

# C

## Why services trade matters

This section examines the role of trade in services in helping countries to achieve rapid and inclusive growth. Section C.1 discusses and attempts to quantify how services trade benefits the economy and promotes growth. Section C.2 discusses the role trade in services plays in enhancing domestic firms' competitiveness, not only in the services sector, but also in manufacturing. Section C.3 considers how services trade promotes inclusiveness in a number of areas, such as skills, gender and location of economic activity. Section C.4 concludes.



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## Some key facts and findings

- Trade in services creates welfare gains for society through a more efficient allocation of resources, greater economies of scale, and an increase in the variety of services on offer.
- Services trade improves firms' competitiveness in both the services and manufacturing sectors.
- Because services providers must often be present in the area where the service is delivered, the quality of institutions in the importing country is of greater importance for services trade than for goods trade.
- A large number of jobs is supported by services exports. However, the effect of services trade on the overall level and structure of employment has been small so far.
- Services trade can help to reduce economic inequality for women and MSMEs.



## 1. The gains from services trade

This section begins with a discussion of the ways in which trade in services differs from trade in goods, and what this implies for the contribution of services to the economy and to growth. This will be followed by a review of empirical research quantifying the impact on economic welfare of an increase in services trade. It also includes author's estimates of the gains from increased trade in services using a framework associated with new quantitative trade models (Arkolakis et al., 2012; Costinot and Rodriguez-Clare, 2014) as well as results from the trade and growth literature (Feyrer, 2019). These estimates are complemented with case studies that illustrate how trade in services has contributed to economic growth and development in a geographically diverse set of economies.

As in the case with trade in goods, trade in services could contribute to a more efficient allocation of resources, greater economies of scale, availability of a greater variety of services for consumers and producers, and it could set in motion a process by which the more productive services firms could expand and grow. Beneficial spillovers could also arise from the transfer of technology and know-how from one economy to another. Beyond these usual sources of gains, some services sectors have special or unique features that may amplify how an economy can benefit from trade in services which are discussed below.

### (a) What is different about trade in services compared to trade in goods?

Certain services sectors, such as transport, telecommunications, finance, and water and electricity distribution – generally known as infrastructural or producer services – play critical roles in the functioning of the entire economy. It is inconceivable, for instance, that manufacturing plants can be run efficiently if there are periodic blackouts, and businesses suffer if communication is difficult to establish with suppliers and customers. The financial or capital market is responsible for allocating an economy's savings to their most productive uses and also for allocating investment risk to those willing to bear it (Arrow, 1970). If this allocative function fares poorly because of an underdeveloped or "repressed"<sup>1</sup> financial sector (McKinnon, 1973), it can starve productive firms of much-needed capital, while channelling resources to firms with poor prospects. The state and performance of these producer services sectors have an enormous influence on productivity across the entire swath of a modern economy.

Beyond these infrastructural or producer services, other services sectors have an outsized impact on the productivity of what economists call factors of production, like labour. The productivity of a country's labour force depends on how educated, skilled and healthy it is, attributes which hinge crucially on the quality of the country's educational and health systems. The better the quality of the services generated by these sectors, the more likely that the country's workers will make a substantial contribution to economic growth.

Allowing greater access to foreign services suppliers in infrastructural services, as well as education and health, is one way to improve efficiency with potentially large payoffs for the economy, as discussed in the opinion piece by Bernard Hoekman and Mateo Fiorini (see page 66). The available evidence linking greater trade in services to improved performance of these sectors and the economy is examined further in this section.

The services sector also constitutes the biggest share of the global economy. As shown in Figure C.1 below, the services share ranges from 49 per cent in South Asia to 77 per cent in North America. Globally, it makes up about two-thirds of value-added. Thus, apart from in South Asia, it is bigger than agriculture, industry and the natural resource sectors combined in all other major geographical regions. This hints at the huge potential that increasing trade in services has to deliver large economic gains to the world.

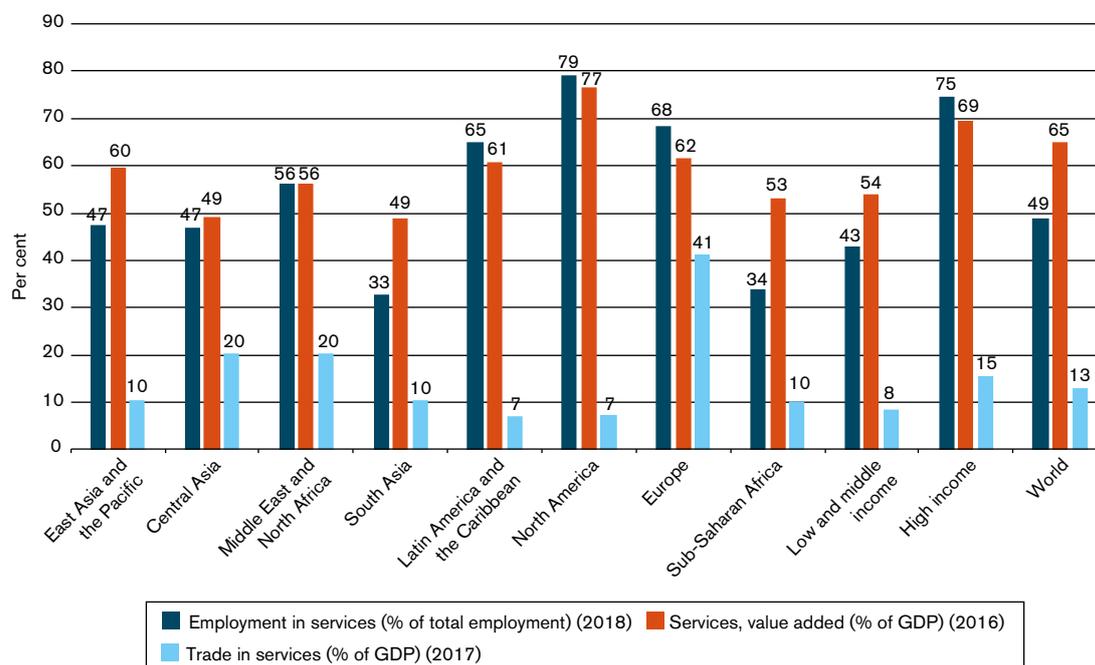
While the general presumption is that productivity growth in services lags behind that of manufacturing, that presumption is increasingly being questioned and qualified.

First, recent empirical work by Young (2014) on Organisation for Economic Co-operation and Development (OECD) economies estimates that the "true" total factor productivity difference between the sectors might lie between a 0.5 per cent advantage for goods and a 0.4 per cent advantage for services. Taking the middle of this range suggests that a plausible alternative characterization of growth in OECD countries is that goods and services have had similar total factor productivity growth rates.

Second, current measures of productivity do not properly account for the indirect contribution of services to other sectors (Mercer-Blackman and Ablaza, 2018). The line between manufacturing and services is often blurred (Hallward-Driemeier and Nayyar, 2018). Not only are the linkages between the two sectors close, they are also getting closer over time. OECD-WTO Trade in Value-Added (TiVA) data

**Figure C.1: The services sector constitutes the biggest share of the global economy**

Share of services in value-added, employment and cross-border trade in services, by region



Source: WTO Secretariat calculations based on World Development Indicators.

show that most manufacturing firms rely on services inputs to produce and trade their goods (see Section B). Many firms also provide services in-house.

Finally, it is possible to observe how productivity in some services sectors is catching up with or even exceeding productivity in manufacturing. The features of manufacturing once thought to be unique are increasingly shared by some services sectors that are internationally tradable across borders through advances in information and communication technology (ICT) such as economies of scale (see Box C.1).

With respect to trade in services itself, an important characteristic that differentiates it from goods trade is the “proximity burden” (Francois and Hoekman, 2010). Unlike trade in goods, many services require that supplier and consumer be in close physical contact. This means that physical distance has a disproportionately larger adverse effect on trade in services compared to trade in goods (Anderson et al., 2014). The proximity burden may also require more bundling of local presence with cross-border provision of services than is the case with goods. For example, even if the service may be amenable to cross-border supply, the potential exporter of services may still need to establish a commercial

presence in the destination market to be able to attract interest from potential purchasers (see Section C.2). However, it should be noted that digitalization is likely to decrease this burden, as technological changes make more and more services deliverable electronically.

Trade in services is more resilient than trade in goods to foreign income shocks. For instance, according to Ariu (2016), trade in services was far less affected by the global financial crisis in 2008-09 than merchandise trade. His explanation is that services represent essential inputs for the production process, that their flow must be continuous, and that they cannot be stored, nor can they easily be modified in reaction to fluctuations in output. Therefore, even during the crisis, firms continued importing services that provided fundamental production inputs.

The services sector is more likely to be marked by market failures, and therefore to be subject to government regulation (Francois and Hoekman, 2010). Examples of these market failures include natural monopolies (rail transport, electricity distribution), network externalities (telecommunications) and information asymmetry (healthcare, finance) – see the related discussion in Section E. Government intervention in services sectors where market

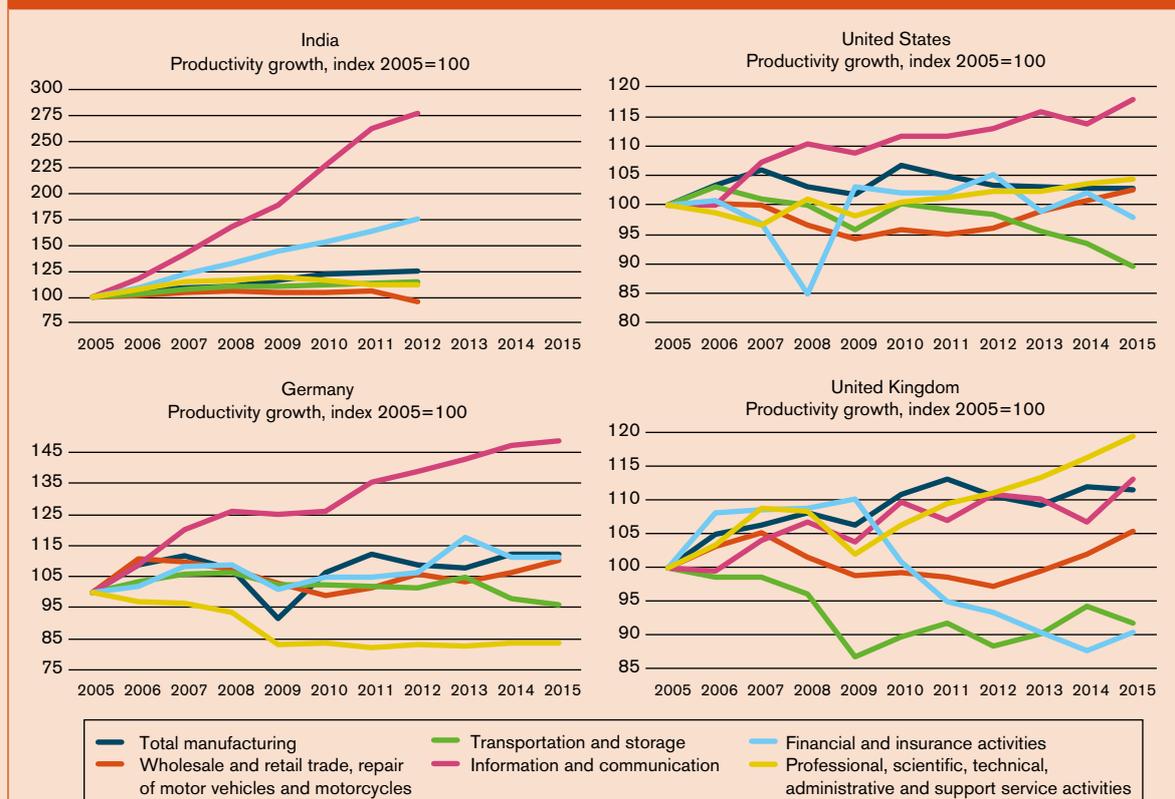
**Box C.1: Technological developments and productivity in services**

Information and communications technologies (ICTs) are one of the main drivers of global economic growth (Aboal and Tacsir, 2018). Technological innovations, coupled with new business models, have changed the nature and structure of services. ICT development means that economies of scale have become important in ICT-enabled services sectors, as the marginal cost of providing an additional unit approaches zero (Fontagné et al., 2014). The input of professional scientific and technical services into agriculture, mining, utilities and construction are making sizeable contributions to the growth of those sectors (Hallward-Driemeier and Nayyar, 2018). One outcome of this has been increased interest in identifying services sectors that are “potentially ICT-enabled” (Borga and Howell, 2014). These sectors include financial and insurance services, charges for the use of intellectual property, audio-visual and related products, telecommunications, computer and information services, research and development (R&D) services, professional and management consulting services, and architectural and engineering services.

Figure C.2 shows recent developments in productivity growth for some selected services sectors and the manufacturing sector for Germany, India, the United Kingdom and the United States. A few important trends are worth noting. First, the information and telecommunications sector has seen a growth in productivity that is faster than that in manufacturing in all four economies. Second, in the United Kingdom and the United States, the same pattern of higher growth than in manufacturing is observed in professional service activities. Third, in India, productivity growth in financial and insurance activities has also grown faster than in manufacturing. This pattern appears consistent with what has been argued by Aboal and Tacsir (2018) to be the larger role played by rapid advancements in ICT in services than in manufacturing. This higher productivity growth in services enabled by the ICT sector could allay fears that secular or long-term growth of the services sector in many economies will come at the expense of slowing overall growth.

**Figure C.2: Total factor productivity in some services sectors exceeds that of manufacturing**

Total factor productivity in selected sectors and economies, 2005-15



Source: Author’s calculation, based on data from EU KLEMS database ([www.euklems.net](http://www.euklems.net)) and World KLEMS database ([www.worldklems.net](http://www.worldklems.net)).

Notes: The productivity measure presented here is total factor productivity, which tabulates the change in output volume relative to changes in the use of inputs, including capital, labour and intermediate inputs. If output volume increases faster than the volume of inputs, then total factor productivity increases. The sector classification is different across economies, and information is available at different levels of aggregation.

failures exist can improve economic efficiency. This intervention typically takes the form of regulations that affect, among other economic outcomes, competition and market entry. This is not to argue that there are no domestic regulations on goods, but that they seem to be far more visible in the services sectors. These regulations, which can differ widely among economies, affect the ease of trading the regulated services. While regulatory authorities may have no desire to restrict trade, differences in regulations can create conditions that impede more trade than is desirable (see related discussion in Section E). This may be another reason for the low share of cross-border services trade in world trade, and for the need to turn to other ways of supplying foreign markets, notably through the commercial presence of foreign suppliers (mode 3 of the General Agreement on Trade in Services – GATS).

