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**Working Paper**

## Elevating services: Services trade policy, WTO commitments, and their role in economic development and trade integration

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**World Trade Organization**

Economic Research and Statistics Division

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**ELEVATING SERVICES**

**SERVICES TRADE POLICY, WTO COMMITMENTS, AND THEIR ROLE IN ECONOMIC  
DEVELOPMENT AND TRADE INTEGRATION**

Martin Roy<sup>1</sup>

*Manuscript date: March 2019*

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<sup>1</sup> Martin Roy is Counsellor in the Trade in Services and Investment Division of the WTO Secretariat. The author is grateful to Justine Lan for valuable research assistance. He thanks Xiaolin Chai, Christophe Degain, Joscelyn Magdeleine, Andreas Maurer, Pierre Sauvé, and Lee Tuthill for comments and suggestions. This paper builds in part on the WTO Staff Working Paper entitled "The Contribution of Services Trade Policies to Connectivity in the Context of Aid for Trade" (ERSD-2017-12). The opinions expressed in this paper are those of the author. They are not intended to represent the positions or opinions of the WTO or its Members and are without prejudice to Members' rights and obligations under the WTO.

# **Elevating Services**

## ***Services Trade Policy, WTO Commitments, and their Role in Economic Development and Trade Integration***

Martin Roy<sup>1</sup>

Manuscript date: March 2019

### **Abstract**

*Services have long been perceived as playing a secondary role in world trade. In particular, the role of services trade policies and multilateral services commitments often tends to be downplayed. However, in value added terms, services account for about 50% of world trade and are significant in exports of countries of all levels of development. In addition, cross-border trade is expanding as a result of technological advances, and the supply of services by foreign affiliates (mode 3) exceeds trade through other modes of supply. Services trade policies, which cover a wide range of 'inside-the-border' measures, are an important determinant of foreign direct investment, economy-wide productivity, manufacturing competitiveness and exports, and flows of services value added.*

*This paper underscores, on the basis of recent services data and a growing body of research on the impact of services policies, the role of services trade in economic development, trade integration, and inclusiveness. It argues that the limited attention given to services trade policies and to international commitments is increasingly out of step with the role of services in the global economy. Indeed, services trade policies are often restrictive and multinational commitments are generally modest. Taking steps to raise the profile of services trade within government policy-making would help close this gap and highlight the contribution of services trade policy to a wide range of broader national objectives that have an important services dimension, whether SME and gender policy, or the achievement of Sustainable Development Goals (SDGs).*

**Key Words:** WTO, GATS, trade in services, trade in value added

**JEL classification numbers:** F13, F15, F53, L8

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## 1 INTRODUCTION

Whether in the academic world, policy circles, or among trade negotiators, services have in the past been neglected. The role of services in economic development and world trade was often downplayed, and services trade policy received little, if any, attention. In trade negotiations, services were often perceived as of interest only to the largest services exporters – mostly developed countries – and more commonly employed as negotiating leverage for other trade matters.

Such lingering perceptions increasingly contrast with economic realities. In light of recent improvements in trade statistics and an expanding body of research on the impact of services policies, this paper examines the recent evolution of trade in services and reviews the contribution of services trade policies and commitments to economic performance and trade integration. It argues that the important and growing role of services in the global economy is increasingly out of step with current services trade policies and international services commitments.

Recent research and data reveal that, in value added terms, services account for a significant proportion of exports for all countries. Research also stresses the fundamental role of services trade policies, whose level of openness/restrictiveness has a strong impact not only on services trade flows (whether in gross or value-added terms), but more generally on domestic services performance, with significant effects on manufacturing productivity and exports, or digital connectivity.

While perceptions are changing, a large gap remains between, on the one hand, the economic and trade importance of services and, on the other, the direction of – and attention given to – services trade policies. These policies remain rather restrictive overall, and lack predictability and transparency. Similarly, multilateral services commitments have been under-used to support services trade policies conducive to economic growth and trade integration. Room for improvement in this regard is large, as commitments generally reflect a much more restrictive picture than applied regimes.

The following section highlights the economic relevance of services in national economies and in economic development, while Section 3 analyses key trends in services trade through the lens of balance-of-payment statistics. Section 4 underscores the broader role of services in world trade, highlighting five key features: (i) the importance of services traded through establishment abroad, the role of services as (ii) enablers of goods trade, (iii) facilitators of global value chains and (iv) backbone of digital trade, and (v) the growing importance of services entering trade as value-added content in goods exports.

Section 5 then looks at current levels of trade openness in services, and underscores, in light of recent research, the impact of services trade policies on investment, trade in goods and services, flows of services value added, digital connectivity, and manufacturing productivity. Section 6 reviews the current state of multilateral market access commitments on trade in services and discusses their value added. The paper concludes by highlighting the regulatory intensity of services and institutional challenges among possible explanations for

the gap, and by formulating some avenues to raise the profile of services trade policies within domestic policy-making circles.

## **2 SERVICES IN DOMESTIC ECONOMIES AND ITS IMPORTANCE FOR GROWTH AND INCLUSIVENESS**

For a long time, services used to be portrayed as an economic activity of lesser importance, characterized as low productivity and low wage, and dependent solely on domestic demand. It has also been casted as a lesser path to growth and economic development, in comparison to manufacturing (Baumol, 1967; Kaldor, 1966).

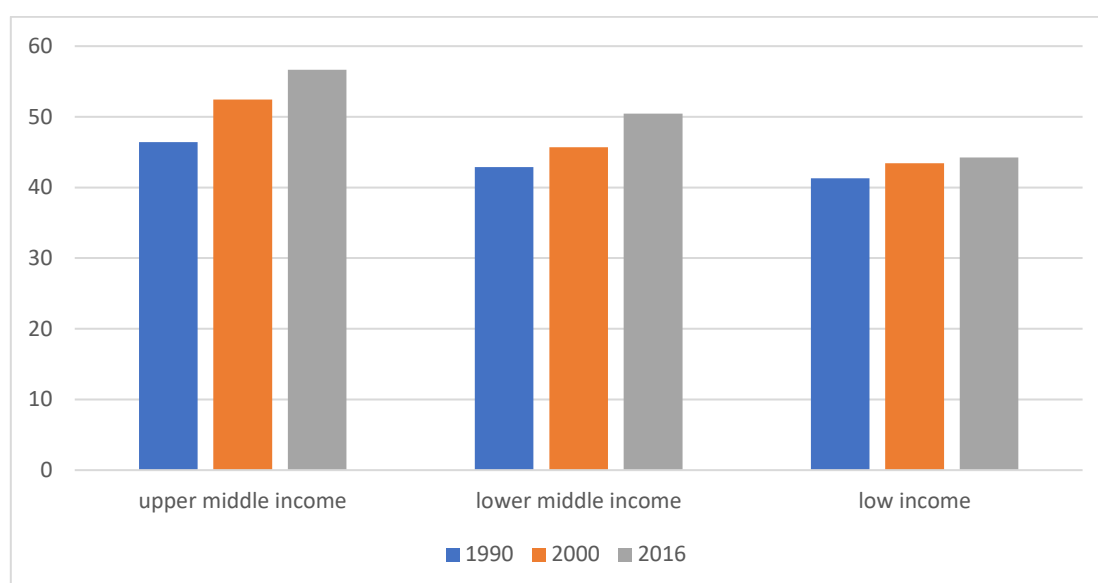
Nowadays, that perception is changing. In particular, the long unchallenged belief that the path to economic growth and development for low-income countries necessarily lies in developing the manufacturing sector now appears more uncertain. In many countries, including developing ones, the relative importance of the manufacturing sector in GDP is declining. Overall, countries at all levels of development are on average specializing less in this sector, which also employs less people. More recently, the point at which the manufacturing industry peaks tends, on average, to occur earlier in the development process (Amirapu and Subramanian, 2015).

Some observers have wondered whether the path to growth for a number of developing countries would be dependent on the future decline in competitiveness of manufacturing powers in Asia, in particular China (Collier, 2007). The reasons for the declining importance of manufacturing in most countries is manifold, but includes the fact that manufacturing activities have become more technology-, skill- and capital-intensive and create less jobs than in the past (Ghani and O'Connell 2014), as well as the changing patterns of demand for services associated with rise in income and demographic change.

Views on the contribution of services to economic development and transformation has evolved in recent years. The role of services as a path to growth that complements the primary and secondary sector, as opposed to a sole focus on manufacturing, has been highlighted in various recent studies, a number of which link the positive effect of services on economic transformation to, at least in part, the increasing tradability and contestability of services markets (Jensen and Kletzer, 2005; Jones and Kierzkowski, 1988; Riddle, 1986; Eichengreen and Gupta, 2013; Schettkat and Yocarini, 2006; Cali et al., 2008). Globalization in various services sectors provides greater opportunities to specialize, exploit comparative advantage, and export, but increased contestability and improved service sector performance also help improve productivity in non-services sectors of the economy (Hoekman and Shepherd, 2017; Nordås and Kim, 2013). Ghani and O'Connell (2014) argue that services can drive growth and create good jobs in countries at different levels of development. Rodrick (2018) and Diao and others (2017) observe that the move of labour from traditional agriculture to services in urban centres, which have tended to exhibit higher labour productivity, improves economy-wide productivity, and note that this has been an important source of economic growth in a number of low-income countries in recent years

Recent patterns of growth around the world highlight the importance of services. The contribution of services to national economies has been increasing over time for countries at all levels of development. Figure 1 shows services value added as a proportion of GDP for low-income and middle-income countries. Even for least-developed economies, services are central, and their weight has increased over time. In most developing countries, services experienced a higher growth rate in the last decades than both manufacturing and agriculture. In more developed economies, most of income and employment is derived from services, with the share of services in GDP reaching over 70% on average.

**Figure 1: Services Value Added as a Percentage of GDP**



Source: World Bank, World Development Indicators <https://data.worldbank.org/>

Note: Average for WTO Members within each group, as defined by the World Bank.

Growth of labour productivity remains higher overall in manufacturing, but various services sectors have experienced high growth rates in recent times (e.g., communications, financial services), even if some others (e.g., wholesale and retail) have lagged (De Backer et al., 2015). Given the increasing relative size of the sector, services have been a key determinant of total labour productivity growth in OECD economies (Van der Marel, 2012).

The contribution of services to employment has also been increasing, with services now creating more jobs, and at earlier stages of development (Ghani and O'Connell, 2014); these services jobs are compensating for the diminished role of agriculture and manufacturing in employment in both developed and developing countries. Globally, services and agriculture each accounted for 39% of total employment in 2000. As of 2018, just over half of the world's population was working in services (52%), while agriculture's share of total employment slipped to 26%. Services' share of total employment is projected to continue to expand in the coming years for countries at all levels of development (ILO, 2018).

Services sectors are even more important to women's employment, highlighting the gender dimension of services. While 48% of all men worked in services sectors in 2018, the sector accounted for 58% of women's employment, compared to 41% in 2000. For all levels of development, services are responsible for a greater proportion of total employment for women than for men, although the gap is small in the case of low-income and low/middle-income economies (see Table 1). Consistent with the strong increase in services employment overall, Table 1 reveals that services' relative importance in employment has grown in the case of both men and women, and for groups of countries at all levels of economic development, although important variations exist across different regions of the world (ILO, 2016).

**Table 1: Proportion of Female and Male Employment in the Services Sector, 2000 and 2018**

		2000	2018
<b>World</b>	Female	41	58
	Male	38	48
<b>High-income</b>	Female	81	87
	Male	59	64
<b>Upper/middle-income</b>	Female	35	65
	Male	38	54
<b>Lower/middle-income</b>	Female	27	41
	Male	31	40
<b>Low-income</b>	Female	15	22
	Male	17	21

Source: ILO, <https://www.ilo.org/wesodata>, accessed 11 January 2019.

The services sector is also a key channel for economic and social participation because it is characterized by a high number of micro-, small-, and medium-sized enterprises (MSMEs) in comparison to manufacturing. Across most economies, the greatest number of enterprises, as well as the greatest number of MSMEs are in the services sector. In turn, MSMEs account for over half of employment and value added in services, in contrast to manufacturing where larger firms account for the most significant share in most countries (OECD, 2017).

While the role of services in economic transformation will continue to be debated, in particular, the question of the extent to which it accompanies or may substitute for manufacturing activities, recognition of its importance in domestic economies is growing. The importance of services in international trade and investment, however, has been perceived as significantly more limited than its domestic contribution.



### 3 TRADE IN SERVICES THROUGH THE LENS OF BALANCE OF PAYMENT STATISTICS: KEY TRENDS

Perception of the limited importance of services in world trade may stem from the fact that balance-of-payments (BOP) statistics have for a long time been the only means of measuring trade in services. Indeed, BOP statistics only capture part of 'trade in services' defined through four modes of supply in WTO rules (see Box 1).

Still, BOP statistics are compiled for all WTO Members and provide a good approximation of trade under modes 1, 2 and 4, and therefore permit to highlight some key recent trends in world services trade.

#### **Box 1: Trade in services and modes of supply**

To cover the various means through which services are provided internationally, the General Agreement on Trade in Services (GATS) defines trade in services by reference to four modes of supply. They may be summarised as follows:

Mode 1 (cross-border supply), analogous to trade in goods, occurs when a service is delivered from the territory of one World Trade Organization (WTO) Member to the territory of another Member. Examples of mode 1 include international transport and supply of services over digital networks, where the service supplier is not present in the territory of the Member where the service is consumed.

Mode 2 (consumption abroad) involves the supply of a service in the territory of one Member to the service consumer of another Member. An example of supply through this mode is tourism.

Mode 3 (commercial presence) is the supply of a service by a service supplier of one Member through the establishment of a commercial presence (subsidiary, branch or other forms of business establishment) in the territory of another Member. Mode 3 can be relevant for all sectors, e.g. the establishment and operation abroad of foreign insurance companies, hotels, supermarkets.

