacy and the economic and trade opportunities from data flows that may not be optimal for developing countries.⁴⁵ A GDPR-based national privacy law would impose the same high standard on all firms, even when they sell at home, leading to higher economywide costs of doing business. The adoption of tough standards is likely to reduce the scope to use personal data to improve access to domestic services, such as by opening new credit bureaus, and to reduce the competitiveness of digital exports in third markets such as the United States that do not require GDPR-like privacy standards. Overall, then, BCRs and SCCs have proved costly and time-consuming. A survey in India of the impact of the earlier, less-stringent EU Data Protection Directive revealed that the process to ensure that firms complied took over six months, and 90 percent of the respondents used transaction-specific contracts that involved on average a complex process lasting more than three months.⁴⁶ As many as two-thirds of the surveyed services exporters claimed a significant loss of business opportunities because of the requirements.

Because privacy regulations affect the international data transfers on which the digital trade depends, developing countries could in principle

challenge at the WTO the consistency of the GDPR with EU trade commitments. But WTO litigation is unlikely to address the underlying challenge raised by the GDPR: how to preserve digital trade opportunities while maintaining nationally desired privacy standards. Even so, WTO litigation could induce the European Union to be more flexible in its application of the GDPR and offer other countries opportunities to negotiate arrangements like the one with the United States.

The EU–U.S. Privacy Shield offers a way of resolving the conflict between regulatory heterogeneity and international data flows (a subject discussed in more detail shortly). Whereas traditional trade agreements are geared toward an exchange of market access commitments, the Privacy Shield is an innovative bargain: the destination country for the data promises to protect the privacy of foreign citizens consistent with their own national standards. In return, the source country commits to not restricting the flow of data. The rules on digital trade in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) reflect a similar bargain in a multicountry context.⁴⁷ In conjunction with progress toward developing common privacy standards in OECD countries and the Asia–Pacific Economic Cooperation (APEC) forum, such cross-border commitments can help create a framework for global privacy protection that also supports digital trade.

The approaches described here, however, risk excluding some developing countries that may not be able to make credible regulatory commitments in the near term, leading to a pattern of trade based on existing mutual trust rather than comparative advantage. Fortunately, the existing multilateral rules, notably provisions on mutual recognition agreements in the WTO's General Agreement on Trade in Services (GATS), can help protect the interests of excluded countries. Some developing countries are participating in the CPTPP, in which the provisions on data flows are matched by provisions on protecting privacy and preventing fraud. Developing countries also should take advantage of the U.S. Clarifying Lawful Overseas Use of Data (CLOUD) Act, which has created the basis for new agreements to supplement older and slower mutual legal assistance treaties.

Table 10.1 is an overview of the different approaches to cross-border data flows of some of the major privacy arrangements in place. Each privacy mechanism relies on some convergence toward common privacy principles (whether in the European Union or among a set of countries).

In 2016 the United States and the European Union concluded the Privacy Shield—an arrangement that the EU Commission has deemed “adequate” under the EU Data Protection Directive—thereby enabling the transfer of personal information from the European Union to U.S. participating businesses.⁴⁸ Under the Privacy Shield, U.S. companies self-certify individually or through an industry body to the U.S. Department of Commerce that they will protect personal data consistent with the Privacy Shield, which largely reflects the main elements of the EU Data Protection Directive.⁴⁹ U.S. businesses are required to publish their privacy policies, and the Privacy Shield gives the U.S. Federal Trade Commission jurisdiction over such businesses if they breach their own policies. In addition, the United States provides various means of redress for people whose personal data has been compromised, including a direct complaint to the business or a complaint to the U.S. Department of Commerce.

Such an agreement with the European Union gives participating U.S. firms two big advantages over the existing options. First, unlike in the case of BCRs and SCCs, the firms are not required to establish a costly presence in the European Union because domestic regulators assess conformity with EU standards at home. Second, unlike in the case of a national adequacy determination by the European Union, firms are not obliged to adopt more stringent and costlier standards for data involving transactions at home or with countries less demanding than the European Union.

The CPTPP provision on data flows requires that “each Party shall allow the cross-border transfer of information by electronic means, including personal information, when this activity is for the conduct of the business of a covered person.” It also prohibits data localization, stating that “no Party shall require a covered person to use or locate computing facilities in that Party's territory as a condition for conducting business in that territory.” At the same time, the CPTPP breaks new ground by obligating data-destination countries to prevent fraud and deception and protect personal information. In particular, “each Party shall adopt or maintain a legal framework that provides for the protection of the personal information of the users of electronic commerce.” Moreover, “each Party shall endeavor to adopt non-discriminatory practices in protecting users of electronic commerce from personal information protection violations occurring within its jurisdiction.”

Such reciprocal obligations on data source and destination countries are a perfect example of the type of

Table 10.1 Regulation of international transfers of personal information, by privacy regime

Regime attribute	EU Data Protection Directive and EU GDPR	EU–U.S. Privacy Shield	CPTPP and USMCA	APEC CBPR	OECD privacy principles
Privacy principles	Determined by EU	Determined by EU, but recognizes that U.S. promise of privacy protection for EU citizens is equivalent to that of EU	Determined by each party, taking into account “principles and guidelines of relevant international bodies”	Common APEC privacy principles based on OECD privacy floor, which domestic privacy regimes can go beyond	Common OECD privacy principles
Scope	Applies to all firms collecting data on EU citizens no matter where the firms are located	Applies to U.S. firms participating in the Privacy Shield and collecting data on EU citizens	Requires each party to “endeavor to adopt non-discriminatory practices in protecting users of electronic commerce from personal information protection violations occurring within its jurisdiction”	Applies to APEC CBPR-compliant ^a organizations collecting personal information from APEC economies	Applies to data controllers—entities that decide about the content and use of personal data, without regard for location of data
Enforcement	In case of a national adequacy finding, the data destination country enforces In case of BCRs and SCCs, the data source EU country enforces against local entity	United States (data-destination country) enforces—that is, EU recognizes U.S. enforcement procedures	Unspecified—depends on national privacy law	Data source country enforces through APEC Accountability Agent ^b and Privacy Enforcement Authority (PEA), ^c with cross-border enforcement cooperation facilitated by APEC Cross-Border Privacy Rules ^d	Data source country enforces against data controller

Source: Mattoo and Meltzer 2018.