Finally, it could be argued that there is a strong connection between services trade and productivity (Eaton and Kortum, 2018). This takes place through services exports from intangible assets. An oft-remarked fact is the growing share of intangible assets in business investment. For OECD countries, investment in intangible assets averages about one-fifth of gross capital formation; for some members, like Ireland, the share can be as high as 61 per

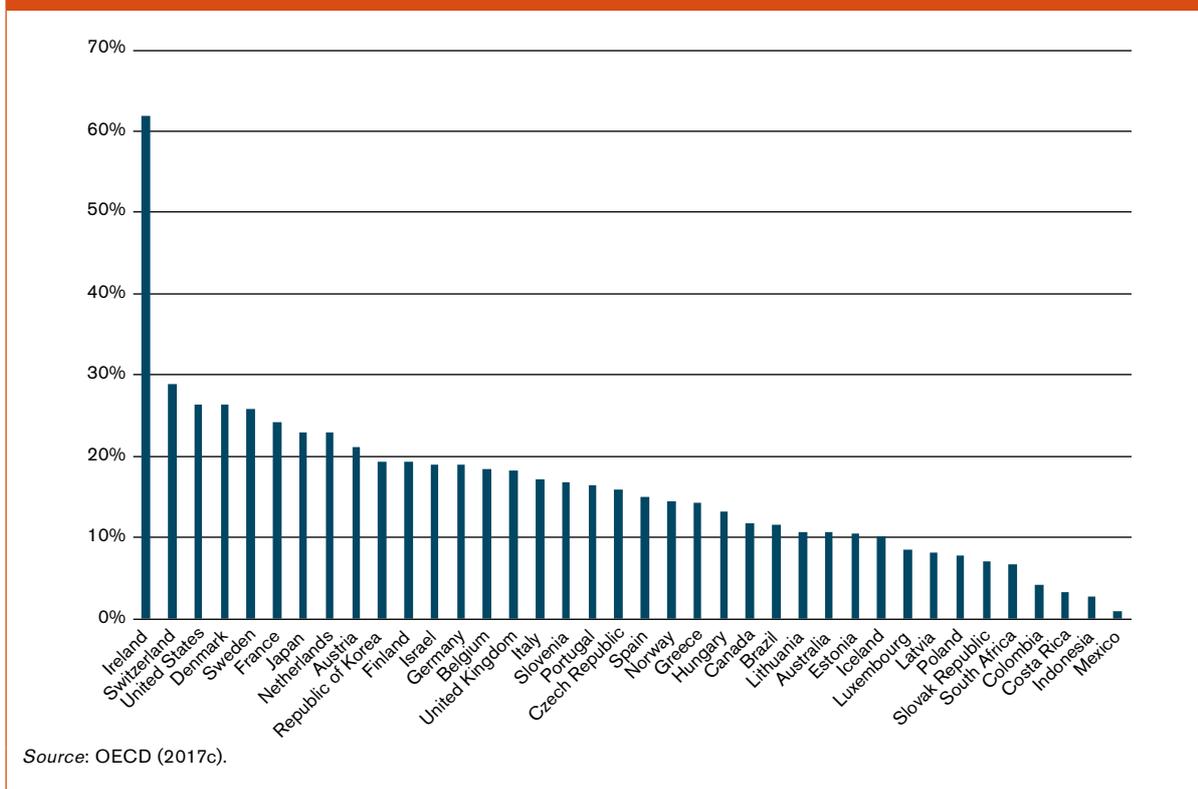
cent (see Figure C.3). Following the influential work by Corrado et al. (2009), intangible assets are understood to include investments in: (i) computerized information, (ii) innovative property (which includes R&D spending) and (iii) economic competencies (which includes investment in brand names as well as investment in firm-specific human capital). Eaton and Kortum (2018) identify a number of characteristics – non-rivalry in use, a close connection with intellectual property (IP) rights, and a near-zero marginal cost of replication – of services exports from intangible assets that have hitherto been overlooked in the literature (see the discussion of IP-related services in Section B). As the digital transformation gains pace in services, and knowledge-capturing products become more important outputs from the services sectors, the admittedly still embryonic Eaton-Kortum framework nevertheless offers a useful starting point to study services trade in the digital economy.

#### (b) Trade in services contributes to growth: some available evidence

In the last subsection, it was conjectured that allowing greater trade in services particularly in infrastructural services and the education, financial and health sectors can improve their efficiency with potentially

**Figure C.3: The share of intangible assets in business investment in OECD countries is significant**

Intangible assets as share of gross fixed capital formation in OECD countries, 2016



large payoffs for the economy. This section will now examine some of the available evidence bearing on this matter. A survey of the empirical evidence will be complemented by case studies from a number of economies demonstrating successful developmental outcomes arising from an expansion of trade in services.

### (i) *Empirical evidence from the literature*

#### **Financial services**

Claessens et al. (2001) measure the impact of foreign bank participation on various indicators of domestic banking efficiency. They find that the entry of foreign banks is associated with greater efficiency in the domestic banking system. Eschenbach and Francois (2002) explicitly model the effect of financial liberalization on growth. They estimate that if a lower-income country were to move to the higher average openness of financial services seen in higher-income countries (roughly 50 percent), GDP per capita growth rates would increase by between 0.4 and 0.6 per cent on a yearly basis. Mattoo et al. (2006) test a standard growth equation on developed and developing countries. They find that with full financial services liberalization, developed countries grow 1.2 per cent faster and developing countries grow 2.3 per cent faster.

Controlling for other determinants of growth, countries with fully open financial (and telecommunications) services grow 1.5 per cent faster than other countries. A study by El Khoury and Savvides (2006) on trade in financial and telecommunications services suggests that its impact on economic growth depends on a country's level of development. They conjecture that in financial services, human capital is in relative scarcity in lower-income economies. Typically, human capital cannot be lured from abroad by financial liberalization. In addition, lower-income countries do not have the institutional or regulatory structures to ensure the effective functioning of the financial sector. El Khoury and Savvides (2006) find that this is indeed the case for financial services, where openness has a positive impact on growth, but only after a certain threshold of income is reached (equal to US\$ 2,291 per year).<sup>2</sup>

#### **Telecommunications**

Boylaud and Nicoletti (2000) find for the telecommunications sector in OECD countries that the prospect of competition and actual competition improve efficiency and the quality of the service and lower prices. The study by El Khoury and Savvides (2006) mentioned above also tests the hypothesis that

the impact of services trade openness on economic growth depends on a country's level of development in telecommunication services. In contrast to financial services, they find that telecommunication services openness has a positive impact on growth for low-income economies, but that this effect diminishes as per capita income increases. Their explanation for this is that since physical capital is scarce in the poorest economies, and opening up the telecommunication services sector frequently attracts foreign direct investment (FDI), market-opening contributes to raising productivity growth in the sector.

Policies encouraging greater FDI and competition in the telecommunications sector have been associated with enhanced affordability, as well as a higher quality and greater diversity of telecommunications services (Lestage et al., 2013). Countries that have introduced quality regulation – including, in particular, regulation allowing competition – have had greater success than other countries in spurring market growth and developing their digital economy (International Telecommunication Union (ITU), 2017). On this basis, it is not surprising that studies such as Mattoo et al. (2006) and Eschenbach and Hoekman (2006) have found a close link between telecommunications liberalization and higher GDP growth rates.

#### **Electricity distribution**

Eschenbach and Hoekman (2006) find that regulatory reforms in transport, telecommunications, and power (and finance) are highly correlated with inward FDI (representing mode 3 of the General Agreement on Trade in Services (GATS), relating to commercial presence in another country). Controlling for explanatory variables common to the growth literature, services reform explains the improved economic performance post-1990 of the transition economies. For example, Bekhet and Othman (2011) use an econometric method known as a vector error correction model to establish causality between electricity consumption and aggregate or economy-wide inflows of FDI in Malaysia between 1971 and 2009. They find that higher levels of FDI (mode 3 of the GATS) led to increased electricity consumption.

#### **Transport**

Fink et al. (2002) find that both public policy and private practices affect maritime transport prices. Trade liberalization would reduce transport prices by 9 per cent and generate US\$ 850 million worth of savings. Breaking up “private carrier agreements” would reduce transport prices about 25 per cent and save US\$ 2 billion on shipments to the United States alone.

### **Healthcare**

Previous research on the link between FDI and healthcare outcomes appears to show that the former is associated with lower life expectancy in the recipient economy (Nagel et al, 2015). But this study only covered 14 high-income economies. Nagel et al. (2015) use cointegration analysis to analyse the effects of FDI (mode 3 of the GATS) on health on a far larger set of 179 economies between 1980 and 2011. They find that the relationship between FDI and health is non-linear, depending on the level of income. FDI has a positive effect on health at low levels of income and only becomes negative at higher levels of income. For example, Alam et al. (2016) use a vector error-correction model to test the causal relationship between FDI and health in Pakistan. They find that both trade openness and FDI increase population health measured by life expectancy in the long run.

### **Complementarity of goods and services trade**

Recent work by Ariu et al. (2019) provides evidence about the complementarity between goods and services trade. One form this complementarity takes is that opening up one sector (say services) increases trade not only in that sector but also in the other sector (goods) that has not been opened up. Ariu et al. (2019) show the potency of reducing barriers to trade in any one sector, such as services, because the benefits accrue beyond that sector alone. Furthermore, the results from this study appear to show that the gains from opening up both services and goods together are greater than those that result from opening up goods and services separately.

### *(ii) Case studies*

To complement the survey of the empirical evidence, case studies describing successful developmental outcomes resulting from an expansion of trade in services in Ethiopia, India, Kenya, Mauritius, Mexico and the Philippines are discussed. These case studies are of salient interest given the geographical diversity of the economies involved, hinting perhaps at the strength of the link between increased trade in services and development.

#### **Air transport in Ethiopia**

Ethiopia has encouraged economic growth by increasing trade in transport services. Due to a successful expansion of the Ethiopian Airlines regional network and abundant cargo capacity, high-value or time-sensitive Ethiopian exports can be transported much more cheaply and quickly than before. The improvement in transportation services

has allowed the cut flowers industry to flourish in Ethiopia; exports of cut flowers from Ethiopia to the rest of the world increased from US\$ 12 million in 2005 to US\$ 662 million in 2014 (Hoekman and te Velde, 2017).

#### **ICT services in India**

The ICT services sector in India illustrates another instance of services trade contributing to economic development. Due to a combination of low wages, an abundant supply of moderately skilled workers, the labour force's proficiency in English, and the establishment of software technology parks, India has become a prominent global exporter of ICT services. Indian ICT exports totalled US\$ 103 billion in 2014, and the whole sector contributed 9.5 per cent of the economy's GDP. India's ICT sector, which employs roughly 3.5 million Indians, has created many jobs for women and outlying cities (Hoekman and te Velde, 2017).

#### **Financial services in Kenya**

Kenya provides a pertinent example of a developing country that has used services trade in the context of trade-opening or liberalization to expand its financial services sector. Through increased openness in the financial sector, the establishment of diversified financial hubs, technological advancements in mobile technology, and a modification of the tax regime, Kenya has expanded its financial sector, boosted trade in financial services, and become a regional leader and hub for financial services. Foreign bank participation, coupled with sound regulation, has been an important driving factor. As at the end of 2017, Kenya's banking sector comprised 42 commercial banks, of which 15 were fully foreign-owned and accounted for 30.1 per cent of total banking assets (WTO, 2019). Exploiting the potential for banking services in its own region, Kenya's banks and financial institutions have pursued vigorous expansion over the last years, with nine banks having subsidiaries operating in other East African Community (EAC) countries. From 2011 to 2016, the number of branches of Kenyan banks abroad increased from 211 to 297 (WTO, 2019).

This transformation has allowed Kenya to generate high-skilled and high-wage jobs in the financial sector. Additionally, the Kenyan reforms have made financial services an important part of the economy, as the sector now accounts for 2.8 per cent of Kenya's total formal employment, and 4.6 per cent of total services exports (Hoekman and te Velde, 2017). A significant factor in Kenya's success in expanding financial inclusion has been the expansion of the mobile banking sector. M-PESA, a subsidiary

of Safaricom, remains the leading player, servicing about 19 million users with about US\$ 150 million worth of transactions daily. Services offered have been expanded to include loans and saving products (WTO, 2019).

### **Health, tourism and financial services in Mauritius**

Mauritius has reduced ICT trade barriers and experienced beneficial effects similar to those of India. By opening up regulations for the industry, Mauritius has become more efficient and internationally competitive in ICT services. The value of ICT exports increased from US\$ 0.3 billion in 2005 to US\$ 1.3 billion in 2015, and the share of ICT services in total services exported doubled from 18.5 per cent to 37 per cent over the same period (Hoekman and te Velde, 2017).

Mauritius has also invested heavily in supporting infrastructure, by creating health facilities, to promote health tourism. These investments led to a 15-fold increase between 2005 and 2011 in the number of foreign patients receiving healthcare in Mauritius. The government's aim is to expand the number of foreign patients to 100,000 by 2020, which would increase revenue from the health tourism sector to approximately US\$ 1 billion (United States International Trade Commission (USITC), 2015).

In addition to Mauritius' efforts to promote its ICT and health tourism sectors, the country has also targeted the export of financial services as a vehicle for economic growth. Mauritius introduced offshore banking in 1988, in the hope of transforming the economy into an international finance hub. This has played a vital role in the development of the country's financial services sector ever since. Between October 2002 and 2011, more than 20,000 companies registered in the offshore banking sector, and between 1976 and 2010, the tertiary sector (including tourism and financial services) increased from 50 per cent to 70 per cent of GDP (Zafar, 2011). The Government of Mauritius expects this share to grow further and to spur economic growth.

### **Tourism in Mexico**

Faber and Gaubert (2019) looked at the impact of tourism on various localities in Mexico and on the country as a whole. Faber and Gaubert find that international and domestic tourism inflows cause large and significant local economic gains in "touristic regions" relative to less touristic regions, for example, a 10 per cent increase in local hotel revenues leads to a 2.5 per cent increase in total employment in a given municipality, and a 4 per cent increase in nominal municipality GDP. Furthermore, these gains

are in part driven by significant positive spillovers in manufacturing. Faber and Gaubert estimate that a 10 per cent increase in local hotel revenues leads to a 3.9 per cent increase in local manufacturing GDP.