Mode 4 (presence of natural persons) concerns the supply of services through the temporary presence of a natural person of one Member in the territory of another Member. This mode of supply can involve the temporary movement of, for example, independent professionals (e.g. lawyers or accountants), or intra-corporate transferees whereby certain personnel are transferred from their parent company to a subsidiary in the territory of another Member.

### 3.1 The Changing Structure and Growing Importance of Trade in Services

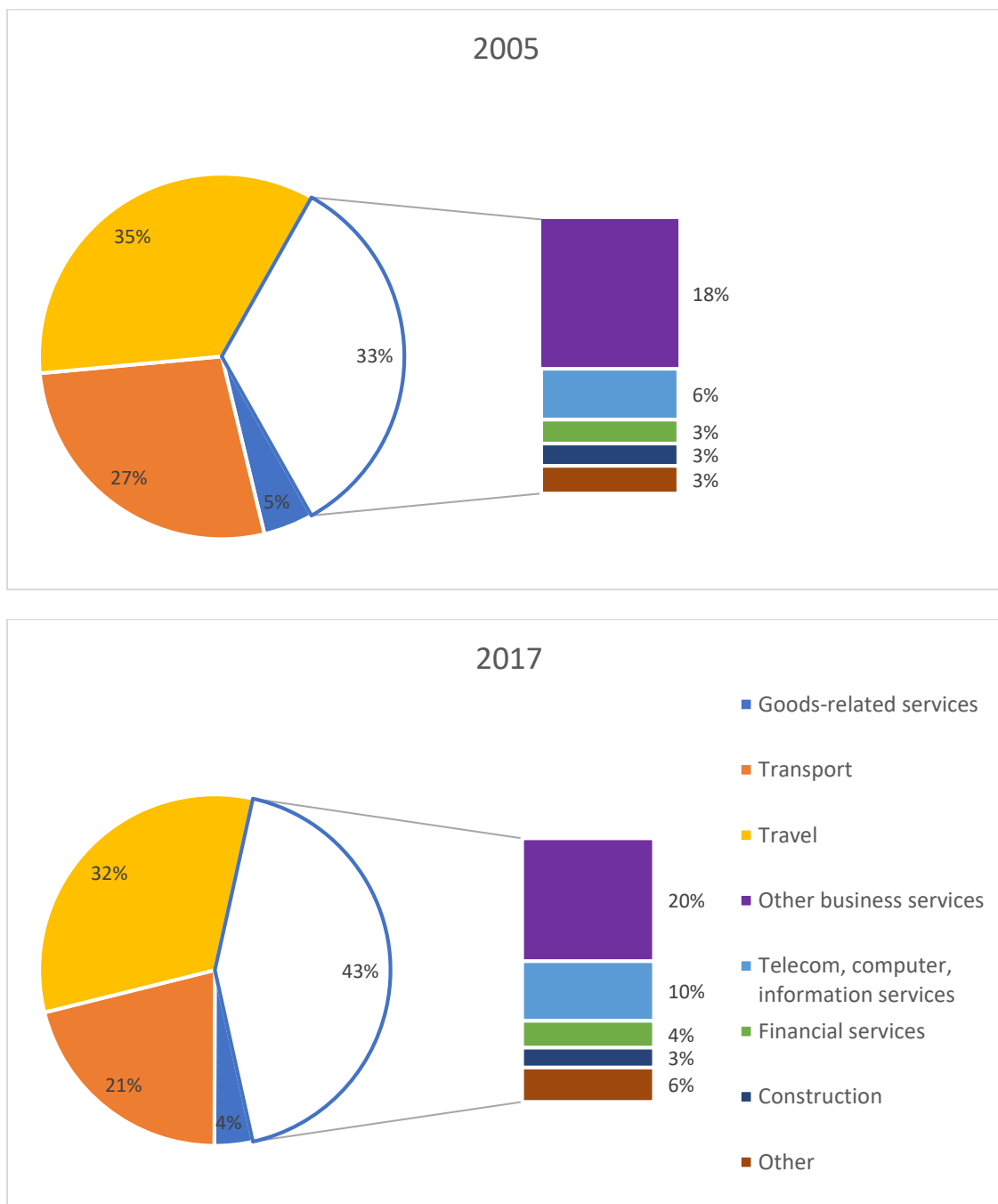
Advances in information and communications technology, exemplified by the global expansion of the Internet, have transformed and boosted the tradability of services by making it easier to supply from a distance. A broad range of services can now be supplied effectively over digital networks, e.g., professional, business, audiovisual, education, distribution, financial or even health services. The strong growth of trade in services is largely a result of the Internet revolution. Studies have found that greater Internet penetration and usage are associated with higher levels of trade in services, both in terms of exports and imports (Choi, 2010; Freund and Weinhold, 2002).

The growing role of services in domestic economies, increased tradability, and the reduction of barriers to trade, has led to the increasing relative importance of services trade in world trade. Services trade has grown faster than merchandise trade and now accounts for 23% of total trade in goods and services on a BOP basis, compared to 19% in 1995.

Technological advances have also significantly modified the structure of trade in services. The weight of travel and transport services diminished considerably, while 'other commercial services' now accounts for 54% (in 2017) of global trade in commercial services (compared with 47% in 2005, and less than 40% in 1995). These 'other commercial services' include some of the most dynamic components of world trade today. This change in the composition of trade in services has also been important for exports of developing countries, as illustrated in Figure 2, with the share of 'other commercial services' increasing from 33% to 43% between 2005 and 2017.

The geographical structure of trade in services has also evolved. A new dataset of trade in services by partner, with data up to 2012, highlights the importance of regional trade, though this varies across regions. 64% of European countries' services exports are within the region, while this share stands at 52% for Asia, but at less than 10% in Africa (WTO, 2018c).

**Figure 2: Exports of Commercial Services by Developing Economies, by Sector, 2005 and 2017**



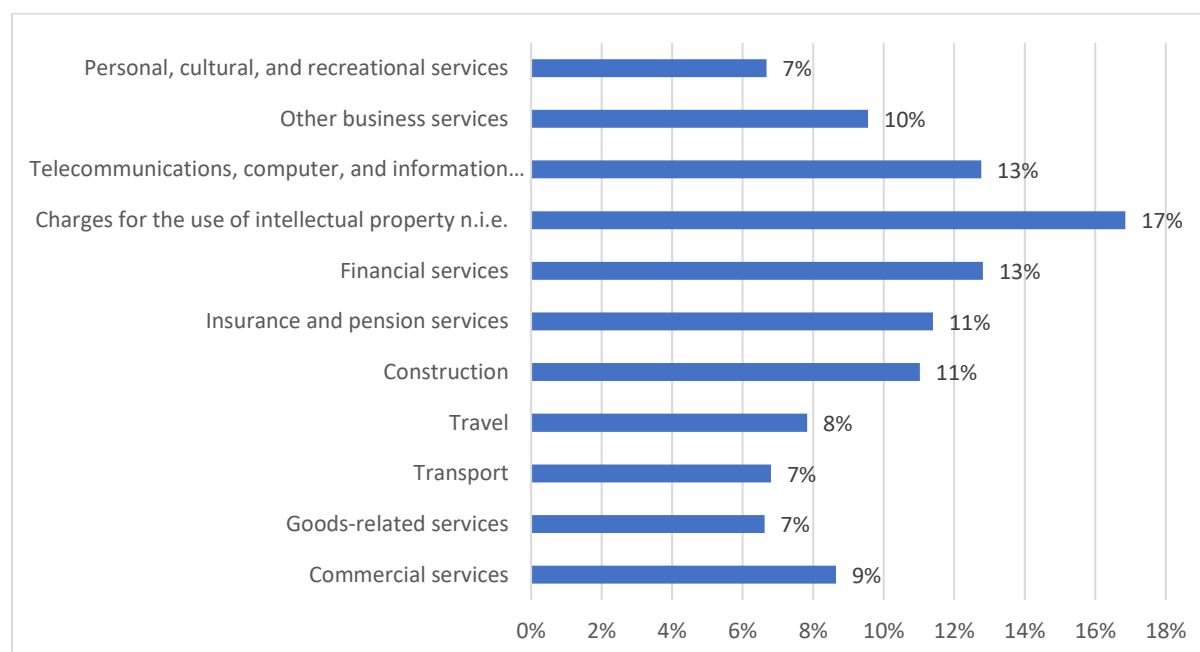
Source: WTO Statistics Database: <http://data.wto.org/>

### 3.2 The Rise of Services Supplied Over Digital Networks

Not surprisingly, services that have experienced strong growth comprise services that can be supplied electronically and that have benefited from the increased efficiency of digital networks. Between 2005 and 2017, exports of the fastest growing subsector, 'telecommunications, computer, and information services', increased at an average annual rate of 13%. Most of trade in this category pertained to computer services, which had grown by 18% per year over the same period.

Exports of 'IP services' (i.e., charges for the use of intellectual property not included elsewhere) exhibited an average annual growth rate of 11% over the same period. With 10% growth in 2017, this was the fastest expanding service subsector.<sup>2</sup> The category of 'other business services', which accounted for 23% of total services exports in 2017, grew at an average annual pace of 11% between 2005 and 2017, and include such ICT-enabled services as, for example, research and development, professional, advertising, and management consulting services. Developing country exports form an integral part of these trends (Figure 3).

**Figure 3: Average Yearly Growth Rate of Exports, Developing Economies, 2005-2017**

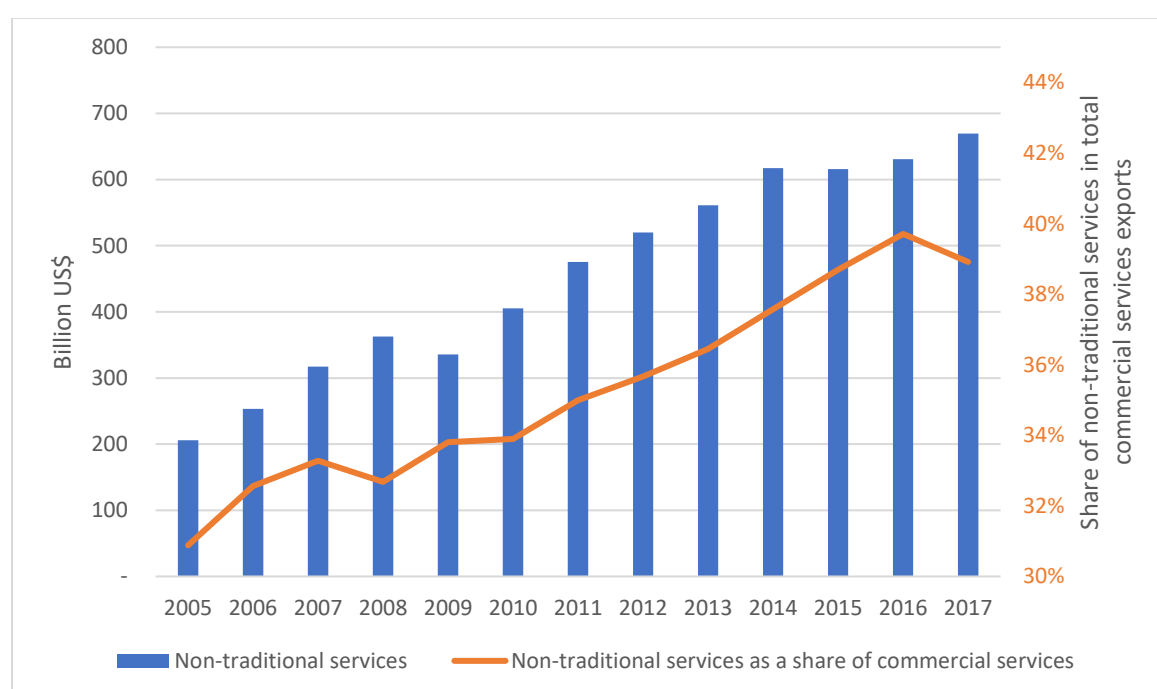


Source: WTO Statistics Database: <http://data.wto.org/>

<sup>2</sup> This category includes charges for the use of proprietary rights (e.g., patents, trademarks, copyrights, franchises, and rights arising from research and development), charges for the authorized reproduction and/or distribution (through licensing agreements) of produced software originals, as well as fees and charges for the authorized reproduction/distribution, through licensing agreements, of produced audiovisual originals or prototypes (for example, cinematographic works and sound recordings) and related rights relating to recordings of live performances and radio, television, cable and satellite broadcast (UN et al., 2010). It may be noted that IP is also relevant for a number of other services categories.

The increasing importance of these services that can now more easily be supplied online, and the resulting evolution in the structure of services trade, has been underscored by different observers pointing to the growing weight of 'ICT-enabled services'<sup>3</sup> or 'modern services'<sup>4</sup>. In similar fashion, we distinguish between services sectors more traditionally traded (such as transport, tourism and construction), and those that were less traditionally traded cross-border (e.g., IP-services, business services, telecommunications, computer, and information services).<sup>5</sup> Figure 4 shows the rapid growth of developing country exports of these 'non-traditional services' since 2005, but also their growing share in their total services trade.

**Figure 4: Exports of Non-Traditional Services by Developing Economies**



Source: WTO Statistics Database: <http://data.wto.org/>

### 3.3 The Increasing Importance of Developing Countries in Services Trade

Many developing countries are taking greater advantage of direct export opportunities offered by new technologies that enable digital supply. Their share of global trade in services increased from 28% in 2005 to 34% in 2017. Exports of developing countries are concentrated in 'other commercial services' (43% in 2017), in contrast to transport (21%) and travel (32%).

<sup>3</sup> UNCTAD (2015).

<sup>4</sup> UNECLAC (2017).

<sup>5</sup> To illustrate, we consider the following BOP categories as services traditionally supplied: travel, transport, construction, and goods-related services. Services not traditionally supplied are the other categories. Of course, this characterization should not be taken to imply that travel or transport, for example, are supplied in a similar fashion as in the past, or that services in 'non-traditional' categories do not employ new technologies.