Note: APEC = Asia–Pacific Economic Cooperation; BCRs = Binding Corporate Rules; CBPR = Cross-Border Privacy Rules; CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership; EU = European Union; GDPR = General Data Protection Regulation; OECD = Organisation for Economic Co-operation and Development; SCCs = Standard Contractual Clauses; USMCA = United States–Mexico–Canada Agreement.

- a. An entity is CBPR-compliant when its self-assessment of compliance with its own data privacy policies compared with those of the APEC Privacy Framework has been reviewed by an APEC-recognized Accountability Agent.
- b. An APEC Accountability Agent has met the APEC recognition criteria to the satisfaction of the APEC economies.
- c. A Privacy Enforcement Authority is any public body responsible for enforcing privacy law that can conduct investigations or pursue enforcement proceedings.
- d. Endorsed by APEC ministers in 2009, a Cross-border Privacy Enforcement Arrangement (CPEA) is a voluntary framework that aims to facilitate cooperation among PEAs in enforcing the CBPR, such as parallel or joint investigations or enforcement actions. Information sharing and cooperation are also encouraged with privacy enforcement authorities outside of APEC.

regulatory cooperation needed to reassure data-source countries that their commitments to openness will not place their consumers at the mercy of indifferent foreign regulators.

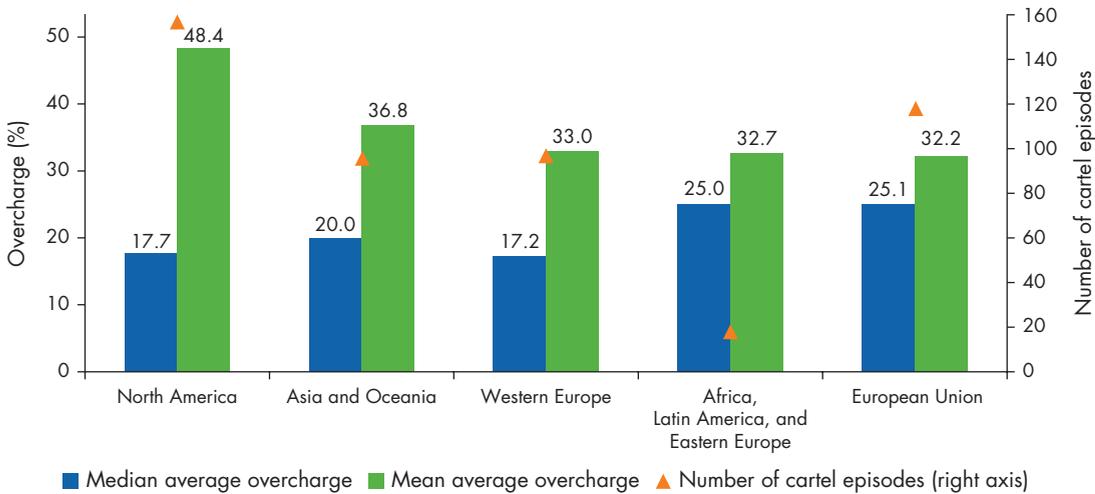
Countries can be expected to self-select into these arrangements, as members of APEC, OECD, the European Union, and the United States are already doing, and gradually widen and deepen them. The African Union’s Convention on Cyber Security and Personal Data Protection, adopted in 2014, has been ratified into domestic law by five members to date and signed by nine others.⁵⁰ In the transitional phase, multilateral rules can fulfil two important roles. GATS Article III on transparency and Article VII on recognition

agreements can help ensure that the emerging arrangements between sets of countries are fully transparent. More important, GATS Article VII can help ensure that any such arrangements do not discriminate against, and are open to participation by, third countries.

Competition policy

Anticompetitive practices in international markets can affect the distribution of gains from participating in GVCs. Because GVCs span many markets, action against anticompetitive practices must take into account the behavior that reduces the availability or raises the prices of the end product (to the detriment

Figure 10.3 Cartel episodes and significant overcharges have been observed across all regions



Sources: World Bank and OECD (2017), with elaboration on data (485 decisions) from Connor (2014).

of buyers) as well as of intermediates (to the detriment of rivals). An examination of 1,530 cartel cases involving overcharges across countries reveals that the mean average overcharge is at least 49 percent, and 80 percent where cartels are strongest.⁵¹ The largest overcharges have been observed in North America (figure 10.3). The price-raising effect of such behavior may foreclose the ability of producers to participate in a value chain or limit their profits and thus their opportunities for expansion.⁵²

The effects of these practices can fall outside the jurisdiction of national competition authorities where the firms are based. And the firms can be outside the jurisdictions of the authorities where the effects are felt. Overall, then, one set of authorities is not mandated to address the effects, and the other set—even if it could in principle enforce the law under the effects doctrine⁵³—is, in practice, not able to do so without collaboration among jurisdictions. Meaningful international cooperation on the enforcement of competition policy would reassure countries facing jurisdictional constraints or limited enforcement capacity that the gains from GVC participation will not be appropriated by firms behaving anticompetitively.⁵⁴