These cross-sector spillover effects can occur through a variety of mechanisms. The development of tourism in an area increases demand for other services inputs to tourism, such as legal, accounting and consulting services. As these complementary services sectors expand in the area, local manufacturing firms can draw on these services inputs to improve their own productivity. Increased tourism revenues can loosen credit conditions in an area, which can help manufacturing firms borrow for their working capital requirements. Manufacturing firms in the area also benefit because of access to an expanded set of contacts and business networks created by the expanding tourism sector. Finally, the favourable economic conditions in touristic regions created by the expansion of tourism can lead manufacturing firms from non-touristic regions to relocate there. This means that, while tourism leads to sizable gains at the local level, these gains are muted at the national level, since the relocation of manufacturing firms from non-touristic to touristic regions reduces the positive agglomerative effects of manufacturing in the non-touristic regions.<sup>3</sup>

### **The business process outsourcing (BPO) sector in the Philippines**

The Philippines is another example of how services trade can transform an economy and catalyse economic development. It did so through BPO, which can be defined as the "transfer to third parties of the performance of service-based functions once carried out within a company, or more generally, within an organization" (UNCTAD, 2005). This arrangement involves foreign companies outsourcing their business processes to a service provider domiciled in the Philippines, which may be purely local, purely foreign, or consist of local companies with foreign partners. The BPO industry has several component sectors: contact centres, back office services, data transcription, animation, software development and engineering development. It has become a critical part of the economy of the Philippines.

In 2015, the BPO sector generated US\$ 22 billion in revenue, accounting for 7.3 per cent of the GDP of the Philippines and employing 1.2 million full-time employees (Price et al., 2016). The Philippine BPO sector tripled its share of the global BPO market from 4 per cent in 2004 to 12.3 per cent in 2014 and is expected to increase it to 19 per cent by 2020 (Errighi et al., 2016). The sector's international success owes a lot to the fact that the country has a

young, educated workforce with a strong command of English, as well as relatively low living costs that allow labour to be compensated at an internationally competitive rate (Shead, 2017). Moreover, Errighi et al. (2016) find that, given the BPO sector’s growth rate, it will soon overtake foreign remittances as the largest contributor to the GDP of the Philippines.

**Trade in value-added terms**

Finally, it is possible to use trade in value-added (TiVA) data to illustrate the strong links, both upstream and downstream, between exports of one services sector and many other goods and services sectors of the domestic economy (see Box C.2).

**Box C.2: Assessing the impact of tourism exports through trade in value-added**

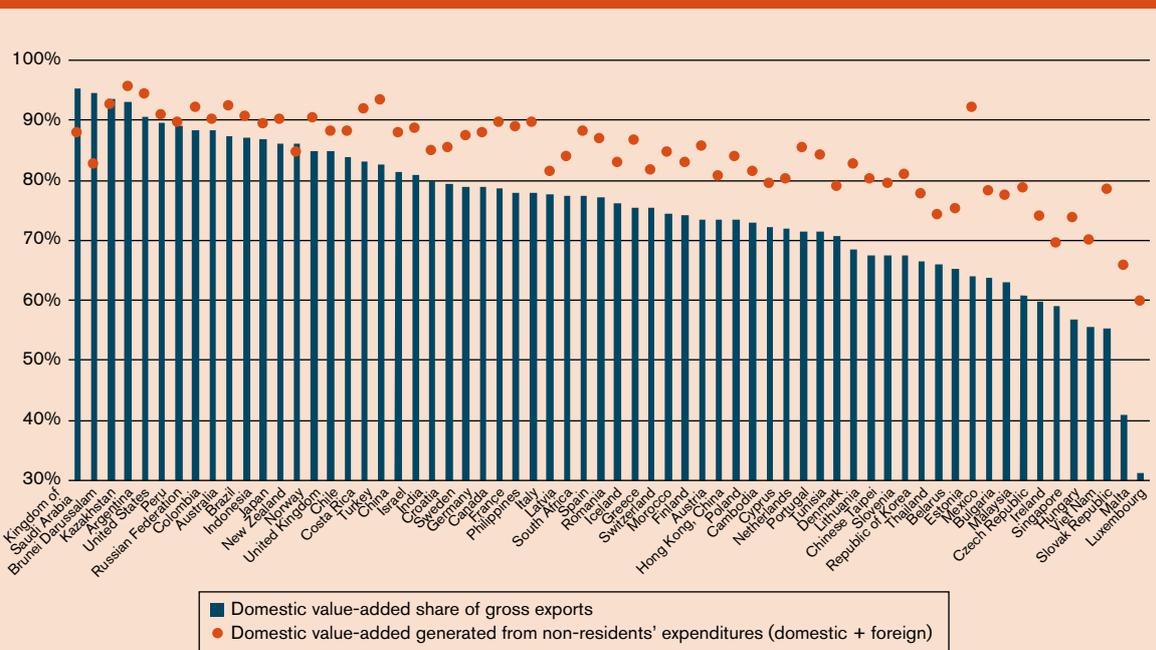
Tourism is among the sectors that benefit most from – and most depend upon – globalization. Assessing the overall impact of tourism on economies is of high importance to policy-makers, especially in least-developed countries (LDCs) and other developing economies where tourism is a major driver of growth (see, for example, WTO (2018c)). To better measure these impacts, the Tourism Committee of the OECD has carried out exploratory work, by combining the OECD’s Inter-Country Input-Output tables and Tourism Satellite Account (TSA) statistics, to estimate the origin of the value-added generated by tourism activities.<sup>4</sup>

Applying a value-added approach to tourism can provide a better understanding than conventional trade statistics about how tourism relates to globalization. Unlike the TSA, which measures only direct impacts, TiVA indicators can reveal tourism’s indirect upstream and downstream impacts on an economy and provide useful insights into the domestic and foreign value-added content of tourism activities in a comparable standardized format for the 64 economies currently in the TiVA database (see [oe.cd/tiva](http://oe.cd/tiva)).

The following figures show preliminary TiVA-related estimates that, owing to data limitations, use “non-resident expenditures by households” as a proxy for tourism, resulting in broader coverage than the classifications used for TSA and other traditional tourism statistics.<sup>5</sup> Overall results to date (see Figure C.4) suggest that for nearly every economy in the TiVA database, there is a significantly higher share of domestic value-added in tourism expenditures than in total gross exports. This finding seems to contradict long-held stereotypes of much higher “leakage” levels in international tourism than in other export sectors.

**Figure C.4: The share of domestic value-added in tourism is higher than in total exports**

Domestic value-added/export ratio for non-resident tourism expenditures and for total economy, 2015



Source: OECD Inter-Country Input-Output Database 2018.

**Box C.2: Assessing the impact of tourism exports through trade in value-added (continued)**

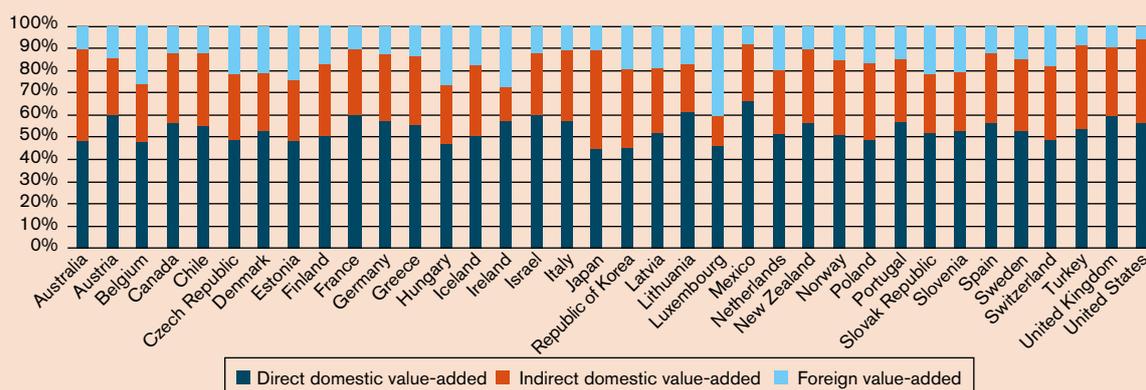
On average, across the economies available for the OECD study, US\$ 1 of non-resident household expenditure generated US\$ 0.89 cents in domestic value-added and US\$ 0.11 in foreign value-added in 2015. The average direct domestic value-added (i.e. from industries serving tourism) represented 56 per cent of total tourism expenditures in 2015, while the share of indirect contributions (the value-added supplied by other, upstream, domestic industries), amounted to 34 per cent (see Figure C.5). This latter figure demonstrates the significant role of domestic supply chains in the creation of products and services purchased by tourists. The share of indirect domestic value-added in tourism expenditures can vary significantly – for example, it amounts to 14 per cent in Luxembourg, 42 per cent in Australia and 44 per cent in Japan.

Regarding the foreign value-added in non-resident tourism expenditures, the largest share was observed for Luxembourg (40 per cent), an economy highly integrated into regional and international production chains. A decomposition of foreign value-added content in tourism expenditures by geographic origin highlights the regional supply chains for the goods and services sold by the tourism industry. For example, tourism-related activities in European Union countries source most of their foreign inputs from other countries in Europe.

Looking at the origin of the indirect domestic value-added content of tourism expenditures, these new results highlight the predominant role of services industries, with major contributions from the distribution, transport and business sectors in particular, as shown in Figure C.6.

**Figure C.5: Domestic supply chains have a significant role in products and services purchased by tourists**

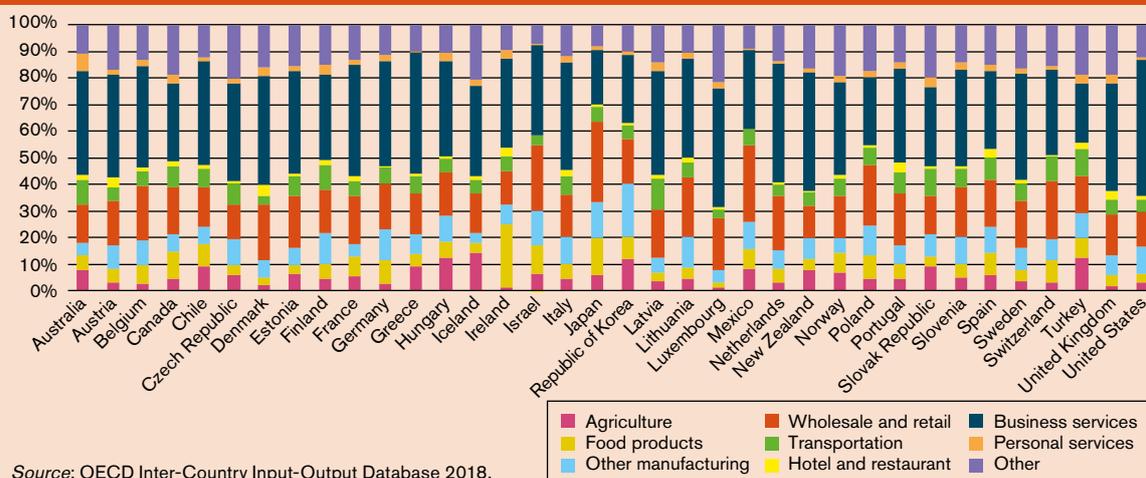
Value-added components of tourism expenditures, 2015 (% share in tourism expenditures)



Source: OECD Inter-Country Input-Output Database 2018.

**Figure C.6: Other services sectors make major contributions to tourism**

Share in total indirect domestic value-added content of tourism expenditures, 2015



Source: OECD Inter-Country Input-Output Database 2018.

### (c) Welfare gains from trade in services

The previous section provides useful evidence about how trade in services improves economic growth and developmental outcomes. However, as the Mexico case study suggests (see page 58), these results may give just a partial picture of the effect on the whole economy. For making definitive statements about the benefits of increased trade in services, we need an assessment of how these changes play out in the whole economy and affect the welfare of the average consumer. In layman's terms, economic welfare refers to the well-being derived from consumption of all the goods and services that an economy produces. Given a fixed amount of resources (land, capital and labour), the more efficiently these resources are allocated and directed to the most productive uses, the greater the level of output and consumption and the higher economic well-being will be. Thus, the calculations that are undertaken and discussed in this subsection reflect how more trade in services can bring about these benefits.

Chadha et al. (2000) study the impact of a reduction in the tariff equivalents of services barriers by 33 per cent across a sample of 15 developing and five developed economies. The estimated welfare gain is 2 per cent for developed countries and 2.5 per cent for developing countries.

Konan and Maskus (2006) use a computable general equilibrium (CGE) model to investigate the potential effects of removing services trade barriers in Tunisia. Welfare and GDP both increase more than 7 per cent, three times more than the estimated gains from goods liberalization. Three-quarters of gains from services liberalization come from the opening-up of commercial presence. This liberalization increases household income by 4 per cent, while the opening-up of cross-border supply increases household income by 1 per cent.

Rutherford et al. (2006) use a CGE model to assess the overall impact of Russia's accession to the WTO. They calculate that the gains from opening up FDI represent roughly 70 per cent of all gains from its WTO accession.

In another CGE study, Francois et al. (2003) estimate the overall economic benefits of a successful conclusion of the Doha Round. In their scenario, they assume a 50 per cent reduction in the "tariff equivalents" faced by services trade.<sup>6</sup> They find that services are an important source of gains, equal to over US\$ 50 billion globally, with the biggest gains accruing to India and the United States.

Finally, a recent study by Atkin et al. (2018) found that foreign supermarket entry into the Mexican retail sector led to large and significant welfare gains for the average household, equal to 6 per cent of initial household income. These welfare gains came from reductions in retail prices in both the outlets of the foreign supermarkets and their domestic competitors, availability of new product varieties, and different shopping amenities offered by foreign retailers. One drawback, however, was that the welfare gains were concentrated among the more affluent households because of the greater value these households place on product variety and shopping amenities offered by foreign retailers.

To complement this brief literature review, the following section utilizes the results of a recent study on trade costs by Egger et al. (2018) and the proposed method for calculating the welfare gains from trade by Arkolakis et al. (2012) to provide calculations of the benefits from cross-border trade in services (see Box C.3 for a more technical explanation of the methodology and data used in the calculations). The Arkolakis et al. methodology is convenient since the authors are able to show that, for an important subset of trade models, the welfare gains from trade can be calculated from a very small number of statistics. However, the Arkolakis et al. (2012) approach is not without its critics, who argue that it closes off some avenues of possible trade gains and therefore underestimates the gains from trade. For example, it does not account for how opening up trade affects firms' decisions to enter or exit from domestic and export markets, decisions which open another avenue of welfare gains (Melitz and Redding, 2015).

The results of the calculations are shown in Figure C.7, which shows the welfare changes from cross-border trade in services between 2000 and 2014. These range from a decline of 0.9 per cent in Turkey to an increase of 5.1 per cent in Ireland. The simple or unweighted average welfare gains from trade in services over this period are worth 0.5 per cent. It is probably not a coincidence that the three economies which saw the largest welfare gains during the period are Ireland, Luxembourg and Malta. The already high import share of services in these countries rose significantly between 2000 and 2014. For Ireland, it went from 23.6 per cent to 39.8 per cent; for Luxembourg, the share rose from 41.3 per cent to 48.2 per cent; and for Malta, it increased from 31.3 per cent to 40.5 per cent.