With 14% of world exports, India ranked as a top global exporter of computer services in 2017, second only to the European Union.<sup>6</sup> 'Non-traditional' services have also grown in importance in the services exports of developing countries. Figures 4 and 5 illustrate this, contrasting the evolution of exports of these services with their total commercial services exports as well as with total exports of goods and services.

In a number of developing countries, services export opportunities related to offshoring and digitalization have been facilitated by government policies and engagement with the private sector. Cases in Jordan and Senegal (see Box A1) illustrate how suppliers of a variety of ICT-enabled services, benefitting from reliable and competitively priced telecom infrastructure as well as promotion efforts by the government, have expanded across their respective regions.

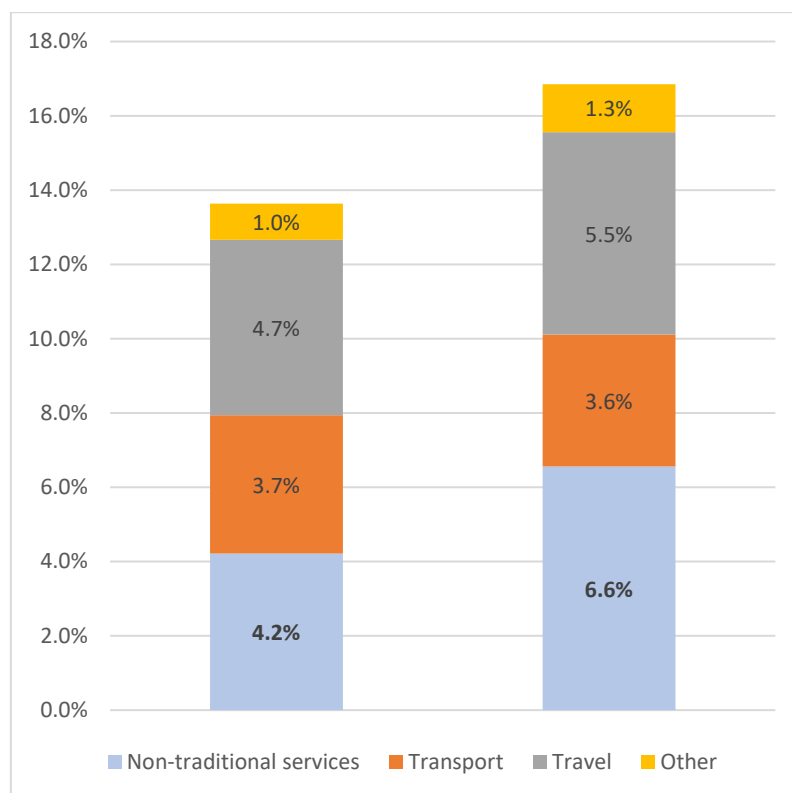
Developing countries are also trading more amongst themselves. Maurer and others (2016) estimated that south-south trade in services increased over the last decade, from 8% to 13% between 2000 and 2012, while north-north trade decreased markedly from 62% to 48% of world trade.

Another important recent trend that is likely to continue in coming years is the quickly rising importance of China as a destination for services exports from the rest of the world. Between 2005 and 2017, China's services imports grew at an average annual rate of 16% and, as a result, China accounted for 9% of world services imports in 2017 (only behind the European Union and the United States), compared to 3% in 2005. Services also occupy a more important place in China's total imports, as they accounted for 20% of China's total imports, almost twice as much as in 2005 (11%). The share of services value added to GDP in China jumped from 41% to 52% between 2005 and 2017 and, if demand for services continue to grow in China as a result of structural change (e.g., demographics and rising incomes), the country's relative importance as a destination for world services exports will continue to grow significantly.

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<sup>6</sup> The LDC share of world trade in services remains very low in BOP terms, accounting for 0.6% of exports and 1.3% of imports in 2017. However, for a number of LDCs, services account for a high proportion of their total exports due to the relative importance of tourism: travel accounts for 9% of their total exports of goods and commercial services, and for 53% of LDC services exports (2017). See WTO document WT/COMTD/LDC/W/66, dated 2 October 2018.

**Figure 5: Share of Exports of Non-Traditional Services in Total Exports (goods and commercial services) of Developing Economies, 2005 and 2017**



Source: WTO Statistics Database: <http://data.wto.org/>

#### 4 GOING BEYOND BOP STATISTICS: THE BROADER ROLE OF SERVICES IN TRADE

The perception that services account for a limited part of world trade is changing, as new data allow to better capture the main mode of services trade (mode 3) and services indirectly traded as value added embodied in goods, and as the understanding of the contribution of services to world trade increases.

This section highlights five key features of services that underscore its broader role in the trading system, beyond being a product for export reflected in BOP statistics. These five key features concern:

- services traded through establishment abroad (mode 3);
- services providing the basic infrastructure to support trade in goods;
- services facilitating global value chains;
- services enabling e-commerce and the online supply of services;
- services entering trade as value added in merchandise exports.

## 4.1 Trade in Services through Commercial Presence

For a long time, the only statistics permitting to approximate trade in services as defined in the GATS were BOP statistics, even though these only capture a limited part of world trade in services. Indeed, the principal means of supplying services, which is through a commercial presence abroad (GATS mode 3), is not covered by BOP statistics.<sup>7</sup>

Although data on foreign direct investment (FDI) in services sectors are not the appropriate proxy for services supplied through mode 3, the growing importance of FDI in services nevertheless hints at a similar trend for mode 3. Services sectors are now the predominant destination of foreign direct investment (FDI), accounting for about two-thirds of the global FDI stock, compared to less than 50% in 1990 and 25% in 1970 (UNCTAD, 2016).

A more appropriate measure of supply through mode 3 comes from foreign affiliates statistics (FATS), which contain information on sales of foreign owned or controlled enterprises in services sectors. Mode 3 is estimated to account for approximately 53% of world trade in services, compared to 27% for cross-border supply (mode 1), 15% for consumption abroad (mode 2), and 5% for the movement of natural persons supplying services (mode 4) (WTO, 2018c).

The OECD estimates that services account for 43% of sales of foreign affiliates globally. However, this share increases to 58% in value-added terms, that is taking into account the services inputs embodied in the output of manufacturing firms (Andrenelli et al., 2018; Cadestin et al., 2018).

Exports of trade in services under mode 3, measured as output of foreign affiliates in services industries (FATS), is estimated at 8 trillion USD worldwide, higher than services exports captured by BOP statistics. As illustrated in Figure 6, mode 3 exports significantly increased between 2000 and 2014, more than doubling in absolute terms, but sales of foreign affiliates have been strongly impacted by the 2008-2009 financial crisis (Andrenelli et al., 2018). The Figure also shows the extent to which foreign affiliates in services sectors provide services for the host market or for export, highlighting that a growing proportion of their output is exported.

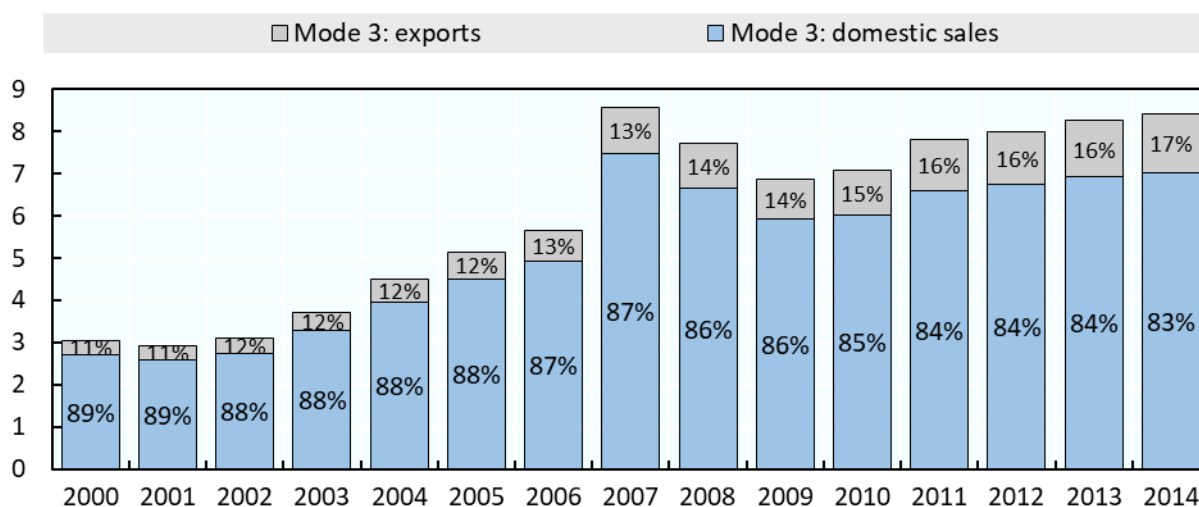
Retail and wholesale trade and financial services are the sectors where the output of affiliates is highest in absolute terms, while, in relative terms, computer and information services is a sector where foreign affiliates represent a particularly large share of total output (i.e., output of all domestic- and foreign-owned firms). Foreign affiliates operating in developing countries tend to have a lower share of their activities in services and focus more on manufacturing than foreign affiliates established in OECD economies. However, activities abroad of affiliates of enterprises of developing countries tend to focus more on services than other sectors (Andrenelli et al., 2018; Cadestin et al., 2018).

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<sup>7</sup> BOP statistics focus on transactions between residents and non-residents, and do not capture services that are supplied within the country through business establishments owned or controlled by foreigners.



**Figure 6: World Trade in Services under Mode 3 (output), USD trillion, 2000-2014**



Source: Andrenelli et al. (2018)

Available FATS statistics for particular developing countries illustrate that services activities of foreign affiliates are important, even in economies with a focus on natural resources, and underscore the importance of regional trade under this mode. In Zimbabwe, which collects inward FATS statistics, manufacturing accounted for 43% of sales of foreign affiliates, mining 8%, and different services sectors accounted for most of the remaining output, including wholesale and retail (22%), insurance and other financial services (24%) (WTO, 2018c). Across all sectors, the larger share of sales is from foreign affiliates from South Africa (24%), followed by the United Kingdom (20%) and China (18%).

## 4.2 Services Provide Essential Infrastructure for Trade in Goods

Services promote trade integration by providing the basic infrastructure on which trade in goods relies. Without efficient services, goods cannot be successfully traded. A diversity of services is needed to bring final goods from their production site to consumers across borders. These include, most obviously, services such as maritime transport (e.g. freight, port services), road transport, air transport (e.g. freight, airports), logistics services (e.g. freight forwarders, customs brokers, storage, warehousing), express delivery services, and distribution services (wholesale and retail).

While hard infrastructure, such as roads or port facilities, has been a traditional focus of development assistance for trade, the quality and cost of the services that make use of such infrastructure are also crucial. Government measures, especially the extent to which competition is facilitated, influences the efficiency of service markets. This enabling environment is strongly influenced by measures that limit trade in services, such as foreign

ownership restrictions or barriers to cross-border supply (e.g. quotas or limits to cabotage in road transport).

In Rwanda, for example, reform of trucking arrangements to allow greater ease of market entry resulted in prices declining by more than 30% in nominal terms, and was associated with an expansion of the domestic trucking fleet. This contrasts with the situation in other countries of the region, where restrictive entry regulations, quotas, and other measures have reduced competition, raising the costs of road transport services, and thereby penalizing farmers by making it difficult for them to get their produce to domestic and foreign markets (Teravaninthorn and Raballand, 2009). This example also suggests that the benefits of reduced border or customs barriers may not be fully realized if other obstacles to the flow of goods, further upstream, are not also tackled (Cadot et al., 2014; Borchert et al., 2017).

Access to such efficient services are also key to participation in global value chains. For example, Lanz and Piermartini (2018) argue that slow or delayed delivery increases costs and limit responses to changes in consumer preferences. They find that the quality of countries' transport infrastructure and logistics services provide a comparative advantage in upstream stages of production in GVCs.

#### **4.3 Services Provide the Infrastructure that Enables E-Commerce and Online Supply**

Services in sectors such as telecommunication and computer services, in particular, but also financial and distribution services, are key enablers of the electronic supply of services and of e-commerce more generally, including cross-border.

Telecommunication services, which encompass Internet, mobile telephony, and data transmission services, provide the basic infrastructure and transport capacity that allow a range of services to be supplied digitally, and also permit goods to be offered and purchased through these networks.<sup>8</sup> Technological developments, such as growth in broadband networks – including mobile broadband – have improved the quality and capacity of these services and brought costs down, making it easier to connect producers, sellers, and consumers across borders.

Advances in digital infrastructure services enhance the tradability of services, as noted in section 2. These technologies reduce the need for establishing a commercial presence abroad or for travel by persons to supply services to foreign markets. Telecommunication services also underpin data flows across borders, which have skyrocketed in recent years (WTO, 2018b). Nowadays, broadband access to the Internet and other data networks offers the higher speeds that are required to exploit newer technologies, such as cloud computing, and to use or offer services that require the transfer of large quantities of data. Cross-border data flows, boosted by basic and value-added telecom services, such as data processing and storage via cloud capacity, allow companies not only to sell their goods and to sell or supply

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<sup>8</sup> Telecommunications are broadly defined in the GATS Annex on Telecommunications as "the transmission and reception of signals by any electronic means".

services, but also to coordinate their logistics and the activities of their subsidiaries and partner offices across the globe (Tuthill, 2016).

ICT services, especially broadband platforms, can have a transformational impact on economic development. They can offer consumers improved and sometimes new access to a wide array of basic and other services and enable companies to develop new products and find innovative ways of reaching their consumer markets, connecting with other companies and managing their internal operations. Indeed, the Internet is now one of the most important business platforms for companies, domestically and internationally. It promotes efficiency because it makes transactions quicker, cheaper, and more convenient to carry out (World Bank, 2016; WTO and OECD, 2015). As noted in the WTO's World Trade Report (2016c; 2018a), to fully reap the benefits of online trade, ICT infrastructure must be in place, the quality of services offered must be adequate and prices must be affordable, especially for SMEs. Policies in services trade play an important role, in particular in terms of enabling – or not – foreign investment to expand the supply of services, and allowing contestability of markets to maintain competitive pressure on prices and quality of services.