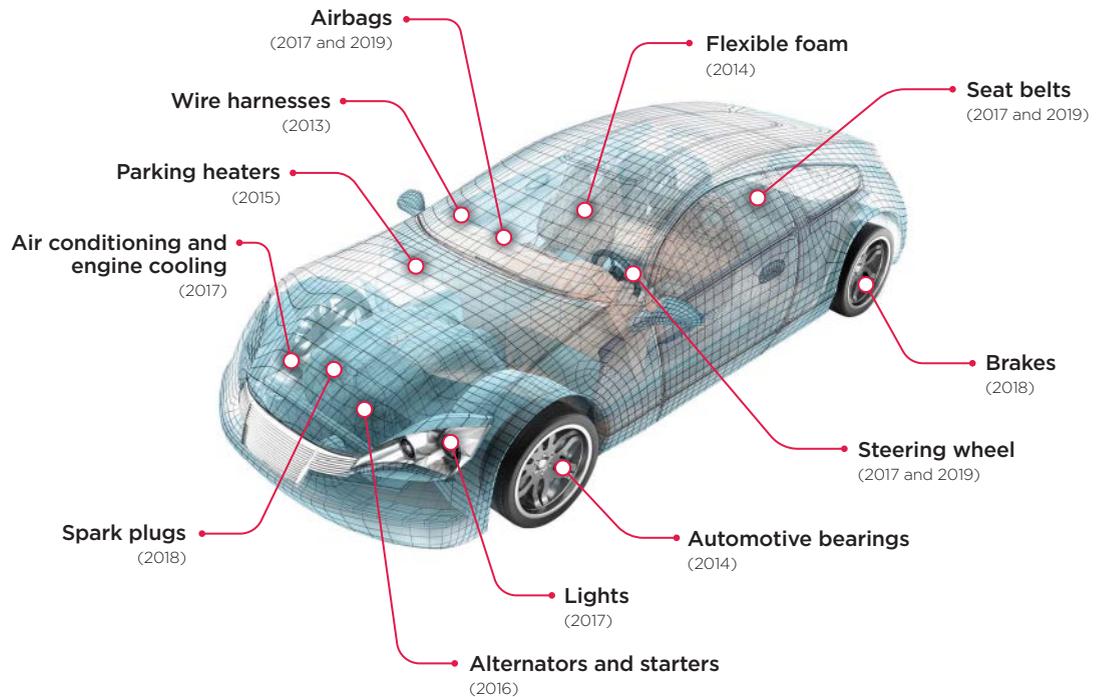
The negative spillovers of anticompetitive practices

Anticompetitive behavior by companies at one stage of production, whether abuse of a dominant position or restrictive business practices, can reduce the

benefits accruing to participants at another stage of production. The cross-border nature of GVCs means that restrictive practices often also have a cross-border dimension. For example, in 2009 the South African Competition Commission detected a cartel among four large cement producers involving market allocation and price-fixing in South African provinces as well as in Botswana and Namibia. Since the cartel was broken up, prices and margins for downstream firms in the region have declined by 75–97 percent.⁵⁵ In 2015 Colombia’s Superintendence of Industry and Commerce fined 12 sugar mills, 14 individuals, two companies, and three business associations a total of \$91 million for agreeing to prevent sugar imports from Bolivia, Costa Rica, El Salvador, and Guatemala and for allocating clients.⁵⁶ Food processing associations in Colombia had reported sugar overcharges of 45 percent⁵⁷ affecting food value chains and confectionary exports that account for 13 percent of overall food exports.⁵⁸

In 2016 the European Commission prosecuted a cartel case against major European truck producers that had colluded on pricing and the timing to introduce new emissions technologies—and had agreed to pass on the cost of such systems to buyers of trucks.⁵⁹ Intermediate input suppliers may also collude to raise prices for parts needed by lead firms. Automotive parts makers in Europe were first investigated in 2010–12, and eventually more than a dozen specific cartels for a range of car parts were identified by the authorities. The European Union alone imposed more than

Figure 10.4 The European Commission has imposed large fines on car parts cartels since 2013



Source: European Commission 2019.

€2 billion in fines in 15 separate rulings pertaining to various car parts producers (figure 10.4).

Anticompetitive practices have also been identified in services sectors central to global production networks, such as finance and transport, as well as in new digital services in search, advertising, communication, and distribution. For example, fines of \$1 billion or more were levied by the United Kingdom's Financial Conduct Authority, the United States' Commodity Futures Trading Commission, and Swiss regulators on the world's biggest banks—Barclays, JPMorgan Chase, Royal Bank of Scotland, Citigroup, and Creditbank—for manipulating foreign exchange markets. The rigging apparently took place through information sharing and coordinated trading.

Various cartels involving as many as 16 freight forwarders have been discovered in key destination markets for GVCs. Between 2002 and 2007, freight forwarding companies were investigated in the United States for price-fixing, with 16 companies pleading guilty by 2011. The total fines levied by the U.S. Department of Justice amounted to \$100 million.⁶⁰ In 2009 Japan issued a cease and desist order to 12 of the same freight forwarding companies for similar conduct during the same period, with a joint fine of ¥9 billion,⁶¹

and in 2012 the European Union uncovered four cartels in the international air freight forwarding market (between six and nine of the same companies were in each cartel).⁶² The companies were charged with coordinating conduct such as currency adjustment and peak season surcharges.

Anticompetitive behavior is also commonly found among services related to port transport, such as handling and towage services. In 2019 the Guyana Competition and Consumer Affairs Commission (CCAC) fined five terminal operators almost \$4 million each for colluding to fix prices for the haulage of containers—an arrangement facilitated by the national shipping association.⁶³ And in 2017 the German and Dutch competition agencies collaborated in investigating a cartel in harbor and towage services dating back to 2000/2001. Four companies were fined a total of €13 million for allocating orders between them in accordance with turnover targets.⁶⁴

In 2010 the European Commission fined 11 air cargo carriers nearly €1 billion for operating a worldwide cartel that affected cargo services within the European Economic Area (EEA).⁶⁵ The carriers coordinated their action on surcharges for fuel and security without discounts over a six-year period. The European