If one takes all the 43 economies of Figure C.7 in 2014, the simple average import share in services is only 9.8 per cent compared to 48.4 per cent in goods. In other words, services are only about one-fifth as traded across borders as goods. These calculations suggest

**Box C.3: Methodologies underlying welfare calculations**

To complement the discussion in the main text, additional technical details of the approaches underlying the welfare calculations in Section C are provided in this box.

*Methodology and data used by Arkolakis et al. (2012)*

One of the main results established by Arkolakis et al. (2012) is that, for an important subset of trade models, the welfare gains from trade can be calculated from a very small number of statistics. In the simplest case of one sector, no intermediate goods and perfect competition, the welfare gains only depend on the share of expenditure on domestic goods and the trade elasticity. The trade elasticity measures how much trade falls because of a 1 per cent increase in variable trade costs. Arkolakis et al. (2012) also propose alternative methods to calculate the welfare gains from trade when the economy has multiple sectors or when there are both final and intermediate products. For the purpose of the calculations performed in this report, the formula used corresponds to that for an economy with multiple sectors, so that one can distinguish between the gains from services and goods trade. Under perfect competition, the welfare gains from trade for a country  $j$  are given by:

$$\widehat{W}_j = \prod_{s=1}^S (\hat{\lambda}_{jj}^s)^{\eta_j^s / \varepsilon^s}$$

where  $\widehat{W}_j$  is the percentage change in welfare in country  $j$  from the increase in trade over some period;  $S$  is the total number of sectors (both goods and services);  $\hat{\lambda}_{jj}^s$  is the percentage change in the share of expenditure devoted to domestic goods or services in sector  $s$ ;  $\eta_j^s$  is the consumption share of sector  $s$  in country  $j$ ; and  $\varepsilon^s$  is the trade elasticity in sector  $s$ .

The method requires the use of sector-specific trade elasticities. Fortunately, Egger et al. (2018) estimated these sector-specific trade elasticities for some 40 economies in the 2013 release of the WIOD. They estimate 35 sector-specific trade elasticities that correspond to the WIOD sectors classified using the third revision of the International Standard Industrial Classification of All Economic Activities (ISIC Rev. 3 – ISIC being a standard United Nations Statistics Division classification of economic activities). In that classification, 16 sectors are classified as goods and 19 sectors are classified as services sectors. For the welfare calculations, we use the 2016 release of the WIOD database, which uses the ISIC Rev. 4 classification. The concordance developed by Gouma et al. (2018) is used to map the 35 sector-specific trade elasticities to the corresponding sectors in the 2016 release of the WIOD database. This database includes data spanning the years 2000 to 2014. It is also important to note that trade in services in the database only covers GATS modes 1 and 2 services trade (Timmer et al. 2015) and hence the calculations will understate the gains from services trade.

As noted previously, there is an alternative way to calculate the welfare gains from trade which distinguishes between intermediates and final goods trade. Under perfect competition, this is given by:

$$\widehat{W}_j = (\hat{\lambda}_{jj})^{1/\varepsilon\beta}$$

where  $\beta$  is the share of intermediates in the cost of production. One advantage of this approach is that the trade elasticities estimated by Egger et al. (2018) are based on data on intermediates trade. Unfortunately, this alternative calculation assumes there is only one composite product in the economy, which is a bundle of services and goods. As one can observe from the absence of the identifying sectoral index  $s$  in the formula, it is not possible to separate out the welfare gains of services trade, which is the object of interest, from the overall welfare gains from trade.

*Methodology of Feyrer (2019)*

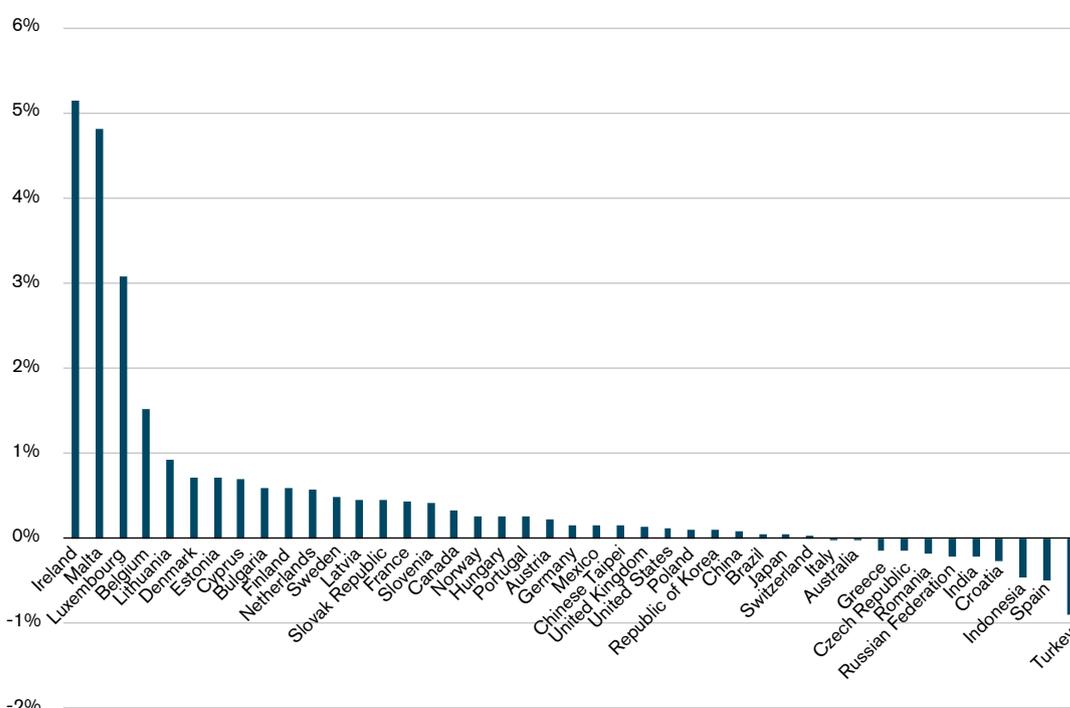
Technically, the Feyrer methodology is not a calculation about welfare gains. Instead, it examines how changes in trade flows can lead to changes in income. Since an increase in income is also expected to increase welfare, the approach offers a useful complement to the Arkolakis et al. (2012) welfare calculation. Following an earlier study by Frankel and Romer (1999), Feyrer sets out to establish a causal relationship between trade and income. As is well known in this literature, there is likely to be bi-directional causality between trade and income. Thus, to establish a causal link from trade to income, some variable that is linked to trade but not to income needs to

**Box C.3: Methodologies underlying welfare calculations (continued)**

be found. Feyrer finds this in improvements in aircraft technology that have caused the quantity of world trade carried by air to increase over time, particularly between country pairs with relatively short air routes compared to sea routes. Using this “instrument”, and thus avoiding the trap posed by the endogeneity of both trade and income, Feyrer concludes that trade has a significant causal effect on GDP per capita with an elasticity of roughly one half. In other words, an increase of 1 per cent in an economy’s trade will lead to a half a per cent increase in an economy’s GDP per capita. This estimated elasticity is used to calculate the increase in per capita GDP between 2000 and 2014 arising from services trade for some 148 economies.

**Figure C.7: In the last decade, many economies have experienced welfare gains from more cross-border trade in services**

Welfare gains from cross-border trade in services, total percentage change over 2000-14



Source: Underlying data from the national input-output tables of the World Input-Output Database; sector-specific trade elasticities from Egger et al (2018); and authors’ calculations.

that increased cross-border tradability can unlock potentially large welfare gains for many economies.

The criticism levied against Arkolakis et al (2012) and the fact that the World Input Output Database (WIOD) data cover only GATS modes 1 and 2 trade (see Timmer, Dietzenbacher et al. 2015) suggest that the calculations are best treated as lower bound estimates of the welfare gains from cross-border trade in services. On this basis, it is important to consider alternative approaches that will complement these results. Drawing on recent work by Feyrer (2019), it is possible to arrive at an

alternative set of calculations that provide a contrast to the results of Figure C.7. Feyrer finds that trade has a significant positive and causal effect on GDP per capita with an elasticity of roughly one half – in other words, an increase of 1 per cent in an economy’s trade will lead to a half a per cent increase in an economy’s GDP per capita. It is possible to use this estimated elasticity to calculate the increase in per capita GDP between 2000 and 2014 arising from services trade covering some 148 economies. While a change in GDP per capita is not identical to a change in welfare, they are nevertheless likely to be closely correlated.

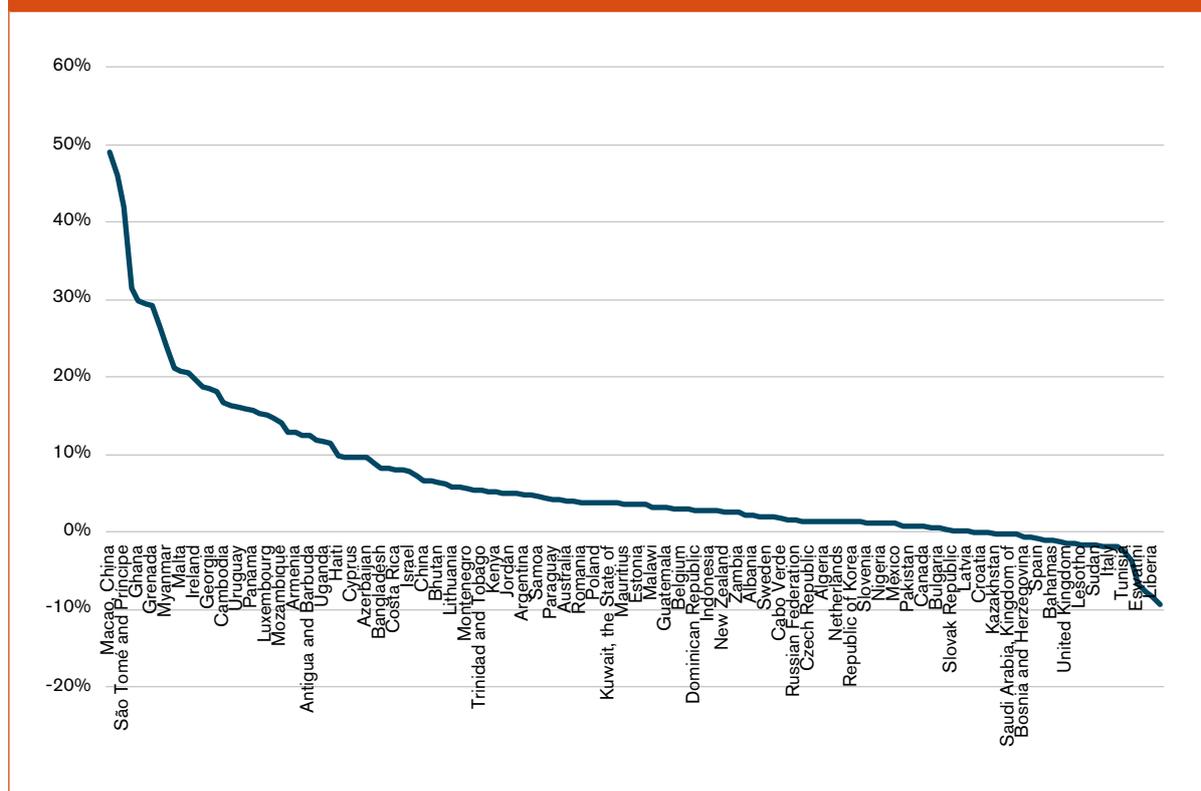
The results of the calculations are shown in Figure C.8. During the period 2000-14, cross-border trade in services led to an average increase in GDP per capita of 6.3 per cent for the economies in the sample. Note that some of those which gained the most are developing economies and LDCs (e.g. Macao (China), São Tomé and Príncipe, Timor-Leste). Since these economies are not part of the WIOD database, it was not possible to include them in that analysis and hence to identify them as economies whose welfare rose the most during the 2000-14 period. What is noteworthy, however, is that some of the economies which are identified as experiencing the largest increases in per capita income from trade in services, such as Ireland, Luxembourg and Malta, are also the same economies which were identified as gaining the most in terms of welfare in Figure C.7. This provides some degree of confidence as to the reliability of the two methods, for while the absolute magnitude of the gains differs, which may be understandable given that Figure C.7 looks at welfare

and Figure C.8 at GDP per capita, the ordering of the economies gaining the most in each case is relatively similar.

The review of the available literature and our own calculations of the gains from services trade give a relatively narrow range of possible results (see Table C.1). The CGE modelling literature suggests welfare gains from opening up trade in services that range between 2 and 7 per cent. Using the Arkolakis et al. (2012) framework and estimates of trade elasticities from Egger et al. (2018) would imply that the increase in services trade flows between 2000 and 2014 provided average welfare gains of half a per cent for the 43 economies in the WIOD database. Finally, using the Feyrer (2019) trade to GDP per capita elasticity estimate gives calculations of the benefits from trade in services of an average 6.3 per cent increase in GDP per capita over the same period for some 148 economies.

**Figure C.8: In the last decade, the GDP per capita of many economies rose as a result of more cross-border trade in services**

Total percentage change in GDP per capita from cross-border trade in services over 2000-14



Source: Data from World Development Indicators and authors' calculations.

**Table C.1: Welfare (per capita GDP) gains from services trade**

Source of estimate	Range or average	Remarks
CGE literature	Between 2 to 7 per cent	
Own calculations	Average: 0.5 per cent	Country coverage: 43 economies Time period: 2000-14
a) Arkolakis et al. methodology (2012)		
b) Feyrer (2019) methodology	Average: 6.3 per cent	Country coverage: 148 economies Time period: 2000-14

## 2. Services trade boosts firms' competitiveness

This section examines the many ways in which services trade, encompassing all four GATS modes of supply, can influence firms' ability to compete internationally. International competitiveness can be broadly defined as a firm's ability to provide products and services more effectively and efficiently than foreign competitors. This ability depends on relative costs and prices, productivity, and other measures of a firm's international performance. This section examines the direct and indirect effect services trade in a particular sector has on services firms in all sectors, and the indirect effect services trade has on manufacturing firms, because services are used as inputs for the manufacturing process and can also comprise the final product.