#### **4.4 Services Facilitate Supply Chains and Provide Key Inputs to Goods Exports**

Global value chains (GVCs) play a preponderant role in connecting countries through trade, as 70% of world trade is for production in GVCs, where goods and services are traded not as final products, but are used for the production of other products for consumers around the world (OECD, 2018b).

Services, and trade in services, are key enablers of global production networks. Services provide the "glue" that connects the fragmented and dispersed production stages that constitute GVCs (Díaz-Mora et al., 2018). The feasibility of international production networks, as well as their recent growth, have been made possible by, among other things, the significant technological advances that have increased the ease of delivering services across borders. A wide range of services act as enablers of global value chains. Efficient and quality services, such as transport, logistics, communication, and financial services, as well as a wide array of business services are required for GVCs to function (see Low and Pasadilla, 2015).

#### **4.5 Services Entering Trade as Value Added Content in the Export of Goods**

The importance of services in world trade is greatly underestimated when measured in gross terms by BOP statistics. In addition to leaving out the main mode of supplying services, mode 3, BOP statistics do not cover flows of services value-added content that are 'hidden' in goods trade.

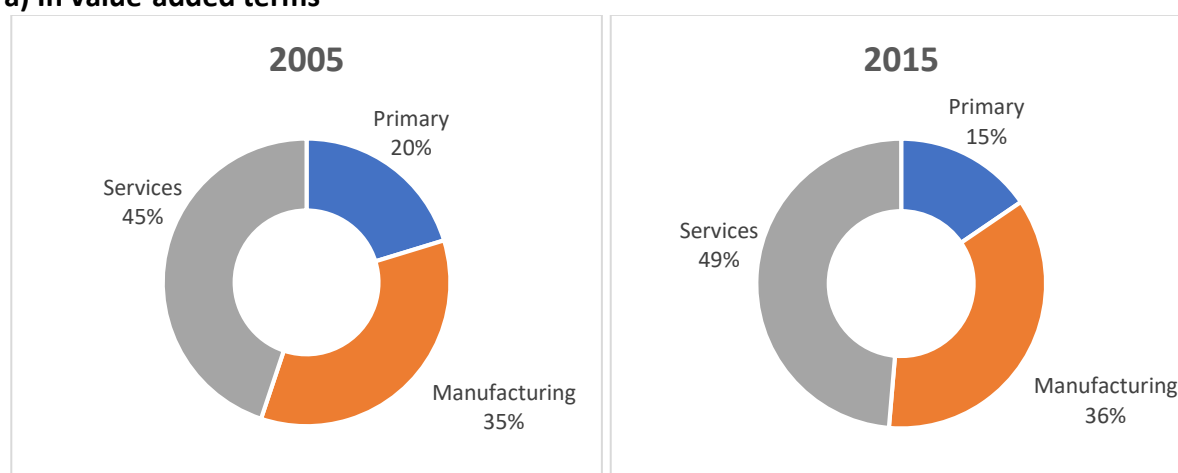
The contribution of services to world trade is more accurately reflected when taking into account services that are exported indirectly, namely services that are embodied in exports of goods. Trade in value added (TiVA) statistics, through the most recent update released in December 2018 with coverage up to 2016 (compared with 2011 previously),

permit to highlight the contribution of services and services trade to manufacturing activities and exports.<sup>9</sup>

When trade is measured in value-added terms rather than gross terms, services account for 49% of world trade (a slight increase from 2005), compared to 15% for the primary sector and 36% for manufacturing (Figure 7). As noted earlier, the 49% share of world trade for services in value added terms compares with a 24% share when services are measured in gross terms (2015).

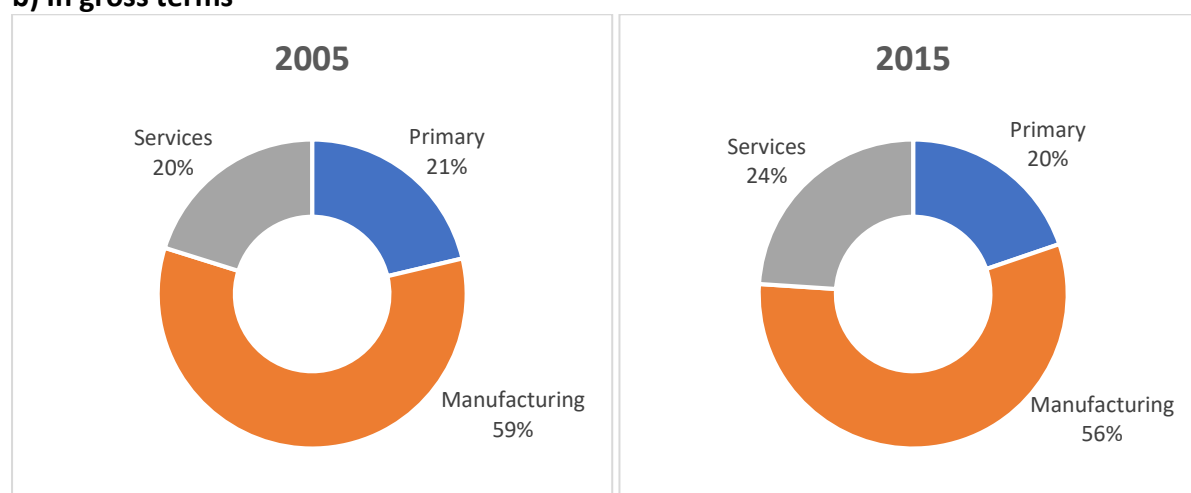
**Figure 7: Structure of World Trade, 2005 and 2015**

**a) In value-added terms**



Source: OECD, Trade in Value Added database

**b) In gross terms**



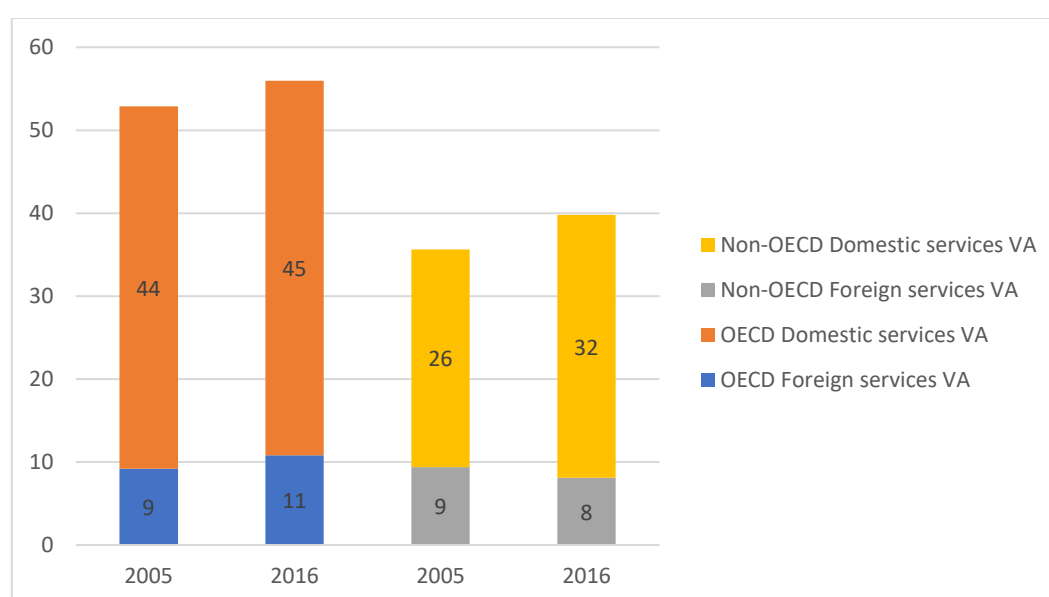
Source: WTO Statistics Database:

[https://www.wto.org/english/res\\_e/statistics\\_e/tradeserv\\_statistics\\_e.htm](https://www.wto.org/english/res_e/statistics_e/tradeserv_statistics_e.htm)

<sup>9</sup> The latest TiVA dataset covers 36 OECD economies and 28 non-OECD economies.

Services value added represents a large and increasing proportion of total gross exports (merchandise + commercial services), reaching 56% on average for OECD economies, and 40% for non-OECD economies in 2016. Since 2005, the contribution of services value added in total exports increased most in non-OECD economies, jumping from 35% in 2005 (see Figures 8 and 9). For example, services content accounts for over 50% of India's total gross exports in 2016, while it reaches a higher share than the average for such countries as Brazil (46%), Costa Rica (61%), Morocco (48%), the Philippines (50%), Singapore (70%), South Africa (41%), or Thailand (43%).

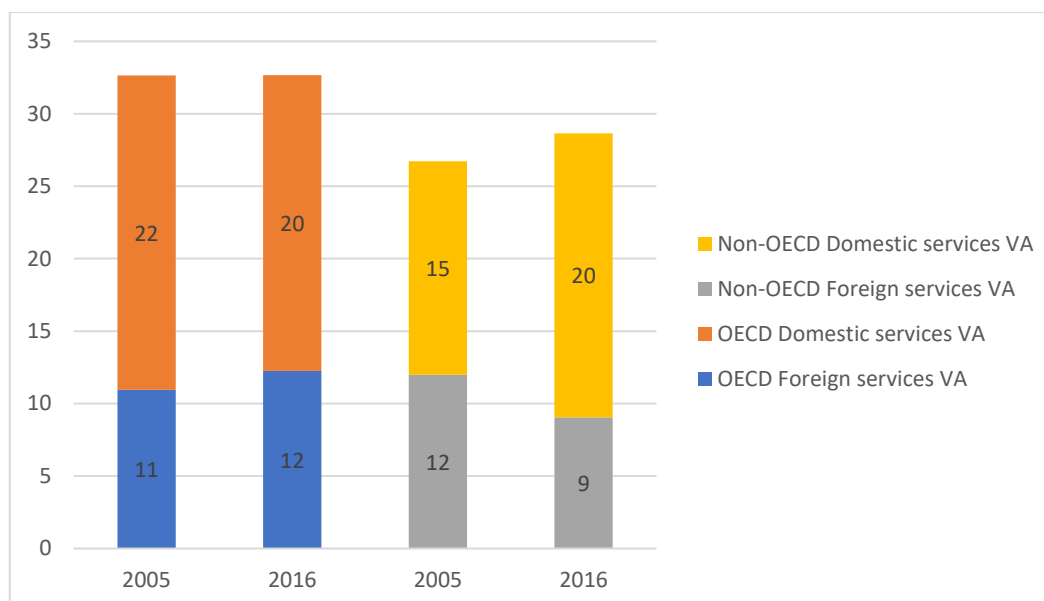
**Figure 8: Services Value Added in Total Exports (goods and services), %**



Source: OECD, *Trade in Value Added* database

Services value added accounts for about a third of manufacturing exports for OECD countries, and slightly less for non-OECD countries (29% in 2016). The significant share underscores the importance of efficient and quality services for the productivity of manufacturing activities and their international competitiveness and export potential. The cost and quality of the underlying services affect the performance of the economy as a whole and are essential for connectivity and the competitiveness of goods exports. Without efficient services, developing manufacturing is a formidable task. Services value added in exports is particularly important for such sectors as chemicals, computer and electronics, food processing, and motor vehicles. Across all manufacturing industries, distribution services and business services are the main contributors to services value added, followed by transport, financial services, and communication and information services (OECD, 2018b).

**Figure 9: Services Value Added in Manufacturing Exports, %**



Source: OECD, Trade in Value Added database

A significant part of services value added, whether in total exports or exports of manufactured products, are 'imported services' (in a BOP sense, i.e., from non-residents). Figure 10 reveals that services value added accounts for at least 50% of total exports in the majority of economies covered in the dataset, and over 30% in all but two cases.

Figure 11 shows that services value added represents 25% to 40% of the content of manufacturing exports for a wide range of economies, and that in many cases a significant proportion is foreign services value added. Services value added in manufacturing exports is quite high for a number of developing economies, including Brazil (35%), Chile (33%), Mexico (36%), South Africa (30%), or Turkey (34%). For the majority of economies covered, the proportion of services value added in manufacturing exports increased between 2005 and 2016, in particular for Australia, Brazil, and China, while the proportion decreased for others (e.g., Indonesia, Germany, Argentina). Naturally, given the growth of manufacturing exports worldwide since 2005, services value added exported through manufacturing products increased significantly in absolute terms. For a number of countries, such as Mexico, Ireland, or Belgium, the foreign share of services value added is greater than the domestic one. While in other countries, such as Argentina, Brazil, China, Japan, or the United States, for example, foreign services content is comparatively small.<sup>10</sup>

<sup>10</sup> Foreign services content, in contrast with the way trade in services is defined in the GATS or other trade agreements, does not here include services provided by foreign suppliers through commercial presence (mode 3), as this is considered 'domestic' services value added for the purpose of TiVA statistics. Considering the services supplied within the territory by foreign establishments would likely increase significantly the proportion of services content that is foreign.

TiVA statistics reveal not only the important role of services in manufacturing competitiveness and exports, but also the contribution of imported services to such exports. Moreover, they underscore that various developing countries, in value-added terms, are significant services exporters and that services occupy a preeminent part in total exports of all countries. Figure 12 shows the contrast between gross and value-added statistics, with the services share of total exports in gross terms suggesting, for all Members, a much lesser role for services than the case in value-added terms. Even in countries where services represent a small proportion of total exports in gross terms, services often account for a significantly larger share of total exports in value-added terms. For example, services amount to 6% of Mexico's total exports in gross terms in 2016, but the proportion jumps to 44% in value-added terms. Similarly, in the case of Argentina, services as a share of total exports goes from 18% to 42%.