Commission's fines on the air cargo carriers were reduced by 50 percent in relation to sales between the EEA and third countries to take into account the fact that the harm of the cartel fell outside of the EEA's jurisdiction. International maritime transport has also regularly been a target of enforcement: in 2018 the European Union levied \$458 million in fines on four maritime car carriers for customer allocation and price-fixing for deep-sea transport of vehicles.⁶⁶

Digital companies are also attracting attention from national competition authorities. Large multi-sided markets created through the inherent network effects of individual platforms are vulnerable to monopolistic behavior, and platform firms can exploit user data to stifle competition. In early 2019, the United States launched a Technology Task Force to monitor competition in U.S. technology markets, particularly those in which platforms compete.⁶⁷ Australia, the European Union, Germany, and the United Kingdom have also initiated multistakeholder inquiries into competition in digital markets. Meanwhile, competition authorities continue to police specific instances of anticompetitive behavior. For example, the European Commission is pursuing a review of smartphone chargers that could have implications for Apple because the iPhone's charger departs from the micro-USB connectors used by the rest of the industry through voluntary agreement.⁶⁸ Abuse of dominance was a recurring theme in three EU investigations into Google between 2017 and 2019, resulting in fines totaling \$9.3 billion (EU regulations permit fines of up to 10 percent of a company's annual global turnover). Brazil (2013), the Russian Federation (2015), and India (2018), among other countries, have also launched investigations into Google for abuse of dominance in web search advertising and bundling of search results as the default on Android mobile devices.

The ability of platform companies to use data collected through their platforms to stifle competition is also a concern. Brazil's 2013 investigation of Google also examined whether the company was scraping (extracting) relevant competitive content (such as product reviews) held by rival search websites in order to strengthen Google's own search services. In 2018 the European Union opened a preliminary investigation into how Amazon uses data on third-party vendors operating on its platform because of concerns that the data allow Amazon to identify product trends early and promote its own brands.⁶⁹

Mergers and acquisitions create similar concerns about their effects on market competition. In the United States, Amazon's acquisition of the supermarket

chain Whole Foods in 2017 raised concerns about the use of consumer data.⁷⁰ In 2019 Mexico's Federal Economic Competition Commission (COFECE) blocked a merger between Walmart and Cornershop, a Mexican platform that delivers groceries from online retailers such as Costco, Chedraui, and Walmart.⁷¹ According to COFECE's decision, the merger could unduly displace competitors in the provision of logistical services, and the market power of the merged economic entity could inhibit the development of new platforms.

It is not known how much cartels affect GVCs and cost consumers in developing countries, but the spillover effects of foreign cartels clearly can be significant.

The empowered: Not very concerned

In 2018 over 130 jurisdictions had a competition law in place, up from fewer than 50 in the early 1990s.⁷² The growth in the number of competition agencies has been associated with an increase in the number of cartels prosecuted each year. Between 1989 and 2016, 953 cartel investigations led to fines totaling \$112 billion. While large, the number is much less than total overcharges to buyers, which are estimated to exceed \$1 trillion.⁷³

A central feature of competition law, however, is that it is directed at the effects of anticompetitive practices on *national* consumers and markets. Addressing the effects of behavior by national firms on a foreign market is not part of the mandate of national competition agencies. For example, Section 3 of South Africa's Competition Act states that it "applies to all economic activity, within, or having an effect within, the Republic." It does allow foreign agencies to investigate anticompetitive behavior that has an impact both on South Africa and the region and share information, but only if the companies concerned agree to this. For the most part, however, countries must rely on self-defense to combat anticompetitive behavior with effects on their markets, whether it involves locally established firms or companies headquartered in foreign countries or MNCs.

The concerned: Not fully empowered

Competition laws generally permit action against anticompetitive practices that have effects on the domestic market, but developing countries may not have adequate capacity or jurisdiction to act. The effectiveness of this "effects doctrine" depends on the capacity of authorities to identify, investigate, and if necessary fine foreign firms for anticompetitive behavior. Small or low-income countries may not be able to do so. Competition law enforcement capacities

vary widely across developing countries. Whereas in Latin America, agencies in Brazil, Chile, Colombia, Mexico, and Peru apply sophisticated investigative tools to detect several major cartel agreements each year, many of their regional peers have fined only a few firms for such conduct in over a decade. Cartel enforcement in Africa and Asia is quite limited with very few exceptions. In 2017–18, only the Arab Republic of Egypt and South Africa imposed significant cartel fines on the African continent.⁷⁴ In one case, foreign exchange firms without a local presence were excluded from prosecution in South African courts for colluding on fixing exchange rates.⁷⁵ Similarly, differences in capacity to act imply that many developing countries are less able than more advanced countries to defend the interests of their consumers from anticompetitive behavior.

Few, if any, complementary investigations have been pursued of South African firms that have engaged in anticompetitive behavior in other countries in southern Africa, nor have any claims been made for damages, even though in many of these cases the firms operate in neighboring countries.⁷⁶ Zambia is a notable exception. Its competition authority has jurisdiction over Zambian markets and can investigate and sanction foreign companies that have Zambian operations. In 2013 it prosecuted a fertilizer cartel that was uncovered in South Africa and fined the participants \$20 million.⁷⁷ For companies domiciled in foreign countries, it collaborates with other national and regional authorities, such as the Common Market for Eastern and Southern Africa (COMESA) Competition Commission, to sanction those companies in the event their anticompetitive practices have an effect on the Zambian market.