### (a) Direct and indirect effect on services firms' competitiveness

Services trade can determine firm competitiveness through several channels. An important and direct channel for this impact is the positive effect services trade has on the productivity of services firms. The literature on international trade and firm productivity has grown since Bernard and Jensen (1995) documented important within-industry differences between manufacturing exporters and non-exporters. They found that firms with a higher level of productivity were more likely to participate in trade. Other studies have extended the analysis on trade and productivity to the services sector, with a positive correlation between trade in services participation and firms' productivity in almost every economy studied, e.g. Breinlich and Criscuolo (2011) for UK firms, Kelle and al. (2013) for German firms, and Malchow-Møller et al. (2015) for Belgian firms. Temouri et al. (2013), using firm level-data from business services enterprises in the United Kingdom, France and Germany, also found

that export-oriented firms were more productive than non-exporting ones, as measured by value-added per employee. Finally, Morikawa (2018) found that the total factor productivity level of Japanese exporting firms was 17 per cent higher for service exporters relative to non-exporters.

According to Nielsen and Taglioni (2004), the channel through which the opening-up of services trade positively affects firms' productivity is the increased productive efficiency resulting from import competition. Scale economies resulting from access to more export opportunities play a more minor role, although it is empirically observable. According to Robinson et al. (2002), opening up services also results in technology transfers from more developed to less-developed countries, which increases productivity.

Services firms' ability to compete internationally also depends in part on their cost-effectiveness, notably when incorporating services inputs. A wide range of services enter as inputs to services production. Miroudot et al. (2013) find that trade costs for services are much higher than those for goods, and this is elaborated on further in Section D. The authors find econometric evidence that services sectors facing lower trade costs, whether to import or export, tend to be more productive and have higher productivity growth than competitors. They also confirm the point that a firm's performance hinges on the cost-effectiveness of the overall services environment in which the firm is operating, whether these services are incorporated in the process of production as direct inputs affecting the marginal cost of production (such as electricity or telecommunications costs) or indirectly (through education, health or transport systems) affecting the competitiveness of firms in an entire economy. The contribution of these infrastructural services is acknowledged by the literature, as discussed in Section C.1, although its contribution at the firm level is harder to evaluate.

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# Services trade policy and the United Nations Sustainable Development Goals (SDGs)

The 2030 Agenda for Sustainable Development is encapsulated in 17 Sustainable Development Goals (SDGs). These span 17 broad objectives, ranging from reducing poverty to improving public health and protecting the environment. They pertain to all countries, both high-income and developing.

Services can contribute to the realization of the SDGs through at least two channels (Helble and Shepherd, 2019). One channel is economic growth. Achieving many SDGs will require raising per capita incomes. Given that services account for two-thirds or more of total GDP in most economies, increasing per capita incomes requires improving productivity of services activities. Another channel is more direct. Many of the specific targets that are associated with the SDGs call for better access to services or for higher quality services. Indeed, many SDGs and their associated targets mention specific services. For instance, financial services are mentioned in the context of SDG 1 (“End poverty in all its forms everywhere”), with better “access to [...] financial services, including microfinance” identified as a specific target. Access to financial services is mentioned as a means to “End hunger, achieve food security and

improved nutrition and promote sustainable agriculture” (SDG 2); to “Ensure healthy lives and promote well-being for all at all ages” (SDG 3); to “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all” (SDG 8); and to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” (SDG 9).<sup>7</sup>

Trade and investment are channels to improve access to higher-quality, more varied and cheaper services, and can potentially improve the performance of domestic services sectors through competitive pressures and knowledge spillovers. As a result, services trade and investment policies have a role to play in efforts to achieve many SDGs. Fiorini and Hoekman (2018a) show that more open services trade policies are associated with a greater availability of (access to) several services that figure prominently in several SDGs and related targets, including not just financial services, but also information and communications technology (ICT) and transport services. Because of the intangible nature of services, foreign providers must generate at least part – and often much – of the value-added of their economic

activity in the importing (consuming) country. That is, there will often be an investment-related dimension to increasing access to services. An implication is that foreign providers will be affected by the local business environment, so that the magnitude of the potential positive effects of a more open trade and investment regime may be conditional on the quality of institutions in the importing economy (Beverelli et al., 2017).

That trade and trade policy are a means of implementation for sustainable development has long been understood. However, the wording of the SDGs tends to put the emphasis on measures to facilitate or promote developing-country merchandise exports. This is too limited. The focus should extend to policies affecting trade in services and inward investment by service suppliers, as these can affect the availability and quality of a range of services that are relevant for specific SDGs. It is just as important to complement greater attention for services trade policy with efforts to improve the quality of sectoral regulation and economic governance. These will help determine the extent to which trade and investment in services can contribute to making progress to achieve the SDGs.

### (b) Indirect effect on manufacturing firms' competitiveness

In addition to its impact on services firms, services trade can also boost firm competitiveness by increasing the productivity of manufacturing firms. This indirect effect of services trade is particularly relevant because services are extensively used as inputs in the manufacturing process. Jones (2011) explains how manufacturing productivity is dependent on the availability of high-quality inputs. As a result, improvements in upstream service quality can lead to an increase in downstream manufacturing productivity through improved inputs. Moreover, trade is an important mechanism for improving a manufacturing firm's available inputs, either by lowering the price of inputs or by increasing the variety of inputs available (Topalova and Khandelwal, 2011). According to Bourlès et al. (2013), improvements to services can take four forms:

- i) availability of new services
- ii) expansion of existing services to regions that did not have them
- iii) improvement to existing services that reduce production costs, and
- iv) reduction of market power in the services sector, to foster innovation and competition by increasing the quality and variety of services.

There have been several studies that examine the role of services as manufacturing inputs and how they affect the production process. Liu et al. (2018) demonstrate how the development of financial and business services can be a source of comparative advantage in manufacturing. They find that imported financial services can partly compensate for a weak domestic financial services sector. The authors consider the direct use of these services, as well as their indirect use in manufacturing, as services embedded in intermediate inputs. Bas and Causa (2013) corroborate the conclusion that financial services are crucial for competitive manufacturing, and, in addition, find that gains from a sound financial infrastructure are more pronounced for firms that are further from the industry-level technological frontier, notably in developing countries. In a study on OECD countries, Nordås and Kim (2013) find that the density of telecommunications services and the reliability of the electricity supply are crucial inputs for competitive manufacturing, and particularly for increasing the degree of product differentiation, unit prices obtained in export markets, and the duration of trade. Using India as her case study, Bas (2014) finds empirical evidence on the importance of reliable telecommunications, electricity and transport services on manufacturing competitiveness.

Based on firm-level data from the Czech Republic, Arnold et al. (2011) show a positive relationship between services sector reform and the performance of domestic firms in downstream manufacturing sectors. Opening up trade in domestic services industries – mainly through a commercial presence – appears to be the key channel through which services liberalization may contribute to the improved performance of the manufacturing sectors. Furthermore, using firm-level data for the period 1993-2005, Arnold et al. (2016) find that banking, telecommunications, insurance and transport reforms all had significant positive effects on the productivity of Indian manufacturing firms.

This result is corroborated by Bas (2014), who finds that opening up services in India resulted in a 6 to 8.5 per cent increase in the probability of exporting for manufacturing firms, and that services reform in India was associated with a 5 per cent expansion in the export shares of manufacturing firms. In addition, Francois and Woerz (2008) find that increased openness to services trade increases manufacturing productivity in skills-intensive industries in OECD economies.

Fernandes and Paunov (2008) find that FDI in producer services, a proxy for commercial presence, enhances productivity of manufacturing firms in Chile. Using China as an example, Bas and Causa (2013) find that if Chinese financial regulation was improved to the average level observed in OECD economies, China's economy would experience a 6.5 per cent increase in manufacturing productivity. Finally, at a more aggregated level, Amiti and Wei (2009) found that services imports by high-income countries raises productivity of manufacturing sectors.

The relationship between services trade and manufacturing productivity is not uniform. The positive effect is contingent on the sector of the manufacturing firm and the income level within the economy. Sector-wise, Nordås and Kim (2013) find that the textiles and clothing, electronics and automotive industries are the manufacturing industries in which firms are the most sensitive to service quality and availability. Clothing manufacturing is a high turnover and low mark-ups industry, and competitiveness in it depends on reliable logistics, transport and travel services. Improving the reliability of the electricity supply and reducing time for exports is important for low- and middle-income countries which wish to enter global value chains in the electronics sector. A reliable electricity supply is strongly associated with competitive manufacturing across all manufacturing sectors and income groups.

In addition to ensuring a reliable supply of power to the manufacturing sector so that factories can run without interruptions, Nordås and Kim (2013) underline the importance of the electricity sector to a rapidly proliferating industrial internet, where sensors monitor and control manufacturing processes and supply chain management systems. Investing in electricity distribution, for instance in smart grids, is a substantial contribution to competitiveness, particularly in high-income countries where the production technology and business processes are more sensitive to disruptions in electricity supply. The study finds that high-technology industries use more business services than other services, and that the more widespread use of business services is associated with higher export prices obtained in major markets.

Another channel by which services trade can increase a firm's competitiveness is through product differentiation. Product differentiation is defined as the process of differentiating a certain product to make it more attractive than its potential competitors. When done successfully, it provides consumers with a product for which they are willing to pay a premium and allows firms to strengthen their positioning in a given market. Efficient services increase product differentiation.

In the presence of increased foreign competition, firms can use services for product differentiation by adding and/or bundling them with products (Lodefalk, 2017). Successful manufacturers distinguish themselves from competitors through services such as branding and intellectual property. Such practices were brought to light by Vandermerwe and Rada (1988), who introduced the term "servitization of business" as the process of creating value by adding services to goods. Ariu et al. (2019) study the demand complementarities between goods and services, and how manufacturing firms can exploit them to increase exports. They find that including services with products allows Belgian manufacturing firms to increase export revenues by 25 per cent. Moreover, firms were able to increase both the quantity and prices of their goods by simultaneously providing services, indicative of successful product differentiation.

One way in which firms can differentiate products using services is to tailor the product to the consumer's precise needs (Nordås, 2008). Apple's introduction of iTunes along with the iPod provides a relevant example. According to Amit and Zott (2012), by pairing the music device with the iTunes service that allowed consumers to instantly and remotely buy music, Apple exploited the complementarity between

the demand for a good and the demand for a service. By doing so, Apple essentially monopolized the market for MP3 players, and their income and stock price dramatically increased after this innovation. Their success was not solely due to inventive new hardware, but was also attributable to a software that would allow an on-going relationship with the consumer.

Another possibility for product differentiation using services is for firms to add "intelligent" systems that communicate with the manufacturer in real time to provide additional customer value. Enhancing goods by bundling them with "intelligent" services allows firms to earn greater profits through product differentiation (Cernat and Kutlina-Dimitrova, 2014). A pertinent example is provided by Amazon's Echo, a speaker that comes with a digital assistant. By calling upon Echo's digital assistant, called "Alexa", which contains voice recognition technology, and talking to it, one may accomplish tasks such as setting an alarm, creating a reminder for a certain activity, discovering how long a commute is, or buying a good. Son and Oh (2018) find that these speakers, which integrate artificial intelligence (AI), have resulted in an increase in purchases of digital content. The introduction of the Echo speaker has allowed Amazon to differentiate its product successfully; it is not just a speaker, but also a digital assistant that has capabilities beyond those of a traditional music player.

### (c) The role of institutions and the regulatory environment

The positive impact that services trade can have on firms' competitiveness is determined by the quality of institutions<sup>9</sup> and the regulatory environment in the importing country. Establishing an economic climate conducive to investment and business can increase the positive effects of services trade. Beverelli et al. (2017) explain how the institutional quality of an importing country impacts the extent to which services trade openness positively affects its manufacturing productivity. Beverelli et al. find that an identical reduction in services trade restrictiveness in Canada and Tanzania would increase manufacturing productivity by 16.7 per cent in Canada, compared to only 3.9 per cent in Tanzania. The ability of economies to provide domestic regulatory policies that complement services trade opening is a source of comparative advantage for downstream manufactured goods (Van der Marel, 2014).

The relevance of high-quality institutions in conditioning the benefits from services trade is reflected in the proximity burden. While a good can be produced in Pakistan and sold in Sweden, this

is not necessarily the case for services because they are typically non-storable (Parry et al., 2011). Consequently, the service provider and service consumer need to be in close proximity for services trade to occur. This reality becomes evident when one recognizes that the majority of services trade happens mainly through mode 3 (establishment of a commercial presence in the destination market). Andrenelli et al. (2018) bolster the relevance of a proximity burden; they find that most of the services used as inputs in manufacturing are located in the country of production. Institutional quality impacts services trade through the proximity burden via two distinct channels.

When a firm is deciding whether to export services into a particular country, its decision to enter the market is dependent on the institutional quality of the importing market. If the institutional quality is low, it might dissuade firms from entering that particular market, giving rise to an *ex ante* (i.e. before the fact) effect of these institutions on the firm's trade decision. Theoretical models explaining a multinational firm's export decisions, as a function of country-level differences in institutions, are developed in Antras and Helpman (2004) and in Grossman and Helpman (2005). Generally, better economic governance and regulatory environment contribute to institutional quality (Fiorini and Hoekman, 2017). Specifically, better economic governance results in a greater number of exporting companies establishing affiliates in foreign countries (Bernard et al., 2010). Thus, the proximity burden associated with the mode 3 services trade has an *ex ante* effect on a firm's decision to export to a given country that depends on the importer's institutional quality.

Once a company has made the decision to export to a particular country, the institutional quality of the importing country determines the firm's profitability because this is where demand is located and the service performed. There are several studies that provide a link between firms' productivity and their institutional environment. Gaviria (2002) explains, using a Latin American case study, how corruption and crime can reduce firm competitiveness. Dollar et al. (2005) investigate the impact of the investment environment on firm performance in South Asia. The authors find that conditions which harm the investment climate – e.g. power outages or lengthy delays in setting up a phone connection – have a negative effect on firm productivity and factor returns (wages for labour and rent for capital). Lensink and Meesters (2014) analyse how well-developed institutions result in the efficient operation of commercial banks. Borghi et al. (2016) find that the productivity of electricity firms in the European Union is positively correlated with high-quality institutions.

Institutions also affect market structure and thus the degree of competition in markets. Francois and Wooton (2001) examine how market structure impacts the distribution of gains due to opening up trade in the transport sector. They show that in Latin America, South Asia, and sub-Saharan and Southern Africa, the effects of complete liberalization in the maritime industry depend critically on the degree of competition. A more competitive industry results in a higher share of gains from trade liberalization accruing to consumers and producers instead of to maritime firms or cartels.