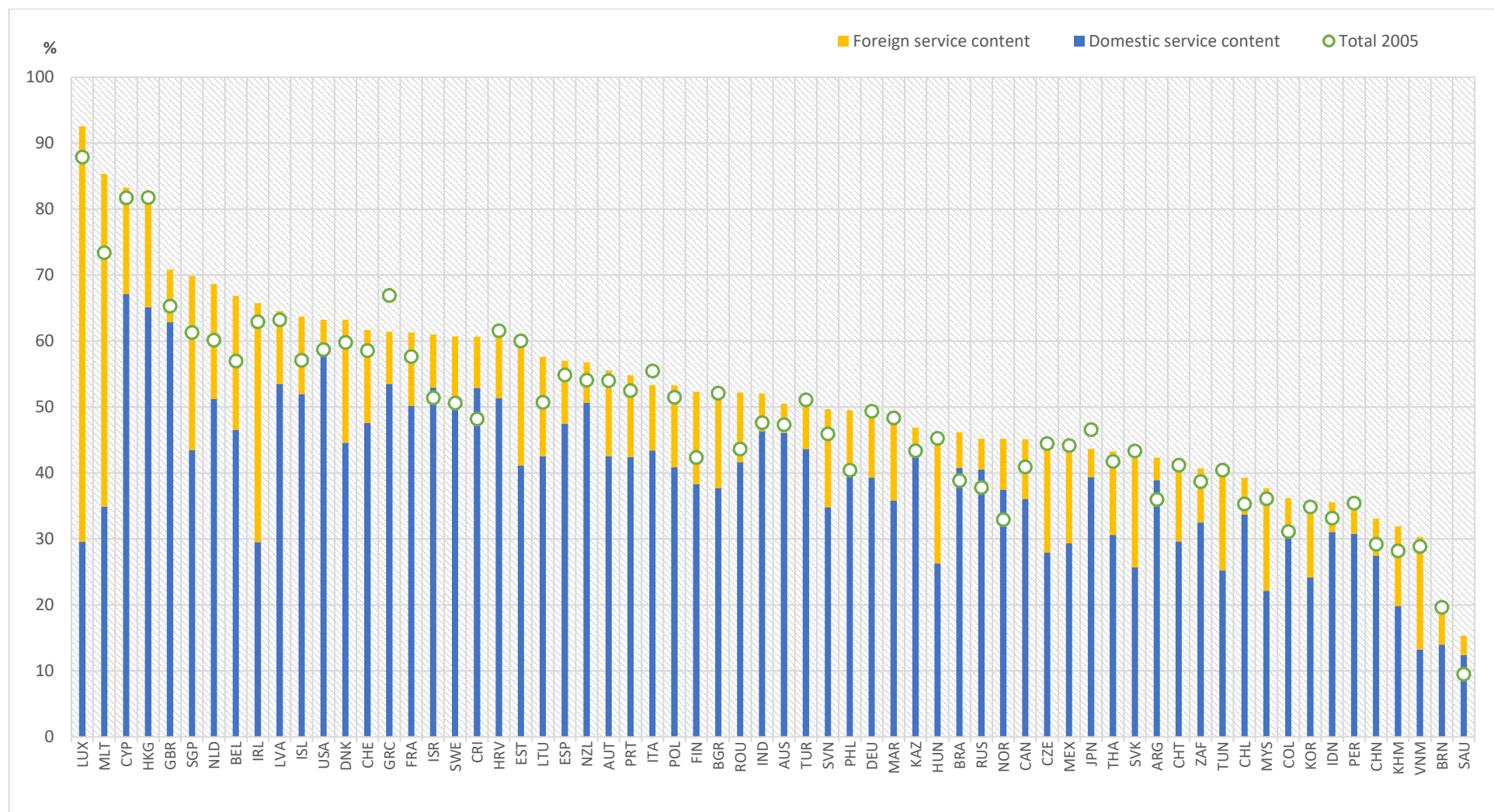
Figure 13 further highlights the services content of total exports for a sample of Members, but distinguishes between domestic services value added that is direct (i.e., services value added in exports of services companies) from the one that is indirect (i.e., services value added in exports of non-services companies). It shows that even for those countries that do not specialize in the direct export of services, services content nevertheless plays an important role in their total exports. For a number of countries, services content in goods exports and foreign services value added are of similar or greater weight than services value added exported by the domestic services sector. This is the case, in particular, for such countries as Brazil, China, Colombia, Malaysia, or Viet Nam.

Looking at trade in value-added terms not only highlights that the share of services in total exports is quite significant, but also suggests that countries at different levels of development specialize in services and have comparative advantage in some services. Countries may specialize in services activities even though they tend to export final goods more than final services. Miroudot and Cadestin (2017b) constructed a measure of revealed comparative advantage (RCA) that is calculated on the basis of the value added originating from different services that are embodied in overall exports of goods or services.<sup>11</sup> They find that various developing countries have comparative advantage in a number of services sectors, for example India in 'IT and other information services'. A number of countries that had no revealed comparative advantage in services when measured in gross terms have a high RCA when assessed on a value-added basis, meaning that they contribute more value added in certain services sectors relative to other countries.

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<sup>11</sup> Such value-added RCA is the share of value-added for a given service sector in a country's export. Countries have a comparative advantage in a sector if the ratio is higher than world average (i.e., > 1).

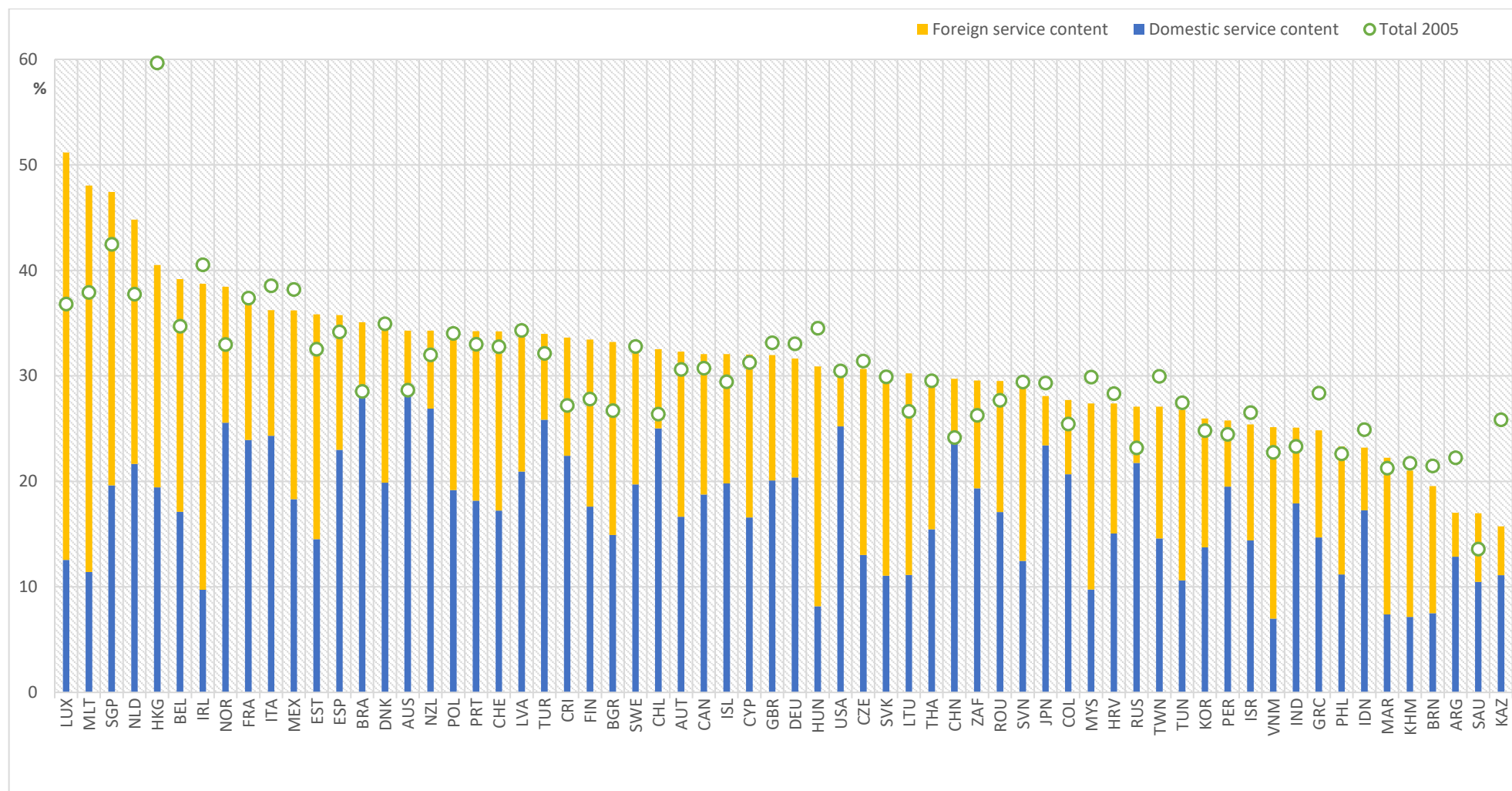
**Figure 10: Services Value Added Embodied in Total Exports (%), by Domestic and Foreign Origin, 2005 and 2016**



Source: OECD, Trade in Value Added database

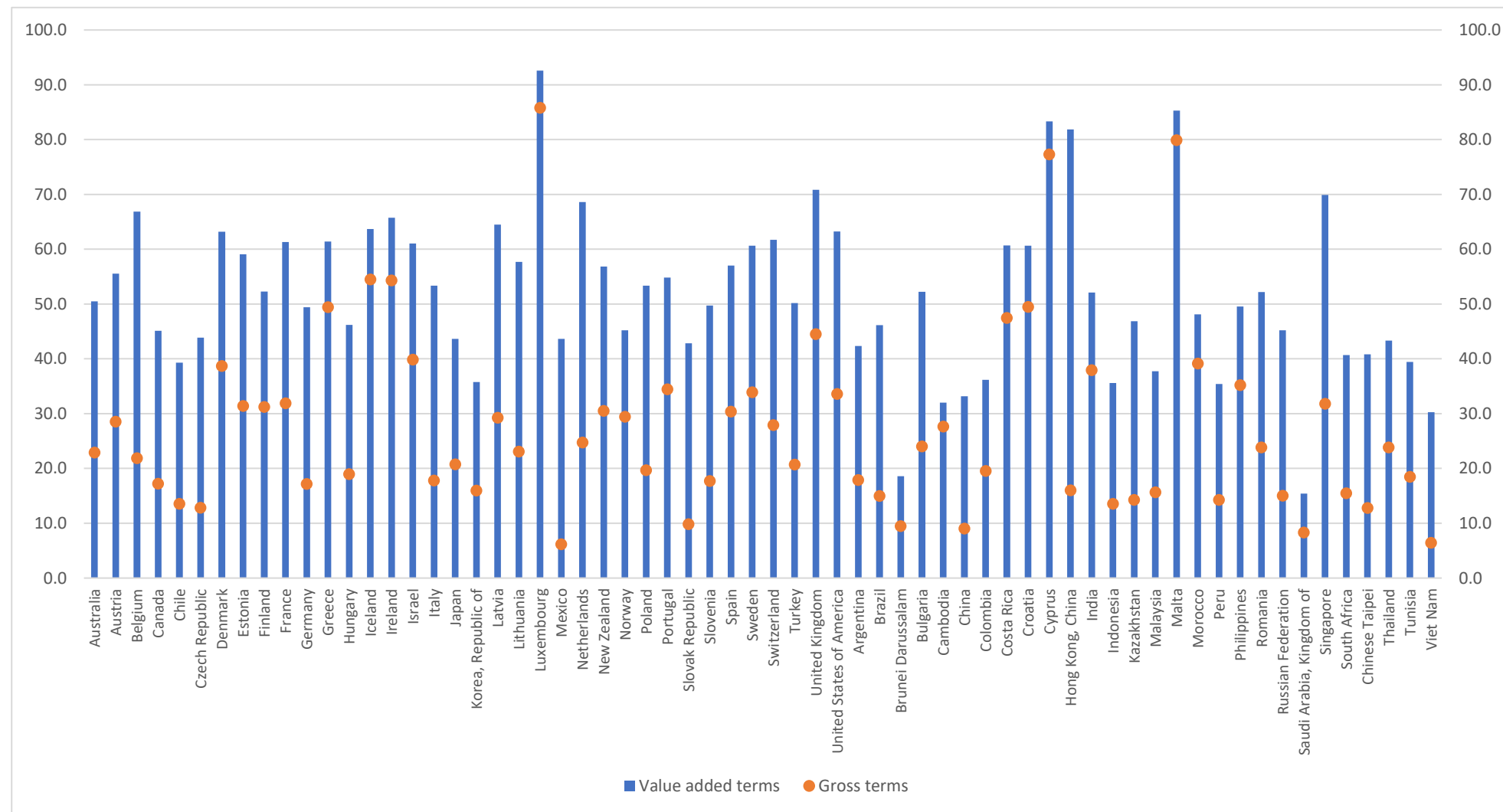


Figure 11: Services Value Added Embodied in Manufacturing Exports (%), by Domestic and Foreign Origin, 2005 and 2016