The limited scope of existing multilateral and plurilateral cooperation

In 2003 efforts to launch negotiations on a multilateral agreement on competition policy in the WTO failed to attain the needed consensus. The WTO services agreement does contain a provision on anticompetitive practices (GATS Article IX), but it provides only for an exchange of information and consultation. Since then, the International Competition Network, in conjunction with deliberations in OECD and the United Nations Conference on Trade and Development (UNCTAD), has established a basis for international cooperation between agencies. This effort has been complemented with bilateral agreements between agencies to cooperate in different areas. Moreover, preferential trade agreements (PTAs) are increasingly

including chapters on competition policy. In free trade agreements, these generally establish a basic framework of principles such as transparency, due process, assistance (for example, exchange of nonconfidential information), and nondiscrimination. Moreover, technical competition commitments are directed at antitrust enforcement and merger control, even though in some PTAs they are not binding and cannot be challenged through the dispute settlement provisions of PTAs. Competition commitments in PTAs have helped to promote regional market integration. In common markets, regional secretariats may investigate cases. An example is the COMESA Competition Commission, which has the mandate to investigate cases that affect two or more COMESA members, and it has vetted merger cases. But besides antitrust, PTAs have included a number of sector-specific commitments to eliminate domestic rules that facilitate anticompetitive practices. These provisions typically target domestic rules that reinforce dominance or discrimination in favor of domestic firms, such as in the case of agribusiness and investment chapters.⁷⁸

Cooperation can increase the effectiveness of enforcement through sharing information and enhancing the joint capacity to investigate and act. The car parts cartel cases described earlier involved cooperation by 13 jurisdictions, including Brazil, Canada, China, the European Union, India, Japan, the Republic of Korea, South Africa, and the United States, with some 70 companies investigated for price-fixing and bid rigging for more than 100 products.⁷⁹ The same is true of large or complex merger cases. The acquisition of Lafarge (France) by Holcim (Swiss), two large cement and concrete producers with global operations, involved seven competition agencies in countries outside the European Economic Area: Brazil, Canada, India, Mauritius, the Philippines, South Africa, and the United States.⁸⁰ However, Holcim-Lafarge operates in some 80 countries, and most did not investigate the merger or require remedies even though many may be negatively affected.⁸¹

International agreements on cross-border regulatory cooperation

Despite the efforts to cooperate in investigations of anticompetitive practices, what has not changed is the explicit nationalist focus of competition laws. Competition law enforcement is premised on self-help. There are no examples of international cooperation among countries to enforce competition rules to protect the interests of foreign consumers, although foreign consumers may be incidental beneficiaries of

case-specific collaboration between agencies in two affected jurisdictions.

One corrective step would be to provide foreign jurisdictions with information on the foreign effects of anticompetitive practices under investigation when such effects are identified. Agreeing to explicitly assess such effects could also be an element of a plurilateral agreement to assist developing countries in addressing restrictive business practices that harm their consumers or firms. In one further step, countries would end existing exemptions for export cartels from the scope of their national competition laws.⁸² For example, the United States and the European Union, which are home to many services multinationals, could begin by ending exemptions from the scope of their competition law collusive practices whose effects are felt outside their jurisdiction. This could be pursued through a plurilateral agreement—in the WTO, OECD, or UNCTAD—among the largest jurisdictions. In a more ambitious step, countries could change national legislation to require nationals not to harm foreigners abroad by conduct that is illegal at home.⁸³ Such a change could be accompanied by recognition of the right of foreign consumers to challenge anticompetitive practices by services firms in the national courts of countries whose citizens own or control these firms.

Such a deal could be part of a broader trade agreement obliging importing countries to liberalize and exporting countries to regulate. For example, Zambia could assert that opening its market to South African firms would be conditional on a commitment by South African authorities to investigate anticompetitive behavior in Zambia by firms based in South Africa, or to assist the local authorities in doing so. In principle, it would be in South Africa's interest to provide such reassurance.

Regional cooperation between developing countries

In parallel, deepening regional cooperation enforcement of competition policy offers a mechanism for many developing countries to protect their consumers and firms from foreign anticompetitive behavior. An option is to form a regional competition agency to which national competition agencies could pass jurisdiction in specific circumstances, just as EU member states pass jurisdiction to the European Commission when circumstances warrant. For example, in a cost-saving move Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines established in May 2000, with World Bank support,

the Eastern Caribbean Telecommunications Authority (ECTEL), the world's first regional telecommunications authority. Although the member countries retained their sovereign power over licensing and regulation, ECTEL provides technical expertise, advice, and support for national regulations. Apart from the economies of scale in establishing a common regulator, there are at least three other advantages of such an arrangement. It promotes the development of harmonized and transparent regulation in the region, allows for greater independence (and thus credibility) in regulatory advice, and enhances bargaining power in negotiations with incumbents and potential entrants. In fact, there is evidence that the creation of ECTEL, along with other reforms, prompted a decline in the price of a daytime call to the United States of between 24 and 42 percent in these countries.

However, creating a supranational competition law regime should be a mechanism for strengthening competition rather than weakening national competition law regimes. The competition legal regime of the West African Economic and Monetary Union (WAEMU) prohibits parallel national competition rules. Thus Côte d'Ivoire and Senegal, among others, are barred from implementing their national competition laws. Meanwhile, WAEMU itself has limited resources to implement competition law enforcement, which is therefore mostly ineffective in the entire region.⁸⁴

Infrastructure

The failure of countries to coordinate the provision of infrastructure impedes GVC investment, expansion, and upgrading. Each country does not fully internalize the benefits to foreign traders of reductions in domestic trade costs, and so gains are larger when governments on both sides of the border invest in expediting trade simultaneously. The WTO Trade Facilitation Agreement addresses the coordination problem and provides low-income countries with financial assistance for the necessary investments.

Coordinated efforts to develop infrastructure can enhance international connectivity (box 10.1). For any country, building a railway or a road has some value, but it also has value to the countries around it because improvements in one part of the transport network reduce shipping times for all countries in the network. If each country alone decided how to invest in infrastructure, spillovers to other countries would not be taken into account. This is even truer for transport infrastructure that crosses one or more borders.