### 3. How services trade affects employment and inclusiveness

Services trade has grown rapidly over the past decades thanks mainly to technological progress and opening up trade. Section B demonstrated that the value of services trade nearly doubled between 2005 and 2017. For economies with a comparative advantage in services this implies that the number of jobs in firms exporting services grew. For instance, in the United States, the number of jobs related to services exports increased by 40 per cent from 2005 to 2015, according to the OECD's Trade in eEmployment (TiM) Database. Moreover, services trade allows firms to import whole business functions, from accounting to IT services. Even low-value projects are traded via platforms such as Upwork or Amazon MTurk, which facilitate transactions between service customers and suppliers across different economies.

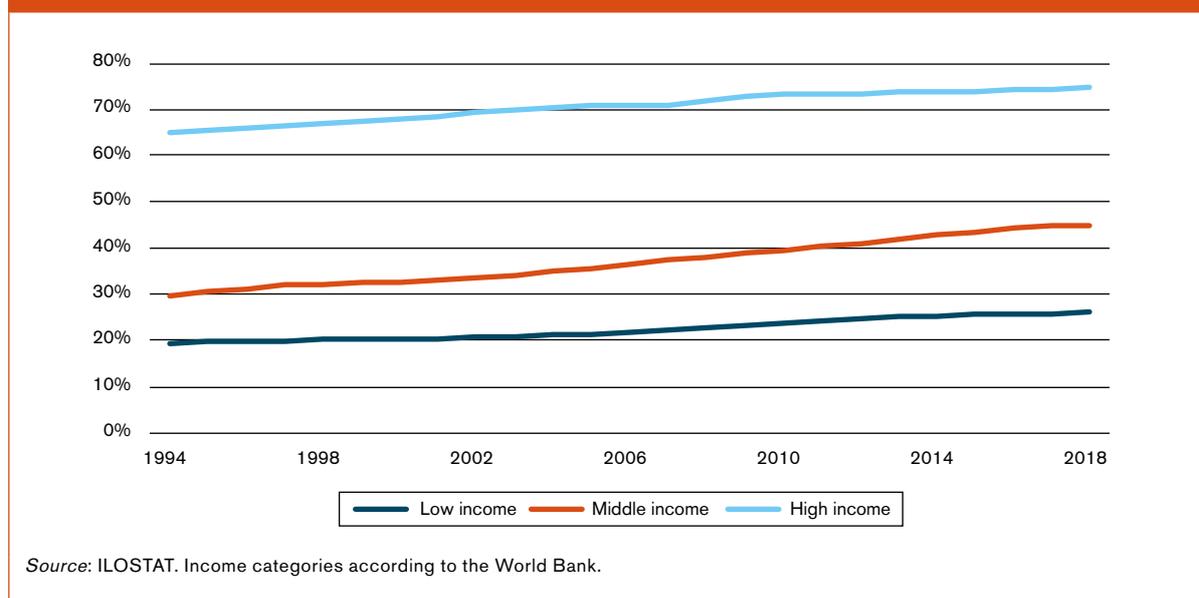
This brings about considerable benefits for firms and consumers in terms of lower prices and a more varied product offer. Section C.2 concluded that services trade can considerably boost the productivity of firms that use services as inputs, and that it raises the quality of production factors by improving education and the performance of financial markets. Section C.2 also provided evidence that services trade improves welfare, income and growth.

In addition, across the world, the share of services employment in total employment is on the rise. Structural change due to innovation, changing demographics, rising incomes, and other factors (see Section D), continues to pull workers into the services sector, as Figure C.9 illustrates. This implies, for instance, that in high-income economies, services trade has the potential to benefit a larger share of workers than trade in goods and an increasing share of workers in low- and middle-income economies.

These potential benefits contrast with concerns about the labour market impacts of services trade in

**Figure C.9: The share of services in total employment has been on the rise across the world**

Service sector employment as a share of total employment, 1994-2018



developed economies. There is a widespread view that services offshoring, i.e. the import of services that were previously produced in-house, could cause significant job losses, triggered by several large estimates of how many jobs are offshorable. These estimates are typically based on the task content of jobs or on the ability to perform them in another location to that where they are consumed. One study suggests, for instance, that almost 30 per cent of US jobs are susceptible to offshoring, not least because technological progress allows firms to disentangle service delivery from service consumption and to exploit labour cost differences between advanced and developing economies (Blinder, 2009).

Similarly, there is a concern that services trade, while creating jobs, could lead to higher inequality in both developed and developing economies. From the perspective of developing countries, many services jobs, especially trade-intensive services jobs, require relatively more skills than existing work in agriculture or manufacturing. This reflects higher skill requirements in many services, as highlighted in Figure C.10, which plots the average years of schooling per worker in the primary, manufacturing and services sectors for the United States and India. From the perspective of developed economies, however, many of the jobs affected by services imports, such as bookkeeping, are relatively less skill-intensive than the jobs related to services exports, such as marketing or consulting. As a result, the benefits of services trade may predominantly flow towards high-skilled workers in both developing and developed economies.

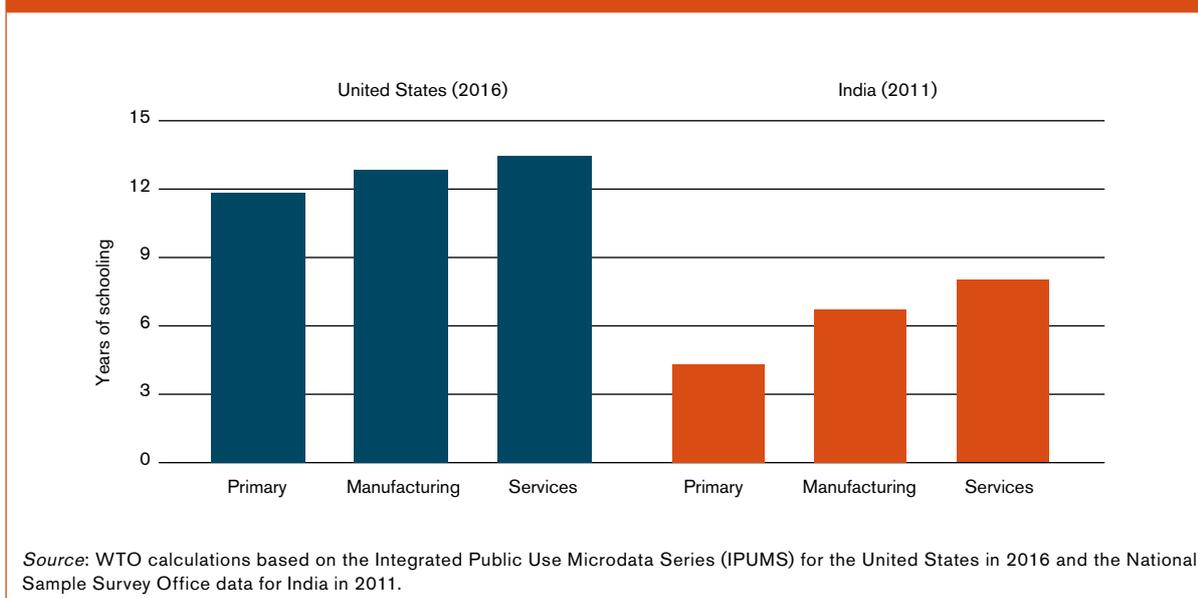
In addition, the geographical distribution and gender composition of services is different from those of agriculture or manufacturing. This adds another potential layer of inequality. While the relatively high share of female employment in services could imply that services trade helps to close employment and wage gaps related to gender, the concentration of services in cities could lead to a wider rural-urban divide.

This subsection looks at the links between services trade and employment and discusses inclusiveness. First, there is an examination of the impact of services trade on aggregate employment and wages. Second, the significance of skills and geography is considered in the context of the potential of the services sector to make trade more inclusive. Third, the future of the services trade-labour market relationship is briefly discussed. It is necessary to mention the caveat that studies on the labour market impact of services trade are less common than studies looking at manufacturing, especially for developing economies. In particular, the effects of services exports have rarely been examined.

The review of the existing literature finds that, so far, the labour market effects of services trade have been relatively modest, with respect both to aggregate employment and to inclusiveness. While there is some evidence that services trade benefits high-skilled workers and workers in cities in particular, the effects are quantitatively not large, and the literature on the skills bias is not conclusive. The finding that the effects of services trade are relatively small is independent

**Figure C.10: The services sector requires more years of education on average**

Average years of schooling of workers by aggregate sector, 2016 and 2011



of the mode of supply. While most studies look at the cross-border supply of services, the existing studies on consumption abroad or commercial presence come to similar conclusions. This probably indicates that services trade, just like trade in goods, has both positive and negative effects on employment, so that net employment outcomes tend to be small.

As technology continues to advance, however, more and more services might become tradable across borders in the future. In particular, high-skilled jobs could become subject to offshoring as the remote supply of services becomes possible and removes the physical presence constraint of services. Examples extend from doctors operating remotely to accountants or engineers consulting from a distance. This could potentially magnify the impact of services trade in the future and implies that a much larger share of the workforce may be subject to international competition.

While this subsection does not examine the role of policy in enhancing the inclusiveness of cross-border trade in services, it is clearly of capital importance. The opinion piece by Rupa Chanda (see page 78) contains a discussion of the role of complementary policies to increase the likelihood that greater trade in services leads to more inclusive outcomes.

#### (a) The impact of services trade on aggregate employment and wages

Trade in services has different effects on employment and wages that seem, so far, to balance each other

out, leading to small net effects, comparable to trade in goods. On the one hand, services or goods offshoring can reduce the demand for labour as domestic labour is substituted by foreign inputs. On the other hand, imports can lower costs and raise productivity, which leads to higher labour demand if lower prices translate into a higher demand for output (Grossman and Rossi-Hansberg, 2008). Moreover, services imports can allow firms to increase their scale without replacing their own core functions. Rather than buying the same service that was previously provided in-house, imports can supply complementary services that enhance firms' own processes or that help them to manage periods of peak demand such as cyclical upswings (Bergin et al., 2011). Finally, services exports can raise the demand for domestic labour.

As a result, empirical evidence on the average wage impact of services trade in advanced economies is mixed and generally reports small effects. For instance, a study on Italy finds that, while wage disparity rises as a result of services trade, with some workers gaining and others losing, average wages are not significantly affected (Borghesi and Crino, 2013). Comparable results are obtained in studies on Germany, the United Kingdom and the United States (Eppinger, 2019; Geishecker and Görg, 2011; Liu and Trefler, 2019).

Similarly, aggregate employment is shown to be largely unaffected by services trade. For instance, a study of the impact of US services imports from

China and India on US labour markets finds negative effects on employment levels, but since the estimates are very imprecise, a zero effect cannot be rejected. Rather, the study argues that services trade led some workers to switch occupations, thus changing the composition of the workforce (Liu and Trefler, 2019). This is in line with evidence from Belgium, Ireland, Italy, Spain, the United Kingdom and the United States, which finds no or only small effects on the level on employment, but stronger effects on the structure of employment, which is discussed in the next subsection (Amiti and Wei, 2005a; 2005b; Crinò, 2010b; Fuster et al., 2019; Görg and Hanley, 2005; Hijzen et al., 2011; Ornaghi et al., 2017).

A study on Germany finds even a significant positive effect of services imports from non-OECD economies on firm-level employment, suggesting that productivity gains can, in some cases, more than compensate for labour substitution (Eppinger, 2019). In line with the peak demand or complementarity channel, one study finds that the offshoring of IT, management, marketing, or transport services can increase employment in the same areas in the offshoring country (Nordås, 2019). This is supported by descriptive data from the Offshoring Research Network, an initiative of Duke University, which reports that out of 486 sampled offshoring initiatives, only 183 involve offshoring the whole business function, while in 303 cases, only selected tasks of a function were offshored, to allow for increased specialization (Elia et al., 2017).

Studies on the effects of services exports are considerably rarer than studies on the effects of imports, but they also report relatively small effects. The above-mentioned Liu and Trefler (2019) study on the impact of US services trade with China and India finds, for instance, that services exports partially offset the effects of services imports. Using an alternative methodology, another study suggests that growing services exports added 2.78 million jobs in the United States between 1995 and 2011, and counteracted a fall in labour demand due to trade in goods. Once services imports are accounted for, the number goes down to just above 1 million jobs (Feenstra and Sasahara, 2018).

Concerning developing countries, evidence is still relatively scarce. Given that the negative labour substitution effect of services offshoring is less prevalent in developing countries, as they tend to be offshore locations rather than offshoring economies, a positive effect would appear more likely. The available evidence points to offshoring increasing employment volatility but also improving working conditions in developing countries. For example, Mexico's offshoring sectors experience employment

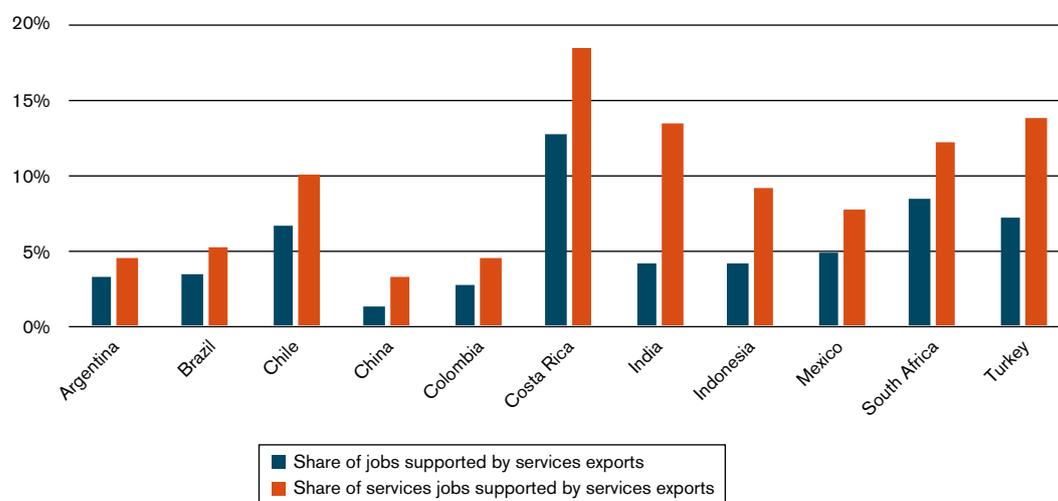
fluctuations that are twice the size of corresponding US fluctuations, suggesting that US lead firms use services imports to manage business cycle swings rather than to replace domestic functions permanently. Some Indian business process outsourcing companies report 100 per cent staff turnover annually, but they also report better working and employment conditions in terms of wages, hours of work and non-wage benefits (Bergin et al., 2011; Messenger and Ghosheh, 2010).