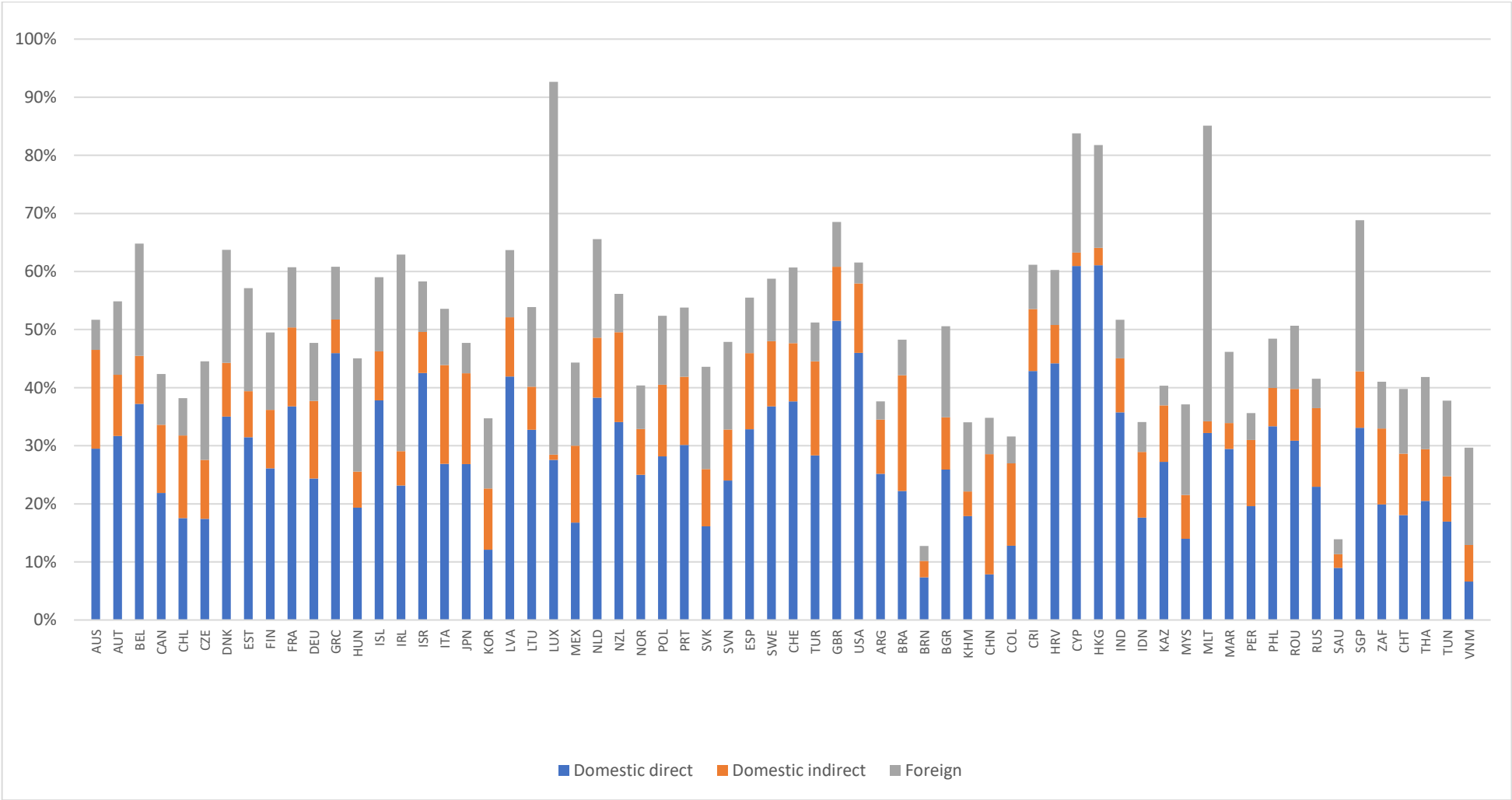


Source: OECD, Trade in Value Added database

**Figure 12: Share of Services in Total Exports, Value Added and Gross Terms (%), 2016**



Source: OECD, Trade in Value Added database  
**Figure 13: Direct, Indirect and Foreign Services Value Added in Gross Exports (%), 2015**



Source: OECD, Trade in Value Added database

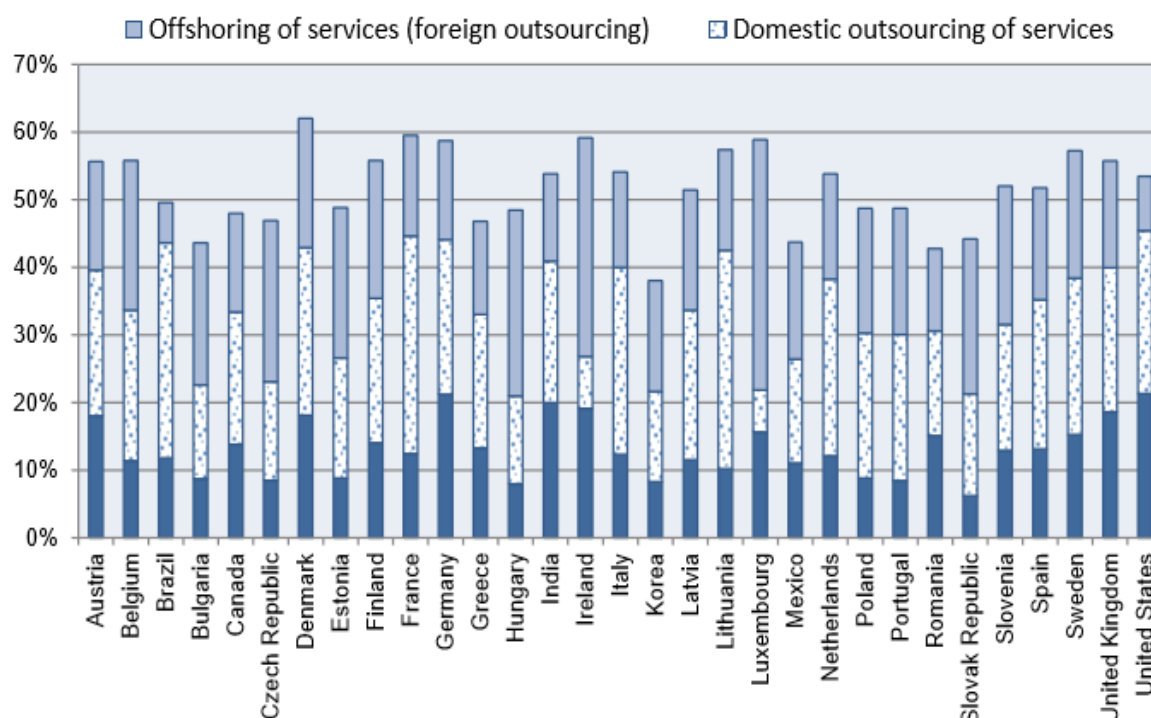
#### 4.5.1 Taking into Account the 'Servicification' of Manufacturing

Recent research also highlights that trade in value-added statistics, while providing a more accurate and comprehensive picture of the role of services in world trade, nevertheless still underestimate its weight of services in world trade. TiVA statistics capture services bought as inputs by enterprises in other sectors, but manufacturing companies also undertake services activities 'in-house', and this is not captured as 'services value added' of manufacturing exports.

The so-called 'servicification' of manufacturing concerns the increasing array of services provided by manufacturing companies that constitute inputs to the goods that they produce or that are supplied along with such goods. The array of services concerned is wide, from after-sale services to transport, research and development, information technology, or professional services. With data for a sample of countries that are mostly OECD economies, Miroudot and Cadestin (2017a) find that services inputs account for 37% of the value of manufacturing exports, but that this share goes up to 53% when adding services activities taking place within manufacturing firms. In that context, the overall contribution of services is estimated at almost two-thirds of total exports.

Figure 14 shows the different sources of services value added in manufacturing exports for a sample of countries. In addition to the outsourced/offshored services value-added (domestic and foreign), which was captured in data presented earlier in this section, the Figure captures services value added relating to in-house activities of manufacturing firms, i.e., 'insourced services' (Miroudot and Cadestin, 2017a). While the contribution of 'insourced' services is smaller than outsourced services, it amounts to about 15% of manufacturing exports for countries covered. Taking into account in-house services, services value added represents about 50% of Brazil's manufacturing exports, compared to less than 40% without (in 2011).

**Figure 14: In-House, Outsourced, and Offshored Service Value Added in Manufacturing Exports (%), 2011**



Source: Reproduced from Miroudot and Cadestin (2017a), p. 20.

Note: In-house services are represented by the dark blue sections of the bars.

## 5 THE CONTRIBUTION OF SERVICES TRADE POLICIES

The previous sections underscored the broad and growing role of services in the trading system. However, the policies applied by governments in relation to services trade have a similarly broad impact on economic and trade performance. Because of the broad scope of trade in services, which extends, for example, to inside-the-border operations or foreign suppliers or the movement of natural persons, services trade policies cover a wide array of government measures (see Box 2) that have a deep impact on the functioning of services markets and, also, on domestic enterprises.

While services trade policies may in the past have suffered from neglect due to lack of data on both policies and trade flows, a wide body of research in recent years has studied its impact on different facets of trade and economic performance. This section reviews key findings from this recent research, in light of the broader role of services in trade integration discussed in the previous section.

## Box 2: Services Trade Barriers and Services Trade Policies

Barriers to trade in services are generally not barriers at the border. They are, rather, embedded in legal and regulatory frameworks and most typically involve government measures that discriminate between foreign and domestic services or suppliers in different modes of supply (GATS Article XVII: National Treatment). Services trade barriers can also take the form of non-discriminatory measures that, for example, limit or restrict the total number of service suppliers or operations; the value of transactions; or the type of legal entity through which a supplier may provide a service (GATS Article XVI: Market Access). Taken together, market access and national treatment measures largely determine the extent to which there is international contestability and competition in a country's service market.

Across modes of supply, services trade barriers may include, for example, monopolies, discretionary foreign investment screenings, foreign equity limits, caps on the number of licences, restrictions on the temporary movement of natural persons supplying services, and discriminatory subsidies or licensing requirements.

Services trade policies may be understood as the existence or absence of services trade barriers, in particular those considered as national treatment and market access measures.

### 5.1 Barriers to Trade in Services Are High

The costs of cross-border trade in services are much higher on average than those of trade in goods. By one recent estimate, trade costs were 277% *ad valorem* for final services and 194% for intermediate services (Miroudot and Shepherd, 2016).<sup>12</sup> While such measures encompass all types of trade costs (e.g. distance, consumer preferences, regulatory divergence) and do not represent measures of protection, barriers to trade in services contribute significantly to estimated services trade costs.<sup>13</sup> The OECD and the World Bank have developed services trade restrictiveness indices (STRI) that capture – by country, mode of supply, and service sector – the extent to which government policies restrict services trade. These datasets show high overall levels of services barriers, although variations across sectors, regions and levels of development are important.<sup>14</sup>

Sectors such as professional and transport services, for example, tend to be more restricted than telecom, computer or distribution services. Figure 15 shows the levels of restrictiveness for a sample of sectors and highlights STRI scores for developing and developed economies. It reveals that developing economies have, on average, higher levels of restrictiveness in all sectors covered. The gap between developed and developing

<sup>12</sup> The approach used in this study does not calculate trade costs relative to a benchmark country, but rather is based on the country's trade in services in relation to domestic consumption of services. Such estimates focus on cross-border trade and do not attempt to assess trade costs for mode 3 (commercial presence) or mode 4 (movement of natural persons).

<sup>13</sup> In a recent study, Jafari and Tarr (2017) calculate *ad valorem* equivalents of services trade barriers on the basis of the World Bank's STRI.

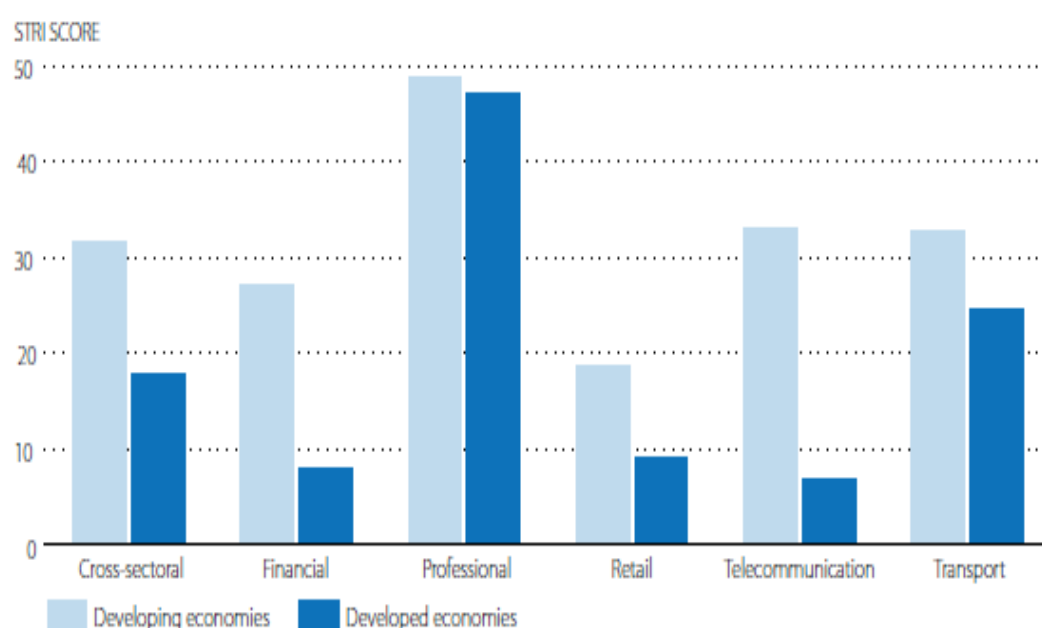
<sup>14</sup> See OECD (2018a) for the OECD's STRI and Borchert et al. (2012) for the World Bank's STRI.

economies is particularly important in telecommunication and financial services, two backbone infrastructure services sectors.

STRI scores also show the extent to which service sectors that are particularly important for trade integration are subject to varying levels of trade restrictions around the world. Sectors fundamental to the movement of goods within and across borders, such as transport services, face significant restrictions in a number of countries. Similarly, despite the role of telecommunication services as enablers for the electronic supply of services and for e-commerce more generally, services trade in mode 3 is limited in a number of countries by restrictions on the establishment and operation of foreign suppliers. Barriers to trade in other services that are important sources of value added in manufacturing exports, such as professional services, are also high.