Box 10.1 International cooperation on transport infrastructure

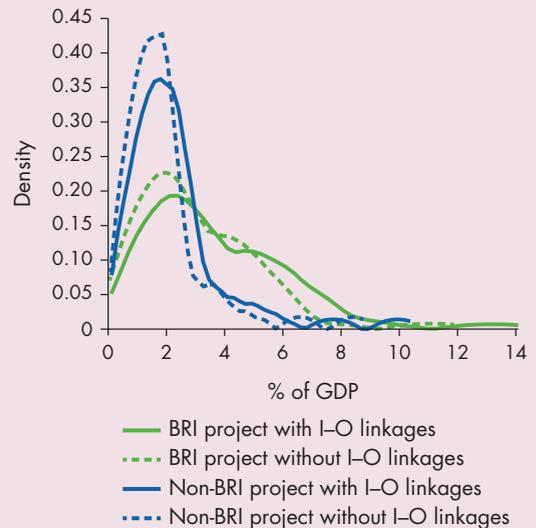
Of the many examples of international cooperation on transport infrastructure, the two most well known are the European Union's Trans-European Transport Network (TEN-T) and China's Belt and Road Initiative (BRI). TEN-T is an effort to develop a Europe-wide network of roads, railway lines, inland waterways, maritime shipping routes, ports, airports, and railroad terminals. The TEN-T will require building new physical infrastructure; adopting innovative digital technologies, alternative fuels, and universal standards; and modernizing and upgrading the existing infrastructure and platforms. Although the scope of the BRI is still taking shape, it is structured around two main components, underpinned by significant infrastructure investments: the Silk Road Economic Belt (the "Belt") and the New Maritime Silk Road (the "Road"). The overland Belt will link China to Central and South Asia and onward to Europe, and the maritime Road will link China to Southeast Asia, the Gulf countries, East Africa and North Africa, and on to Europe.

Transport infrastructure that improves international connectivity can have a significant impact on international trade and GVC integration. Time delays are a barrier to international trade. This is even truer for goods and services produced in GVCs because their production relies on the timely delivery of time-sensitive inputs.^a The importance of time as a trade barrier is well established in the literature.^b By one estimate for a sample of 126 countries, a one-day delay in shipping time reduces trade by at least 1 percent.^c The World Trade Organization (WTO) finds that delays and border costs can be equivalent to a 134 percent ad valorem tariff on a product in high-income countries and a 219 percent tariff equivalent in developing countries.^d

An analysis of the impacts of transport projects linked to the Belt and Road Initiative reveals the relevance of international cooperation in infrastructure for GVCs (figure B10.1.1). For economies along the Belt and the Road, as well as for non-Belt and Road countries, the effects of infrastructure investment on GDP are larger when the model accounts for cross-border input-output linkages. When a sector experiences a decrease in the price of its imported inputs as shipping times and trade costs fall, it passes on the associated reduction in production costs to downstream industries, propagating the benefits across the world. These input-output linkages lead to a potentially complex reallocation of comparative advantage, production, and trade, thereby increasing welfare.

International cooperation on infrastructure also comes with its challenges. Large cross-border infrastructure

Figure B10.1.1 Impact of China's Belt and Road Initiative transport projects with and without input-output linkages



Source: de Soyres, Mulabdic, and Ruta 2019.

Note: In this figure, de Soyres, Mulabdic, and Ruta (2019) build on Caliendo and Parro (2015)—a Ricardian model with sectoral linkages, trade in intermediate goods, and sectoral heterogeneity—to allow for changes in trade costs stemming from improvements in transportation infrastructure connecting multiple countries—improvements financed through domestic taxation. The model highlights the impact on trade and GDP of infrastructure investments linked to the Belt and Road Initiative (BRI) through cross-border input-output linkages.

projects have major impacts on public finances and generally have asymmetric effects on the trade and GDP of individual countries. Countries that build and pay for large sections of a project may not gain the most from it. Indeed, analysis suggests that the BRI transport project increases overall welfare for the economies along the Belt and Road by up to 2.8 percent, but three countries (Azerbaijan, Mongolia, and Tajikistan) will experience welfare losses because the infrastructure costs will outweigh gains through trade.^e This raises the difficult question of equitable financing of common infrastructure projects. Furthermore, the welfare effects of BRI transport projects would increase by a factor of four if participating countries would reduce by half the delays at borders and tariffs, which highlights the importance of complementary policy reforms. Put differently, lack of such reforms severely limits the gains from international cooperation on infrastructure.

a. Baniya, Rocha, and Ruta (2019).

b. Djankov, Freund, and Pham (2010); Hummels and Schaur (2012, 2013).

c. Djankov, Freund, and Pham (2010).

d. Baniya, Rocha, and Ruta (2019).

e. de Soyres, Mulabdic, and Ruta (2019).

For any country, the timing of investments by neighboring countries in their infrastructure is relevant because the value of one's investment depends on the investment decisions of others. The ultimate impact of a country's investments also depends on the policy choices of other countries, such as the standards they use when building infrastructure or the procedures that countries use to clear goods at the border.

But common transport infrastructure also creates challenges. One is that it has significant implications for public finances and may have asymmetric effects on the trade and GDP of individual countries. This asymmetry raises the possibility that the countries that build—and bear the cost of—large sections of the project may not be the ones that will gain the most from it.⁸⁵ Another challenge is the need to ensure mutual compatibility in standards. An example of how slight differences in infrastructure standards can disrupt trade is the rail gauge—that is, the distance between the two rails that form a railway track. Trains cannot easily cross borders if the rail gauge standards differ across countries. Russia used broad-gauge track (1,520 millimeters, or roughly 5 feet) in the 19th century to protect it from the entry of trains from the west, which ran on standard-gauge track (1,435 millimeters). For Russia, the 85-millimeter (or 3-inch) difference served a strategic military purpose because troops and material could not easily enter the country by rail. But in more tranquil times, the same 85 millimeters have become a high trade barrier, preventing goods from seamlessly crossing borders. Broad-gauge tracks are still used in successor states of the Soviet Union such as the Kyrgyz Republic, Tajikistan, and Uzbekistan, exacerbating the transport challenges that these countries face because they are landlocked. In part because of the extensive delays when changing cargo at borders, only about 5 percent of the goods transported between Asia and Europe move by rail.