Descriptive statistics highlight that services trade supports a large number of jobs in some developing countries; for instance, the ICT sector in India employs 3.5 million workers (Hoekman and te Velde, 2017). Figure C.11 shows the number of jobs supported by services exports relative to the total number of jobs and the number of jobs in the services sector. In several economies, including Chile, Costa Rica, India, South Africa and Turkey, exports account for more than 10 per cent of employment in services. Obviously, these numbers do not indicate whether services exports increase the number of jobs or just absorb resources from other sectors, but they illustrate the importance of services trade for domestic employment.

One reason that the literature has so far found limited effects of services trade for employment might be that it typically looks only at the cross-border services trade and ignores other modes of services supply. Section B found that other modes of services trade are economically important, and, in the case of commercial presence in another country, even more important than cross-border trade. Hence, it is possible that employment effects change once consumption abroad, commercial presence and the temporary movement of individuals as suppliers of services are included in the assessment.

Faber and Gaubert (2019) analyse the effects of tourism in Mexico and report significant benefits from tourism on total employment and wages in exposed municipalities relative to less touristic regions. Faber and Gaubert find that a 10 per cent increase in local tourism sales is associated with a 2.5 per cent increase in local employment and substantial positive spill-over effects in the local manufacturing industry. However, as the regional employment and wage gains might come at the expense of less touristic regions, it is not clear whether tourism raises aggregate employment and wages. This reflects earlier work based on general equilibrium modelling, in which national employment effects varied widely, with underlying assumptions preventing general conclusions (Dwyer and Forsyth, 1998).

**Figure C.11: Cross-border services exports support a high share of employment in developing countries**  
Share of (services) jobs supported by services exports, 2015



Source: OECD Trade in employment database. Estimates are for 2015. Services defined as divisions 45 to 98 of ISIC Rev. 4 (i.e. excluding utilities).

Another recent study looks at the effects of retail imports through FDI, in particular the entry of Walmart into Mexico, but finds no significant employment effects. While real wages increase due to lower prices, employment gains in new foreign-owned retail stores are cancelled out by the contraction of local stores (Atkin et al., 2018).

From the perspective of the exporting country, the employment effects of services FDI depend on whether the service is deliverable across borders or not. If it is deliverable, services FDI might substitute for domestic employment. If it is not deliverable, such a substitution effect is not possible, as the services have never been supplied across borders. In both cases, however, productivity and revenue gains from foreign affiliate sales can support domestic employment. In line with this, several studies, using evidence from Estonia, France, and Japan (Hijzen et al., 2011; Masso et al., 2010; Tanaka, 2012), report small positive employment effects for parent firms. Once again, however, it is not possible to infer aggregate effects from this firm-level evidence with any certainty. In any case, this does not change the conclusion that, so far, the aggregate employment and nominal wage effects of services trade remain small.

#### (b) The inclusiveness of services trade

As discussed above, services trade has only small effects on national employment or wage levels,

but this does not necessarily mean that services trade does not have substantial effects at a more disaggregate level. For instance, as trade-intensive services industries tend to cluster in a few locations, services trade could lead to stark differences at the regional level. Similarly, services trade might increase the demand for high-skilled workers at the expense of low-skilled workers, given that many services industries require higher skills than manufacturing or agriculture, as highlighted by Figure C.9. In this case a zero-net effect on employment would hide stark differences across skill groups.

#### (i) The skills divide

The majority of studies on the labour market impact of services trade suggests that services trade is biased in favour of high-skilled workers. Evidence from Italy and the United States shows, for instance, that the employment of college-educated workers in high-skilled, or “white-collar”, occupations increases relative to low-skilled employment when services imports increase in the firms or industries that require those high-skilled occupations (Crinò, 2010a; Crinò, 2010b). Similarly, a study of the United Kingdom shows that industry-level services imports increase real wages of high-skilled workers but reduce real wages of low- and medium-skilled workers in the same industry (Geishecker and Görg, 2011). This effect is confirmed for employment by two cross-country studies on OECD countries, of which the latter emphasizes that the effects are quantitatively

small (Cassette et al., 2012; Crinò, 2012). Going beyond cross-border services trade, a study on the effects of tourism has also found that high-skilled workers were favoured (Petit, 2017).

More recent data shows, however, that the effects can also be reversed. Evidence from Belgium suggests, for instance, that services imports have a negative impact on employment growth among highly educated workers in the services sector (Ornaghi et al., 2017). Liu and Treffer (2019), examining US services imports from China and India in high-skilled industries, report a relative decline in the average wage of high-skilled workers in the exposed industries, albeit a decline of only 1 per cent. Liu and Treffer also show, however, that services imports increased the incidence of “occupational downgrading”, that is, the switching of workers to a lower paid occupation, by 7 per cent, and that these workers experienced earnings losses of up to 47 per cent. This was, however, counterbalanced by a 6 per cent increase in occupational upgrading.

Criscuolo and Garicano (2010) differentiate occupations not by skill but by their exposure to occupational licensing. This introduces another level of inequality. Criscuolo and Garicano show that workers in occupations that require a license benefit from services imports in terms of both wages and employment, while workers in non-licensed occupations see small wage losses and employment gains that are smaller than those of workers in licensed occupations.

Evidence from developing countries regarding inequality is as scarce as that concerning aggregate employment or wages. Existing studies on India and the Philippines confirm the hypothesis that services trade benefits high-skilled workers, as it is relatively skill-intensive (Amoranto et al., 2010; De and Raychaudhuri, 2008; Mehta and Hasan, 2012; UNCTAD, 2013). A positive side effect of this is, of course, that services trade raises the incentives for workers in developing countries to obtain more education. Evidence from India suggests that opening up telecommunications, finance and insurance, as well as services exports from the BPO sector, have raised educational attainment in India (Jensen, 2012; Nano et al., 2019; Oster and Steinberg, 2013; Shastry, 2012). Shastry (2012) finds that, as a result of the increased educational attainment, the increase in the skill premium was less pronounced in India. An important caveat of the work on developing countries is, however, that they tend to look either at services liberalization more generally, e.g. including the opening of certain services sectors to private domestic investors, or are not particularly rigorous.

## (ii) *The rural-urban divide*

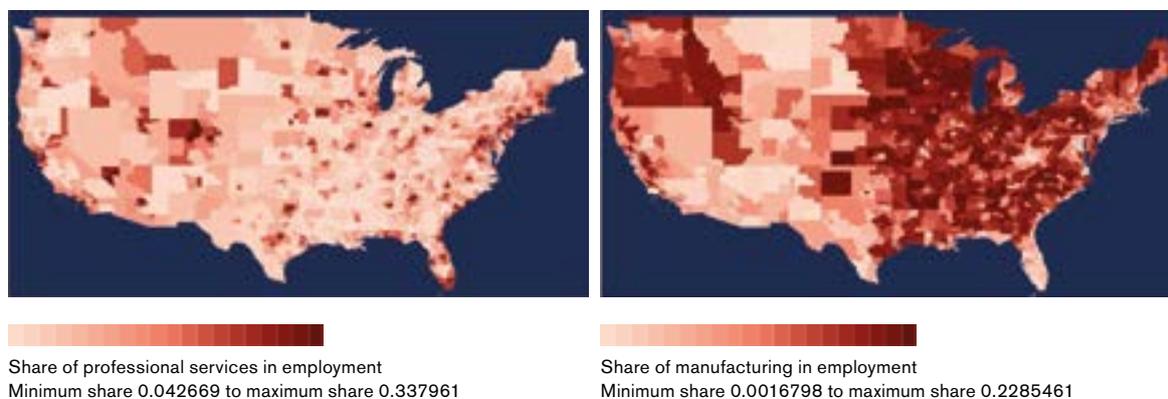
An additional aspect of inclusiveness related to services trade is the economic divergence between rural and urban regions. Evidence shows that, due to similarities in the sector's skill requirements, it is advantageous for services firms to co-agglomerate, or cluster, with a view to skill-sharing (Diodato et al., 2018). As high-skilled workers locate increasingly in cities, this makes it increasingly convenient for skill-intensive services industries, such as finance, marketing, or consulting, to locate in cities as well (Brinkman, 2014). In the context of the advertising industry, for example, networking effects in services have been shown to decay rapidly across space, further incentivizing a reduction of distance in order to preserve networking effects, thus favouring co-agglomeration (Arzaghi and Henderson, 2008). Dispersion forces, such as high rents, are less constraining to services firms, which tend to use less space than manufacturing or agricultural firms. As a result, there is a strong rationale for skill-intensive services firms to cluster in cities.

In both developed and developing countries, advances in communications and transport technology have allowed services industries that are not bound by face-to-face constraints, i.e. most business-to-business services, to capitalize on these agglomeration forces and cluster in cities. Evidence from India suggests that most workers in Indian cities work in the services sector (Topalova, 2007). In the United States, firms that produce what a study considers tradable services are located primarily on the dense coastal areas (Gervais and Jensen, 2019). Figure C.12 illustrates this by plotting the importance of business-to-business services and manufacturing for employment for commuting zones, i.e. local labour markets, in the United States. While manufacturing supports employment in many commuting zones, producer services are heavily clustered in urban areas. Similarly, Figure C.13 shows that, in India, services play a much larger role in urban districts than in rural districts.

This regional concentration pattern of producer services suggests that a rise in services trade could widen the rural-urban divide by boosting employment and wages primarily in cities. A recent study of the United States finds that US labour markets with larger initial shares of highly-skilled services employment grew substantially faster than the nationwide average. This alone can account for 30 per cent of the rise in the overall US college wage premium between 1980 and 2010 (Eckert, 2019).

**Figure C.12: Employment in business-to-business services in the United States is significantly more concentrated in particular locations than employment in manufacturing industries**

Share of business-to-business services (left), manufacturing employment in a region's total employment (right), 2016



Source: Authors' calculations based on the American Community Survey for 2016. Business-to-business services refer to NAICS sectors 51 to 56. Commuting zones as defined by Autor et al. (2013).

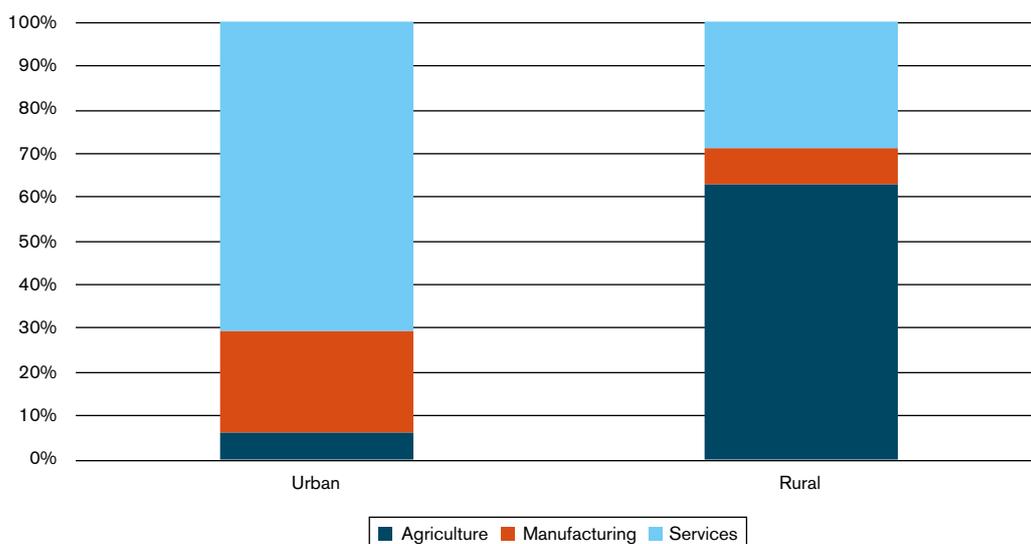
*(iii) Opportunities for women and MSMEs*

It is an important point that services trade can also help to close gaps within economies. Section B highlighted, for instance, that levels of female employment are significantly higher in several services sectors than in manufacturing. Therefore, women may be expected to benefit more from

services exports than from manufacturing exports. While there is no evidence available on the distribution by gender of employment or wage gains from services trade, a study on India suggests that opening up services has helped to close gender education gaps by raising education levels among women more than those among men (Nano et al., 2019).

**Figure C.13: Services employment is higher in urban areas than in rural districts of India**

Rural and urban employment in India disaggregated by aggregate sectors, 2011



Source: Authors' calculation based on the National Sample Survey Office data for India in 2011.

Services trade can also offer opportunities for micro, small and medium-sized enterprises (MSMEs). A study by Lejárraga et al. (2014) looking at MSMEs in over 100 economies found, for instance, that some barriers to trade are less constraining for services MSMEs than for manufacturing MSMEs. For instance, access to finance affects services MSMEs less than manufacturing MSMEs, since services tend to have lower fixed costs, such as investments in machinery or factories. Looking at more detailed data on French MSMEs, Lejárraga et al. report that firm size is less correlated with a firm's export status in services than in manufacturing. As also highlighted in Section B, a rise in services trade is therefore likely to be less biased towards large firms than a rise in manufacturing trade.

### (c) Services trade and the labour market in the future

Another reason for the relatively small impact of services trade on aggregate labour market outcomes is that, despite its rapid growth, services trade, and especially cross-border delivery of services, still accounts for only a small share of total trade. Most services are, as yet, still traded in very limited quantities. For instance, while medical tourism takes place to an extent, the travel time and costs, as well as regulatory differences, imply that it is not widely practised.

Both policy barriers and structural barriers related to the characteristics of services, such as the requirement of physical presence, have hindered the growth of services trade. As discussed in more detail in Section D, policy-related trade costs tend to be relatively high for the supply of services, with consumption abroad and commercial presence in another country sometimes being the exception. Occupational licensing can, for instance, render the supply of services across borders nearly impossible in the absence of mutual recognition agreements. Similarly, work visas for the temporary movement of workers remain restricted in most economies.

Advances in digital technologies, however, have the potential to magnify the scale and scope of trade in services by alleviating structural barriers related to physical distance. This can reduce services trade costs from extremely costly to very low, with major implications for the cross-border supply of services in particular. While many such technologies are already in place, combining them could magnify their potential, something sometimes referred to as combinatoric innovation (Baldwin, 2019).

One example is the combination of videoconferencing technology with real-time translation technology. Videoconferencing can remove the requirement for physical presence, especially when new network standards such as 5G will dramatically increase the quality and reliability of networks. However, currently the technology can only connect people, domestically or across countries, that share the same language. Beyond that, it relies on the multilingualism of people. Only by combining it with real-time translation can the technology allow global interactions and internationalize the market for consulting and many other services.

Such innovations can considerably promote the remote supply of services, sometimes referred to as telemigration or international telecommuting (Baldwin, 2019). While this form of services supply already exists via platforms such as Upwork,<sup>9</sup> its potential has not fully been used due to the technological limitations currently in place. Additional reasons for the limited uptake of remote services supply are, for instance, contractual difficulties due to different jurisdictions, lack of trust in foreign suppliers, unclear quality and network size, and the limited spread of some technologies to all regions within countries and across the world.