While research suggests that governments have conducted significant autonomous liberalization since the creation of the WTO in 1995 and have, overall, adopted a greater number of new liberalizing measures rather than restrictions, the number of trade restrictive policies increased in the aftermath of the 2008-09 crisis (Roy, 2016). More recently, even though services seem to have been shielded from protectionist pressures to a greater extent than goods trade, the OECD (2018a) found that, for 44 countries studied, the effect of new trade restrictive measures has been larger than those of trade facilitating measures between 2014 and 2017, even if liberalizing measures were more numerous than trade-restrictive ones. This results from broad scope of a number of the new restrictive policies, which sometimes applies across several sectors (OECD, 2018a; WTO, 2018a, pp. 85-86).

**Figure 15: STRI Scores for Developing and Developed Economies, by Sector**



Source: Computed on the basis of the World Bank's STRI:

<http://iresearch.worldbank.org/servicetrade/home.htm> Accessed on 18 December 2018.

## 5.2 The Impact of Services Trade Policies

The growing availability of data on services regimes and on trade flows has enabled research on the restrictiveness of services trade policies, which have been found to negatively impact trade and the broader economy in various ways.

### 5.2.1 Barriers to Trade in Services Affect Productivity and the Performance of Services Sectors

Services sectors with lower trade costs – which are themselves associated with lower services barriers – tend to be more productive and to have higher growth in productivity than those with higher trade costs (Miroudot et al., 2012). Across developed countries, services policies, in particular restrictions to FDI in services, have been found to explain differences in total factor productivity, which in turn largely mirror differences in productivity growth (Van der Marel, 2012).

Not surprisingly, a negative correlation also exists between entry barriers and regulatory restrictiveness in services, on the one hand, and investments in digital technologies and ICT on the other (World Bank, 2016). This suggests that barriers to entry and competition in service sectors reduce the incentive of suppliers to invest in digital technologies (e.g. use of cloud facilities by transport companies, supply of online services by professional services firms, or use of the Internet by retailers).

Barriers to trade in services may also shield domestic suppliers from competition, leading to higher prices and reduced incentives to invest, innovate, or otherwise improve service quality. Services trade restrictions, measured by the STRI, are negatively associated with performance in a number of important service sectors, as measured by comparable indicators across a broad range of countries. For example, countries that are more trade restrictive in commercial banking have less-developed credit markets (Nordås and Rouzet, 2016).

### 5.2.2 Restrictive Services Trade Policies Limit Physical Connectivity

Services trade policies also have an impact on physical connectivity, as higher levels of services trade restrictiveness in logistics, maritime and road transport are associated with greater delays in the domestic legs of transport (Nordås and Rouzet, 2016) (Figure 16).

Focusing more specifically on the transport of containerized cargo on liner vessels, a study finds that government restrictions in the shipping sector, especially in relation to foreign investment, significantly increase maritime transport costs (Bertho et al., 2016). Because most global trade in merchandise takes place through this mode of transport, these restrictions considerably reduce seaborne trade flows.<sup>15</sup>

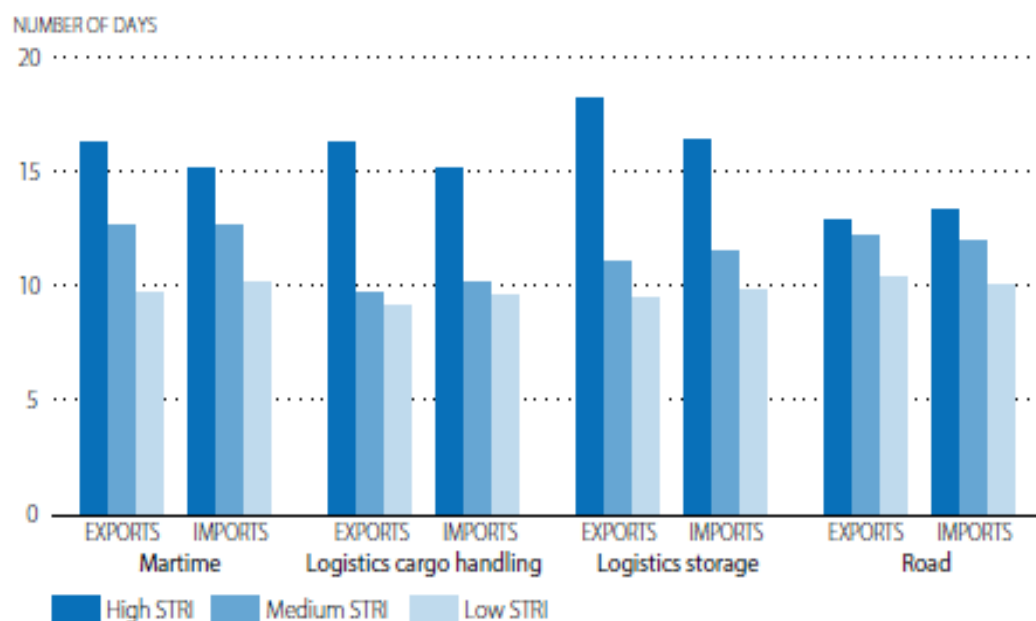
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<sup>15</sup> Restrictions are found to increase shipping costs by 26% to 68% and to reduce trade flows by 48% to 77%.



As noted earlier, policy restrictions in the road transport sector increase the price of trucking services, and thereby trade costs, especially for landlocked countries. In Africa, for example, evidence suggests that the high price of transport results, in good part, from government policies regulating the sector (Raballand and Macchi, 2009).

**Figure 16: STRI in relation to Export and Import Times (averages, 2014)**



Source: Nordås and Rouzet (2016).

### 5.2.3 Services Trade Restrictions Have a Negative Impact on Foreign Investment

Recent research finds that services trade restrictions are associated with reduced foreign investment inflows and lower output of foreign affiliates. Countries with lower restrictiveness are significantly more likely to attract foreign investment in services than countries with more trade-restrictive regulatory frameworks (Rouzet et al., 2017). Furthermore, restrictions not only limit new investments, but are also associated with lower sales for foreign affiliates already established in the host country. While overall services restrictiveness has a negative impact, the influence of barriers to mode 3 are naturally more significant. Andrenelli and others (2018) find, for example, that liberalization in the form of a 5-basis point decrease in the STRI for mode 3 would be associated with a 22.5% increase of foreign affiliates' sales of services.

Aside from affecting foreign suppliers, regulatory restrictions also discourage small domestic firms and newer firms from competing in a market. This dissuading effect can limit investments in new technologies and network infrastructure, and restrain expansion in productive capacity, as well as curbing competition and availability of high-quality, low-cost services.

Research also finds that higher services restrictiveness not only leads to lower output of foreign services affiliates, but also that the output of foreign affiliates in manufacturing sectors is negatively affected by barriers to the establishment and operation of foreign services affiliates (Andrenelli et al., 2018).

#### **5.2.4 Restrictions on Services Trade Negatively Impact Manufacturing Productivity and Goods Trade**

Services trade policies also have implications for international merchandise trade. Achieving a reduction in trade costs for goods largely hinges on improving the performance of the services used by goods-producing enterprises, reducing their cost and increasing their diversity and quality (Hoekman and Shepherd, 2017). A body of country-specific research has firmly established that openness in services trade positively affects the productivity of manufacturing industries (Arnold et al., 2011; Arnold et al., 2015; Arnold et al., 2008; Duggan et al., 2013).

Recent studies also emphasized the role of FDI policies in service sectors in that context. Using data for over 100 developing countries, Hoekman and Shepherd (2017) find that openness in services trade is a significant determinant of performance in manufactured exports, with inward FDI being the main channel through which services policies negatively affect exports.<sup>16</sup> This is consistent with earlier research suggesting that investment openness is an important determinant of countries' participation in global value chains – even more important than tariff barriers (WTO and OECD, 2015; Kowalski et al., 2015).

Beverelli and others (2017) determine that increased services trade openness has a positive impact on the productivity of manufacturing sectors that use services as inputs in production in a sample of 57 developed and developing economies, and that benefits are larger for countries with stronger institutions. The implication is that weak governance may limit the benefits of lower price and higher quality services inputs to downstream industry, as it discourages foreign suppliers from establishing despite liberalization or leads established suppliers to operate inefficiently.<sup>17</sup> Fiorini and Hoekman (2018a) find that the impact of openness to trade under mode 3 on manufacturing productivity in a sample of European countries is important, but that productivity effects also depend on the quality of (pro-competitive) domestic economic regulation.

In similar fashion, another strand of literature underscores, more specifically, the impact of reduced services barriers on manufacturing exports, given services' role as inputs. Wolfmayr (2012) finds that services inputs have a positive and significant effect on the manufacturing export shares of European countries. When distinguishing between foreign and domestic services inputs, only foreign services have an impact. Focusing on financial and

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<sup>16</sup> Hoekman and Shepherd (2017) find that a 10% increase in services trade restrictiveness is associated with a 5% decrease in bilateral trade in manufactured products. In terms of sectors, trade/investment restrictions on transport services and retailing services have the largest impact on the export performance of merchandise goods.

<sup>17</sup> See also Fiorini and Hoekman (2018c). On the role of bureaucratic or institutional quality in the context of services trade and commitments, see Van der Marel (2016) and Roy (2011).

business services, Liu and others (2018) find that the level of development of these sectors enhance the revealed comparative advantage of manufacturing sectors that use intensively these services. Results also suggest that countries with less developed services sectors can promote their manufacturing exports by reducing barriers to trade in services and relying on imported services inputs to by-pass inefficient domestic services. Using a sample of 63 developed and developing economies, Diaz-Mora and others (2018) find that a greater share of foreign services value added in manufacturing exports contribute to more resilient and stable export relationships.

Other recent research highlights the close relationship between goods and services trade, finding that companies are more likely to source services and goods inputs from the same country, and that increases in barriers to goods imports reduce services imports from the same market, and vice-versa (Ariu et al., 2019).

### **5.2.5 Restrictions on Trade in Services Negatively Affect Services Value Added in Exports**

Miroudot and Cadestin (2017b) examined how services restrictiveness affects bilateral trade flows of services value added within GVCs. Empirical results indicate that higher services restrictions (i.e., higher STRI) are associated with lower flows of services value-added within GVCs. The trade barriers of the exporting and importing countries each exert an overall negative impact on services value-added flows, denoting that barriers prevent final producers from using imported services inputs. The results hold for both manufacturing and services GVCs, though the negative impact of services barriers is higher in the former.

The study also suggests that the services trade barriers in the exporting economy tend to have greater negative impact than services barriers in the destination country. This provides support for the theoretical expectation that barriers to trade affect the level of competition in domestic services markets, leading in turn to less efficient and performing services, and thereby limiting the services value added exported. The implication is that domestic reforms of services trade policy can bring important benefits for countries that export services value added, including indirectly through exports of manufactured products. On the other hand, results showing the negative impact of services barriers in destination countries are in-line with the argument that foreign services barriers limit the capacity of domestic suppliers from accessing foreign markets, and restrain their capacity to benefit from economies of scale.

### **5.2.6 Restrictions Limit Cross-Border Trade in Services**

Other studies show that restrictiveness in services trade raises costs for foreign exporters, thereby limiting cross-border trade in services – including services supplied over digital networks.<sup>18</sup> These restrictions also limit the services exports of the country imposing the measures (Nordås and Rouzet, 2016). This may be because restrictions, by limiting competition, negatively affect the performance of domestic suppliers, reducing incentives to

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<sup>18</sup> Cross-border trade in services here refers to transactions between residents and non-residents, and essentially serves as a proxy for modes 1, 2 and (in part) mode 4.

improve efficiency through innovation, adoption of new technologies and investment. This, in turn, affects the capacity of domestic suppliers to compete in international markets. Also, because services companies, like producers of manufactured goods, use inputs from other service sectors, raising the cost of imported inputs can make them less competitive and limit their export potential (Nordås and Rouzet, 2016).<sup>19</sup>

### 5.2.7 Trade Barriers in Telecommunications Services Limit Efforts to Bridge the Digital Divide

Policies in services trade also play a key role in the development of the backbone infrastructure that enables digital trade, with resulting impacts on the domestic economy as a whole.

Over the past 25 years, regulation in the telecommunication sector has undergone fundamental transformations. A large majority of countries have moved from monopolies to regulatory environments that encourage effective competition, with reduced barriers to entry and often privatized state-owned incumbents (ITU, 2016b). Many studies have found that these changes have been associated with enhanced affordability, as well as higher quality and greater diversity of telecommunication services (Lestage et al., 2013).

Moreover, as noted by the ITU (2017), countries that have introduced quality regulation – including, in particular, regulation allowing competition – have had greater success than other countries in stimulating market growth and developing their digital economy. Positive regulatory settings are necessary to drive ICT investment, use and uptake. Bridging the digital divide, therefore, hinges largely on government policies.<sup>20</sup> A study of 165 countries shows that between 2001 and 2012, mobile broadband penetration levels were 26.5% higher in countries with competitive markets (UN, 2013; ITU, 2014).<sup>21</sup>

Open trade and investment policies in the telecommunication sector, supported by adequate regulatory frameworks, can thus be seen as key building blocks for the development of quality infrastructure to help reduce the digital divide and take advantage of digital opportunities. Policies affecting foreign commercial presence may prove to be a particularly determinant factor. Studies have shown that markets characterized by more intense competition have seen greater price decreases and improved services; others have linked telecom liberalization to higher GDP growth rates (Mattoo et al., 2006; Eschenbach and Hoekman, 2006), as well as higher productivity of firms in other sectors of the economy (Arnold et al., 2008; Balchin et al., 2016).

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<sup>19</sup> The negative impact of high STRI scores on exports may be due, at least in part, to the fact that services trade barriers are not always discriminatory, but rather include behind-the-border measures that impose costs on domestic suppliers as well.