Synergies can arise across different types of infrastructure. For example, it is much cheaper to bundle the laying of fiber-optic cable with the building of electric or gas lines, roads, or railways than to create communications, transport, and energy connectivity separately. Such bundling has the further advantage of not prejudging the future importance of different types of international flows. It also does not presume the evolution of comparative advantage in any specific direction: a country is equipped to export goods by road or rail and digital services by cable.

Seamless travel across borders requires cooperation not just on physical infrastructure, but also on soft infrastructure. When people cross borders, there

are two sets of checks: one for exit and one for entry. The same is true for goods, but the delays tend to be even longer than those for people because of complex regulations and taxes that differ across products and countries. However, there is little a government can do to ensure short customs transit times for its firms' exports when they reach their destination.

Cooperation on policy and trade facilitation can together go a long way toward eliminating delays at borders. For example, for many years Guatemala and Honduras required identical paperwork and duplicate processes on both sides of the border, but the red tape was still expensive and time-consuming for businesses. Some truck drivers even brought hammocks to the border so they could wait out the lengthy process in comfort. When both countries moved from a free trade area to a customs union, eliminating the need for complex rules of origin, transit times fell from 10 hours to just 15 minutes and trade increased by 7 percent.⁸⁶ Now paperwork is handled by a single online instrument. At the border, a digital reader device instantly scans a Quick Response (QR) code and quickly certifies—online—whether an importer has already paid the VAT on the goods in the destination country.⁸⁷ Another example is East Africa, where a combination of procedural simplification, introduction of one-stop border posts, harmonization of vehicle standards, and enforcement of dwell time limits helped to reduce the time to cross at the Malaba border post from two days to six hours for loaded trucks.⁸⁸

Trade facilitation has become an increasingly common feature of trade agreements. It encourages coordination and cooperation among customs authorities, expanding the benefits from improvements on both sides of the border. For example, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership commits members to adopting predictable and transparent procedures and the advance electronic submission of import requirements. A problem, however, is that the reform requires a capacity, both technical and monetary, that many developing countries lack.

The WTO Trade Facilitation Agreement ratified in 2017 allows developing countries to reform at their own pace and with assistance provided by advanced countries. It serves as an example for other areas in which cooperation and capacity are constraints on trade. As of August 2019, more than 63 percent of WTO members implemented the TFA, including 100 percent of developed members, 62.5 percent of developing members, and 26.8 percent of least developed countries.

Notes

1. This section is on direct taxation. GVCs also pose challenges for indirect taxes such as the VAT, although these are more tractable (see Clavey et al. 2019).
2. UNCTAD (2015).
3. Crivelli, de Mooij, and Keen (2016).
4. The Inclusive Framework on BEPS, adopted by over 130 countries, was launched in 2013. For more information, see “International Collaboration to End Tax Avoidance,” Organisation for Economic Co-operation and Development, Paris, <http://www.oecd.org/tax/beps/>.
5. See “Global Forum on Transparency and Exchange of Information for Tax Purposes,” Organisation for Economic Co-operation and Development, Paris, <https://www.oecd.org/tax/transparency/>.
6. See “Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS,” Organisation for Economic Co-operation and Development, Paris, <https://www.oecd.org/tax/treaties/multilateral-convention-to-implement-tax-treaty-related-measures-to-prevent-beps.htm>.
7. Beer and Loeprick (2015) suggest that the most relevant indicator of transfer pricing rules adoption are effective documentation requirements. From 1994 to 2014, the number of countries with “effective” transfer pricing documentation rules increased from four to more than 80 (Cooper et al. 2016). Although that is a substantial increase, it did not result in comprehensive coverage of countries. Similarly, as of 2012 only 34 developing countries had formal transfer pricing rules (de Mooij and Liu 2018).
8. The split profit method is particularly useful in the GVC context where comparable market-based pricing is not available for benchmarking transfer pricing. It is recognized as one of the methods for transfer pricing in the BEPS package, but the OECD guidance did not stipulate how and when practitioners should perform a “value chain analysis” to determine whether the profit split method is the most appropriate method to price a related party transaction. Also, during consultations, transfer pricing experts disagreed over what constitutes a value chain analysis, and ultimately the 2018 guidance did not cover the topic.
9. OECD (2015).
10. IMF (2019).
11. Beer, Klemm, and Matheson (2018).
12. Quak (2018).
13. See Mansour and Rota-Graziosi (2013).
14. See PCT (2015).
15. In July 2019, France introduced a digital services tax (DST) of 3 percent on revenue from digital services earned in France by large companies (some 30 mostly U.S.-based multinational companies). The European Union has considered but not agreed on a DST. The United Kingdom is planning to introduce a 2 percent DST in April 2020, and other European countries such as Austria, the Czech Republic, Italy, Poland, and Spain are signaling that they may introduce such a tax.
16. OECD (2019).
17. IMF (2019).
18. Pemberton and Loeprick (2019).
19. Auerbach et al. (2017).
20. Clavey et al. (2019).
21. For comparison, the U.S. Congress’s Joint Committee on Taxation estimated the revenue impact of the Base Erosion and Anti-abuse Tax (BEAT) at \$149.6 billion over 2018–27. See U.S. Congress, Joint Committee on Taxation (2017).
22. Pemberton and Loeprick (2019).
23. A third OECD/G20 Inclusive Framework proposal, *significant economic presence*, targets highly digitalized businesses and taxes revenues of such firms even if they lack a physical presence. The allocation of profits would be by formula.
24. Auerbach et al. (2017).
25. Auerbach et al. (2017).
26. Auerbach (2017b).
27. IMF (2019).
28. Hebous, Klemm, and Stausholm (2019).
29. Hebous, Klemm, and Stausholm (2019).
30. Auerbach (2017a).
31. This includes highly leveraged firms because debt-financed investments would no longer be subsidized. See Avi-Yonah and Clausing (2019).
32. Grinberg (2017); Schön (2016).
33. Auerbach and Holtz-Eakin (2016); Auerbach et al. (2017).
34. PCT (2017).
35. Beer and Loeprick (2018).
36. Although the focus here is on mandatory regulation, similar factors arise in the context of private standard setting by lead firms in GVCs (including large retailers), or collaborative efforts by firms and nongovernmental organizations to set standards for products or production processes used by firms that participate in the supply chain, such as the Global Food Safety Initiative (GFSI) and GLOBALG.A.P.
37. de Bruijn, Kox, and Lejour (2008).
38. Trachtman (2014).
39. Mattoo (2018).
40. MGI (2016).
41. USITC (2014).
42. Ferracane, Kren, and van der Marel (2018); Ferracane, Lee-Makiyama, and van der Marel (2018).
43. Ferracane, Kren, and van der Marel (2018); Ferracane, Lee-Makiyama, and van der Marel (2018).
44. Schrems v. Data Prot. Comm’r, I.E.H.C. 310 (2014) at para. 73.
45. Members of the Fortune 500 would need to spend on average \$16 million each to avoid falling foul of the European Union’s GDPR, according to estimates reported in the *Financial Times* (Khan 2017). Each company is expected to hire on average five dedicated privacy employees (such as data protection officers) and another five employees to deal partially with the new rules. Financial services and technology companies face the biggest compliance costs.
46. NASSCOM-DSCI (2013).
47. The recent United States–Mexico–Canada Agreement (USMCA) follows the example of the CPTPP.
48. European Commission (2017).