As these barriers disappear, digital technology is likely to boost services trade and expand its role for the labour market. This is likely to magnify the effects that have already been observed, but it may also lead to new effects. If occupations previously shielded by structural barriers to services trade become exposed to foreign competition, the effects of services trade on skills, gender or rural-urban divides may change. Remotely-operated cleaning devices could, for instance, allow unskilled workers from developing countries to benefit from trade. Remote surgery and similar applications in the medical field could imply new competition for high-skilled workers in developed economies.

It is important to note, in this regard, that the remote supply of services is complementary to automation and thus widens the scope of occupations exposed to technological change. Several estimates exist concerning the share of jobs at risk from automation. One study suggests, for instance, that 47 per cent of jobs in the United States are susceptible to automation, and highlights three characteristics in particular that impede automation: creative intelligence, social intelligence, and perception and manipulation (Frey and Osborne, 2017).

Advances in the remote supply of services imply that such characteristics do not necessarily protect jobs

from technological change any longer, as machines operated by humans could have all three of these characteristics. As examples of occupations less likely to be computerized, Frey and Osborne (2017) list psychologists and nutritionists, occupations relying on social interaction. While it might be very difficult to programme or train AI to possess such skills, it is much more likely that professionals in these areas may begin to offer their services remotely through a virtual presence.

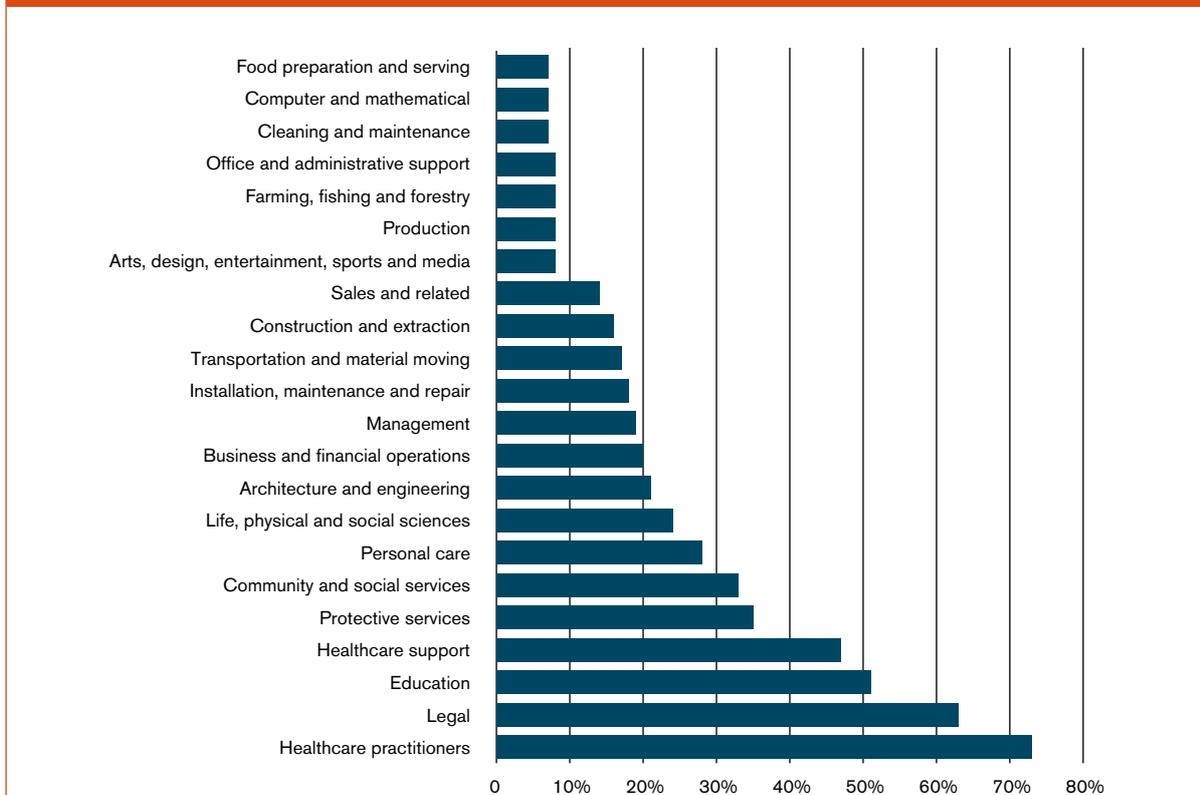
Naturally, it is difficult to foresee which jobs will actually vanish, as cheaper inputs of complementary tasks can have a positive effect on employment for the remaining tasks. As was discussed before, lower offshoring costs can lead to a finer specialization of tasks within occupations across economies, rather than replacing occupations. For instance, if routine surgeries can be done remotely from abroad, domestic doctors can perform more specialized surgeries and reduce waiting times for certain operations. Other jobs will probably continue to require a physical presence in the foreseeable future, such as care professions, where human interaction

cannot be adequately replaced by mechanization, or professions such as hairdressers where investment into costly technology is unlikely to be profitable in the near or mid-term future.

In addition, policy remains a highly relevant barrier to remote services supply. As mentioned above, occupational licenses only available to domestic suppliers can impose considerable barriers, even when technology would allow for cross-border services trade. Figure C.14 shows the share of licensed workers for a given occupation in the United States in 2018. Healthcare professionals, both practitioners and supporting, stand out as being highly subject to licensing. So, while remote surgery and counselling are technically possible, it is an open question whether regulation is adapted to allow for cross-border supply of such services. Remotely supplied cleaning services or remote consulting services in the areas of computer or mathematical sciences, on the other hand, are less affected by regulation, and are thus more exposed to potential foreign competition in the future.

**Figure C.14: The share of professionals in services sectors with a license differs widely across industries**

Share of professionals in a given service industry holding a license, United States, 2018



Source: Labour force statistics from the Current Population Survey of the US Bureau of Labor Statistics for 2018.

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# Ensuring inclusive services trade: role of complementary domestic policies

It is well recognized that trade in services is critical for sustainable development, economic growth and social progress. Services trade has the potential to facilitate inclusive growth and development by creating employment opportunities, raising incomes, promoting access, improving the quality of services, enabling innovation, and contributing to economy-wide competitiveness through critical linkages with other sectors of the economy (see IMF et al., 2018; Fiorini and Hoekman, 2018b; UNESCAP, 2013).

Increased FDI in key infrastructural services such as transport, telecommunications and energy can promote inclusive growth by increasing capacity and enabling access to these essential services. Trade in health services through the movement of health professionals, medical tourism, or telemedicine can address inadequacies in healthcare infrastructure and quality, thereby enabling more equitable access to healthcare. The tourism services trade has the potential to generate huge positive social and economic externalities by creating jobs and raising incomes across the skill spectrum, improving infrastructure

and standards, creating rural-urban linkages and improving connectivity. Trade in IT and BPO services can increase economy-wide efficiency and productivity and can help bridge geographical, gender and other divides within and across countries by improving access to both goods and services.

The realization of these sustainability and inclusiveness objectives, however, is neither automatic nor guaranteed. It depends on the domestic policy and regulatory environment which shapes the extent to which and how the benefits from services trade are distributed and adverse outcomes are mitigated.

In the absence of sound domestic policies and regulations, trade in services could widen inequality by aggravating the divide between regions, between the skilled and less skilled, between urban and rural areas, the rich and the poor, and between those with access to services and those without.

The conditional nature of the benefits from services trade is well exemplified by sectors such as health and education. Trade

in health services can contribute towards achieving universal health coverage and access to quality essential healthcare services (SDG 3.8) and towards increased health financing, as well as to the development of the health workforce in developing countries (SDG 3.9c), through inflows of foreign exchange, cross-border affiliations and partnerships which enable the transfer of knowledge, technology and manpower, and the upgrading of skills and standards. FDI in hospitals and associated development of private healthcare establishments can help reduce the burden on government resources (Chanda, 2017).

However, these are potential and not automatically guaranteed benefits. Trade and investment in health services could have undesirable effects on equity and access if there is cream-skimming by rich and affluent foreign medical tourists at the expense of domestic patients, or if it results in the internal brain drain of health workers from public hospitals to better-paying and better-managed foreign investor hospitals, or if it leads to a diversion of resources towards highly

specialized segments of healthcare at the expense of basic and preventive healthcare services.

Whether trade in health services promotes more equitable access to healthcare or aggravates inequities thus depends on domestic policies and regulations, i.e., how the resources generated from health services exports or increased FDI in health services are deployed in the economy, to whom they accrue and to what extent supporting policies concerning health insurance, pricing, cross-subsidization mechanisms, public-private linkages, training of human resources and management of public health establishments, among others, prevent distortionary and inequitable outcomes.

Without complementary measures that address issues of standards, infrastructure, human resources and technology in the healthcare sector, health services trade may not be inclusive.

Policies that are conducive to human resources development and management in the health sector can go a long way in addressing the issue of brain drain. More efficient allocation of expenditures in the health sector and improved regulatory governance can help prioritize spending in line with local needs and conditions of demand, and can mitigate adverse consequences such as cream-skimming, dualism and the crowding out of local patients that can arise with trade and FDI in this sector (Chanda, 2002; 2017; Hanefield et al., 2018).

The issues are similar in the context of education services. While opening

the sector to foreign educational providers can augment capacity and create employment, and the entry of foreign students can enhance incomes, these may also lead to profiteering, higher costs, excessive focus on commercial specializations, and fewer available seats for domestic students.

It could also dilute quality and standards if due diligence on the eligibility of foreign students and foreign educational providers and on the recognition of degrees and employability is not done by the relevant regulatory authorities.

Hence, alongside trade and investment there needs to be adequate regulatory capacity to govern education service providers, along with complementary domestic policies regarding fees, standards, partnerships, and recognition, among others.

But for countries to reap the aforesaid benefits and mitigate adverse effects on equity and inclusiveness, they must first have the capacity to engage in services trade.

Domestic policies are once again critical to shaping the very ability of countries to participate in services trade, and the opportunities and challenges they face in this regard. Unless countries have the requisite skills, standards, human resources, infrastructure and enabling policies in these areas, they may not be able to avail of the opportunities for services trade (Waite and Nino, 2004).

Restrictive services trade policies and regulations may preclude countries from engaging in the global services market (Braga et al., 2019).

This issue is highly pertinent in the context of professional services trade, wherein many developing countries wish to promote services exports through the temporary cross-border mobility of services providers, but may lack supporting domestic policies with regard to education and training, standards, qualifications, accreditation and certification systems, and the regulatory set-up.

Exports of professional services would require countries to upgrade their domestic standards and systems to internationally accepted ones, enter into mutual recognition arrangements, open certain segments to foreign providers so that partnerships could be established, and change domestic regulations to provide a level playing field for domestic firms.

Likewise, if countries are to exploit the growing export opportunities for IT-enabled services and to reap the associated benefits in terms of employment, incomes, technology and connectivity, domestic policies concerning telecommunications, data protection and IT infrastructure and its accessibility are critical.

Thus, supporting policies that develop human resources and infrastructural and regulatory capabilities for services trade are essential.

In sum, services trade is like any other form of trade, and its associated benefits cannot happen in a vacuum. To engage in services trade and ensure that it is inclusive, the right policies and regulatory framework are needed.

## 4. Concluding observations

As in the case of goods, trade in services will create welfare gains for society because it produces a more efficient allocation of resources, increases the variety of services that consumers and producers can purchase, and allows the more productive services firms to expand.

This section has drawn on the empirical literature, case studies and own calculations to provide a variety of evidence of the growth- and development-enhancing potential of trade in services. The fact that some services sectors like transportation, telecommunications and energy are essential to the functioning of the entire economy, while others, like health, finance and education, affect the quality of the basic factors of production, implies that increasing services trade can deliver large economic gains to the global economy. This potential is underlined by the current low share of cross-border trade in services across many economies.

An important avenue through which services trade benefits societies is the improvement in firms' competitiveness, defined as the ability of firms to compete in international markets. This can occur directly, when trade in services increases the productivity of services firms. A second and indirect benefit is the increase in productivity of manufacturing firms and other services firms when services are used extensively as inputs in these sectors. Another way by which services trade can increase firm's competitiveness is through product differentiation, for

instance by bundling the provision of services with a manufactured product.

The positive impact services trade can have on firms' competitiveness depends on the quality of institutions in the importing country. Establishing an economic climate conducive to investment and business can increase the positive effects of services trade, which underscores the importance of putting complementary policies in place, while reducing barriers to trade in services.

So far, the impact of services trade on aggregate labour market outcomes has been small. Most evidence suggests that total employment and average wages are not significantly affected by services trade, although some studies report positive effects.

In contrast, services trade has affected the composition of the workforce, with several studies suggesting that high-skilled workers in cities tend to be the main beneficiaries in both developed and developing countries. The magnitude of these effects is, however, relatively small.

Services trade may also benefit women and MSMEs, as employment in services sectors is more gender-balanced than manufacturing or mining, and because services are less affected by certain barriers to trade, such as access to finance.

Finally, technological progress has the potential to expand services trade by removing existing barriers to the cross-border flow of services. This could potentially upend current conclusions with respect to the role services trade plays in the labour market.

# Endnotes

- 1 Financial repression refers to government action to manage the allocation of capital by capping interest rates paid to savers and lowering the cost of borrowing to favoured borrowers (typically the government itself, state-owned enterprises and financial institutions, and favoured industrial sectors) in the economy.
- 2 The authors do not mention in their paper whether this is in constant dollars.
- 3 In brief, agglomeration refers to the idea that increasing the number of firms in a certain geographic area increases the productivity of the firms established there. The two frequently cited explanations for these effects are demand linkages and cost linkages: moving a firm from location A to location B raises the profitability of firms in location B by increasing the size of the market and by increasing the supply of intermediate goods that they use.
- 4 See OECD (2019). UNCTAD also recently analysed tourism from a TiVA perspective. See pages 48-55 of UNCTAD (2017b), comparing South Africa and Tunisia with Indonesia and Thailand.
- 5 These indicators cover products and services purchased directly and indirectly by all international non-business travellers to the specified economy, including cross-border workers, overseas students and passengers in transit.
- 6 The authors derive these ad valorem equivalents of trade costs in services from a gravity equation.
- 7 See <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals> for the more detailed targets for each SDG.
- 8 While “institutions” is a broad term, it is defined in the literature as “measures of the quality of economic governance such as control of corruption, rule of law, regulatory quality, contract enforcement, and more generally the investment and business climate” (Beverelli et al., 2017).
- 9 <https://www.upwork.com/>