49. U.S. Department of Commerce (2016).
50. “List of Countries Which Have Signed, Ratified/Accessed to the African Union Convention on Cyber Security and Personal Data Protection,” <https://au.int/sites/default/files/treaties/29560-sl-AFRICAN%20UNION%20CONVENTION%20ON%20CYBER%20SECURITY%20AND%20PERSONAL%20DATA%20PROTECTION.pdf>.
51. Connor (2014).
52. Issues that may be of concern to firms participating in GVCs or to end consumers—such as the governance of GVCs and the allocation of total profits associated with the operation of a GVC along the value chain as a whole—are not matters that can be typically addressed through competition law.
53. Most modern competition law regimes follow the effects test. Under that test, a state has jurisdiction over anticompetitive conduct when that conduct has produced significant and foreseeable effects in the relevant jurisdiction, regardless of whether the acts subject to a complaint took place within the territory of that state. This test allows the reach of the domestic jurisdiction’s competition laws to extend outside the state’s borders. However, it also excludes jurisdiction over conduct in foreign countries that does not have significant and foreseeable domestic effects, and thus limits the likelihood for clashes in competition law enforcement between different jurisdictions. Jurisdictions such as Canada, France, Japan, and the United Kingdom have adopted an effects-based approach to jurisdiction (Zanettin 2002).
54. Francois and Wooton (2001).
55. Govinda, Khumalo, and Mkhwanazi (2014).
56. OECD (2016).
57. *El Espectador* (2015).
58. “Colombia,” Observatory of Economic Complexity, Macro Connections Group, MIT Media Lab, Massachusetts Institute of Technology, Cambridge, MA, <https://atlas.media.mit.edu/en/profile/country/col/#Exports>.
59. The companies involved were Daimler, DAF, Iveco, MAN, Scania, and Volvo/Renault. See “Antitrust/Cartel Cases: 39824 Trucks,” European Commission, http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39824.
60. <https://www.carteldigest.com/cartel-detail-page.cfm?itemID=44>.
61. Japan Fair Trade Commission (2009).
62. European Commission (2012).
63. Guyana Competition and Consumer Affairs Commission (2019).
64. Germany Bundeskartellamt (2017); Netherlands Authority for Consumers and Markets (2017).
65. European Commission (2010).
66. Simpson Thacher (2019).
67. FTC (2019).
68. In 2009, 10 leading mobile phone manufacturers signed a memorandum of understanding (MoU) committing them to using micro-USB connectors for chargers. As an exception, manufacturers could continue to use their own connector if they offered an adapter, which allowed Apple to continue using its own connector. The MoU expired in 2012. See “One Mobile Phone Charger for All Campaign,” European Commission, http://ec.europa.eu/growth/sectors/electrical-engineering/red-directive/common-charger_en.
69. Chee (2018).
70. Petro (2017).
71. Solomon (2019).
72. Anderson, Müller, and Sen (2018).
73. Connor (2016).
74. Morgan Lewis (2019).
75. South Africa Competition Tribunal (2019).
76. Roberts, Vilakazi, and Simbanegavi (2017).
77. *Daily Nation* (2013).
78. Licetti, Miralles, and Teh (2019).
79. See Connor (2012) and Linklaters (2018).
80. The merged entity was required to divest some operations in many of the countries concerned—see Holcim and Lafarge (2015). A noteworthy feature of this case was the recognition of the value chain nature of activities. The U.S. Federal Trade Commission and the Canadian Competition Bureau cooperated in order to ensure remedies would not disrupt cross-border supply chains. Thus Holcim was required to divest all its operations in Canada but also to sell several U.S. plants deemed to be critical to the Canadian operation as part of an integrated package to a single buyer. See Competition Bureau (2015).
81. Fox (2015).
82. Behavior that has an effect only on foreign markets cannot be addressed by national competition agencies.
83. Fox (2015); Hoekman and Sabel (2019).
84. Senegal faces an additional contradiction as the Economic Community of West African States (ECOWAS) does foresee the application of national competition law for conduct that does not affect trade among its member states.
85. de Soyres, Mulabdic, and Ruta (2019).
86. Gain and Alfaro de Morán (2019).
87. Gain and Alfaro de Morán (2019).
88. Kunaka, Raballand, and Fitzmaurice (2019).

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