<sup>20</sup> The ITU (2017) observed that significant gaps persist between developing and developed economies with respect to Internet access and, even more so, broadband access. In developed economies in 2016, fixed and mobile broadband subscriptions covered, on average, 30.1% and 90.3% of the population, respectively; in developing economies, these penetration rates stood at 8.2% and 40.9% (ITU, 2016a). The cost of mobile broadband is also much higher in a number of developing countries.

<sup>21</sup> Higher STRI scores in telecommunication services are associated with lower penetration rates for fixed, mobile and broadband Internet (Nordås and Rouzet, 2016). See also Borchert et al. (2017).

## 6 GAPS IN INTERNATIONAL SERVICES COMMITMENTS

Services trade policies often do not seem to reflect the economic importance of the sector, as existing barriers are high despite broader effects on productivity, inward FDI, and manufacturing competitiveness and exports. But the gap between the importance of services sectors for economic development and international services commitments is arguably even wider.

Members have so far made uneven use of GATS commitments to promote a trade policy conducive to reaping benefits of services liberalization. Overall, multilateral commitments generally do not guarantee the current applied level of openness of services trade policies, and do not match the role that services play, including in developed and developing Members' exports in value-added terms.

Specific commitments on market access (Article XVI) and national treatment (Article XVII)<sup>22</sup> in relevant sectors can be used to encourage further competition and investment in services sectors and enhance the credibility of policy plans. Also, commitments guaranteeing existing levels of access ensure transparency and predictability, and prevent surges in protection that would reduce competition.

Uncertainty stemming from the absence multilateral commitments carries additional trade costs. Research underscored that the predictability of market access conditions underpinned by the WTO system of disciplines has commercial value in itself (WTO, 2014). In the case of goods, trade policy uncertainty – measured as the gap between bound and applied tariffs (also known as tariff “water”) – is a significant trade impediment (Osnago et al., 2015).<sup>23</sup> Recent studies corroborate that services commitments in the GATS, as well as in RTAs, have a positive impact on services trade (cross-border or through commercial presence) when controlling for applied levels of openness. Further, services commitments that bind the *status quo* incite trade more than commitments that have 'water' (Lamprecht and Miroudot, 2018; see also Ciuriak and Lysenko, 2016).

However, multilateral services commitments are, overall, modest. GATS schedules can be analysed at two general levels (see Adlung and Roy, 2005). First, the breadth of commitments, which refers to the sectoral scope of market access commitments undertaken, and, second, the depth of commitments, which concerns the levels of access and treatment that have been bound under each mode of supply for sectors committed.

As regards sectoral coverage, the majority of WTO Members do not have commitments in the majority of services sectors. On average, schedules of WTO Members have specific commitments in just over a third of all services subsectors. Sectoral coverage varies significantly across different groups of Members, with developed economies having, on

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<sup>22</sup> See Box 2 in Section 5.

<sup>23</sup> This study, which covers 149 countries, shows that the elimination of tariff water increases the probability of exporting by 12%; a 1% decrease in water increases export volumes by 1%. The study also finds that, on average, trade policy uncertainty is equivalent to a level of tariffs between 1.7% and 8.7%.

average, more commitments (about two-thirds of sub-sectors covered) than developing countries (about 30%), which in turn have more than LDCs (22%). As is well known, Members that went through the process of accession to the WTO have tended to undertake more commitments than original Members. While sector coverage varies across groups, it also varies significantly within each group. For example, among developing countries, a Member had only one subsector committed, while another had as many as 132.

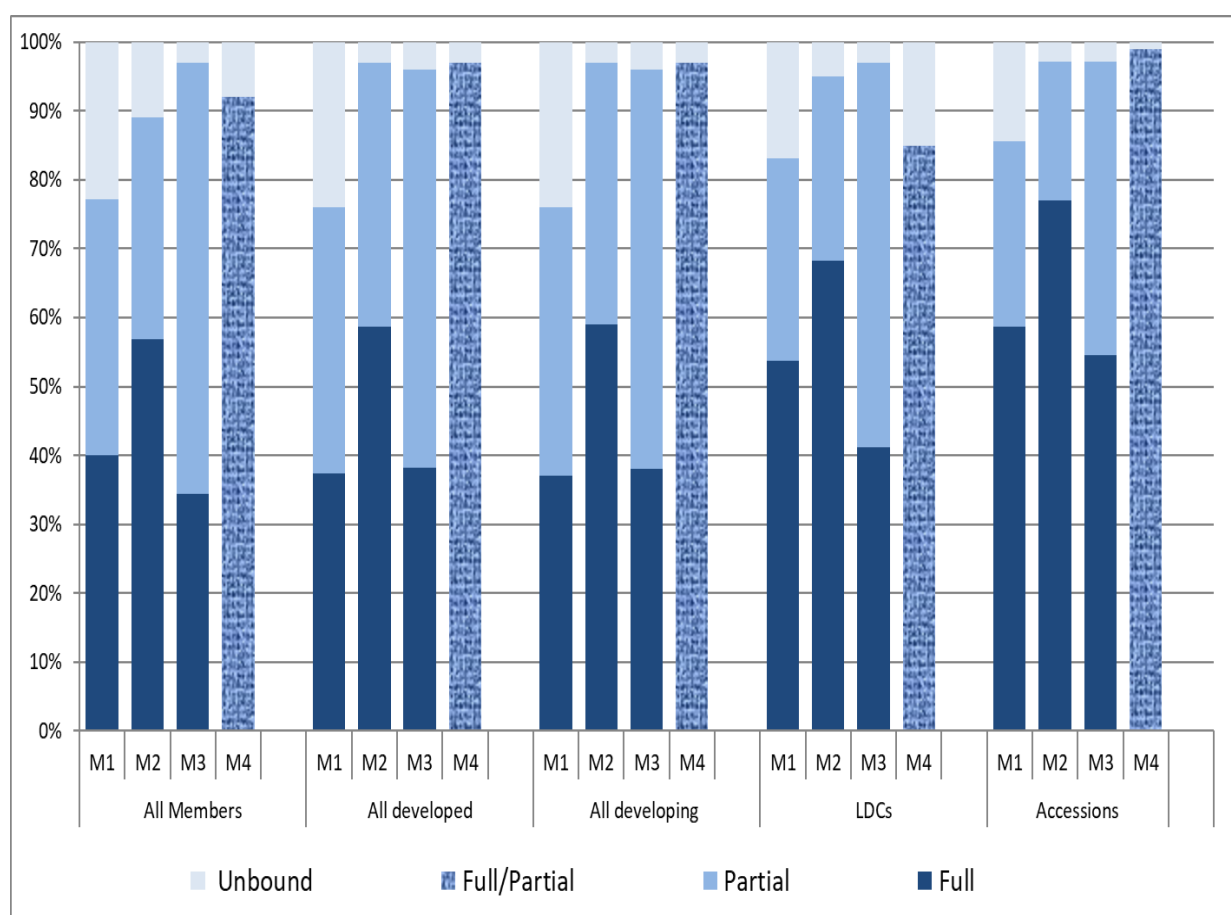
Some groups of services sectors have tended to attract more commitments than others. For example, tourism, financial, and telecommunication services have attracted certain commitments from the majority of Members, while other sectors have attracted fewer commitments, such as maritime transport (39% of all Members), distribution (43%), postal-courier, educational (39%), environmental (44%), health (38%), or audiovisual services.

The second level of analysis looks at the level of treatment bound for each subsector committed, per mode of supply. A basic and straightforward way to summarize the levels of treatment bound is to focus on each of the modes of supply for each subsector, and distinguish between full commitments (i.e., unrestricted, or without any market access or national treatment limitation), partial commitments (with some limitation(s) to market access/national treatment), and 'unbound' (no commitment on market access/national treatment for a particular mode of supply). As illustrated in Figure 17, sector-specific commitments on mode 3 tend to be subject to more limitations, mode 2 commitments are more unrestricted, while mode 1 is relatively more 'unbound'. Mode 4, for its part, is typically subject to cross-sectoral entries that limit commitments to certain categories of natural persons. This general pattern does not vary extensively across different groups of WTO Members.<sup>24</sup>

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<sup>24</sup> The importance of 'partial commitments' would be increased (and that of 'full commitments' reduced) if horizontal limitations were taken into account as most Members have such cross-sectoral limitations in their schedules, especially as it regards modes 3 and 4.

**Figure 17: Average Levels of Commitment by Mode of Supply for Subsectors Scheduled (%), by Groups of Members**



Source: WTO Secretariat, December 2018.

Note: The schedule of the European Communities (12) is counted as 1. Horizontal limitations are not taken into account in determining whether sector-specific commitments are 'full' or 'partial'. The number of services subsectors is based on the Services Sectoral Classification List (MTN.GNS/W/120).

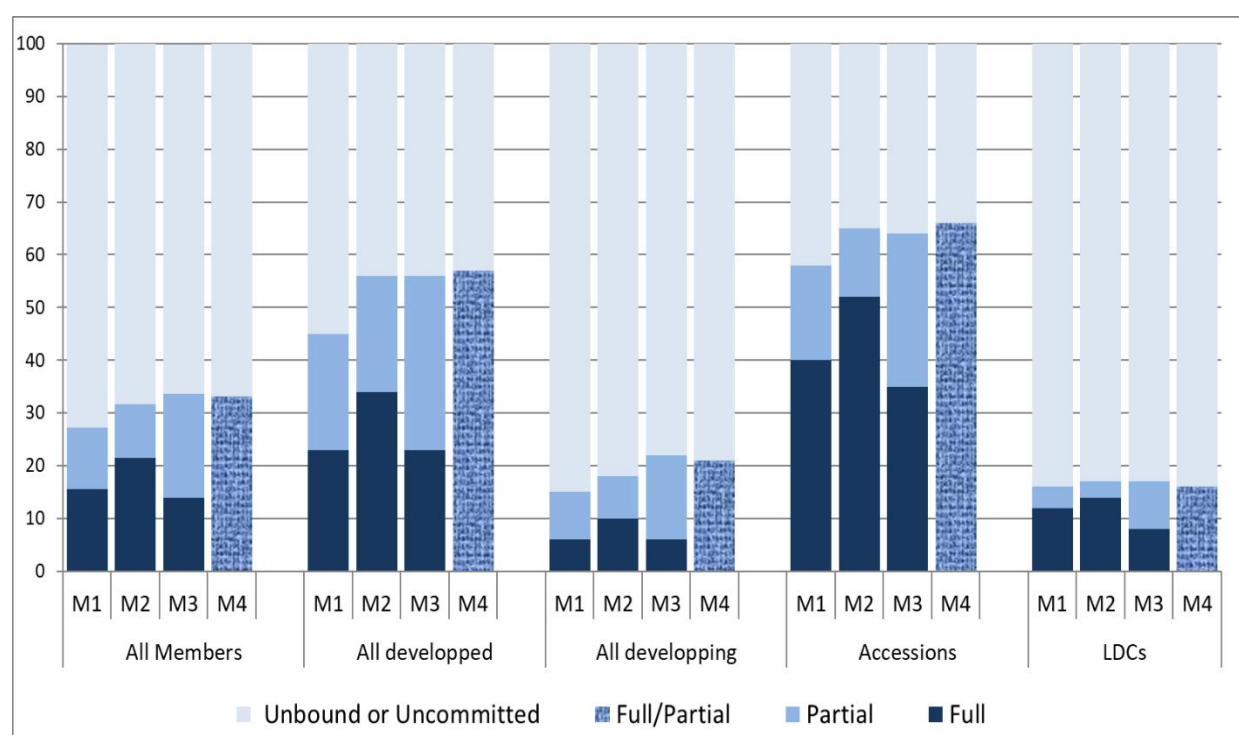
Combining the two levels of analysis – sectoral coverage and levels of commitments – provides a more comprehensive picture. Figure 18 does this by reflecting the average proportion of services subsectors that are either uncommitted or unbound for a particular mode of supply ("unbound"). In that context, the average incidence of full, or even partial commitments, at the sector-specific level is rather limited.

The situation varies significantly across different sectors, as illustrated in Table A1. For example, the proportion of schedules that contain commitments on cross-border supply and commercial presence for such digital infrastructure services such as voice telephony, computer services, and online information and database retrieval, for example, is higher than in a number of other services sectors, though more than one third of schedules provide no guarantees of treatment in these areas. For its part, retailing services is uncommitted in the majority of Members' schedules. Further, the number of schedules containing commitments on mode 1 is limited in relation to services where the increasing performance of digital

networks provide opportunities for cross-border electronic supply, such as accounting, engineering, research and development, advertising, audiovisual, or educational services.

Further analysis has been conducted to provide a clearer picture of the level of openness/restrictiveness suggested by GATS commitments by looking the type and scope of limitations listed (Gootiiz and Mattoo, 2009; Miroudot and Pertel, 2015). Indeed, 'partial' commitments may sometimes be highly restrictive, and others much less so. A number of sector-specific commitments do not bind the existing level of openness, and provide instead more restrictive guarantees than allowed in practice, especially in view of the autonomous liberalization that has taken place since Uruguay Round commitments were undertaken.

**Figure 18: Average Levels of Sector-Specific Commitments by Mode of Supply for All Subsectors (committed or not) (%), by Groups of Members**



Source: WTO Secretariat, December 2018.

Note: The schedule of the European Communities (12) is counted as 1. Horizontal limitations are not taken into account in determining whether sector-specific commitments are 'full' or 'partial'. In this Figure, the subsectors that are considered 'unbound' includes those subsectors that are uncommitted. The number of services subsectors is based on the Services Sectoral Classification List (MTN.GNS/W/120).

This contrasts with commitments undertaken by various Members in services RTAs. Even though the level of participation of WTO Members in services RTAs is unequal, the number of agreements notified under the WTO has skyrocketed: from just 6 as of 2000 to 156 by the end of 2018. A wide proportion of the Membership is now party to at least one services



RTA, services routinely figure in RTAs signed by developed economies, and the number of services agreements among developing countries has grown fastest in recent years.<sup>25</sup>

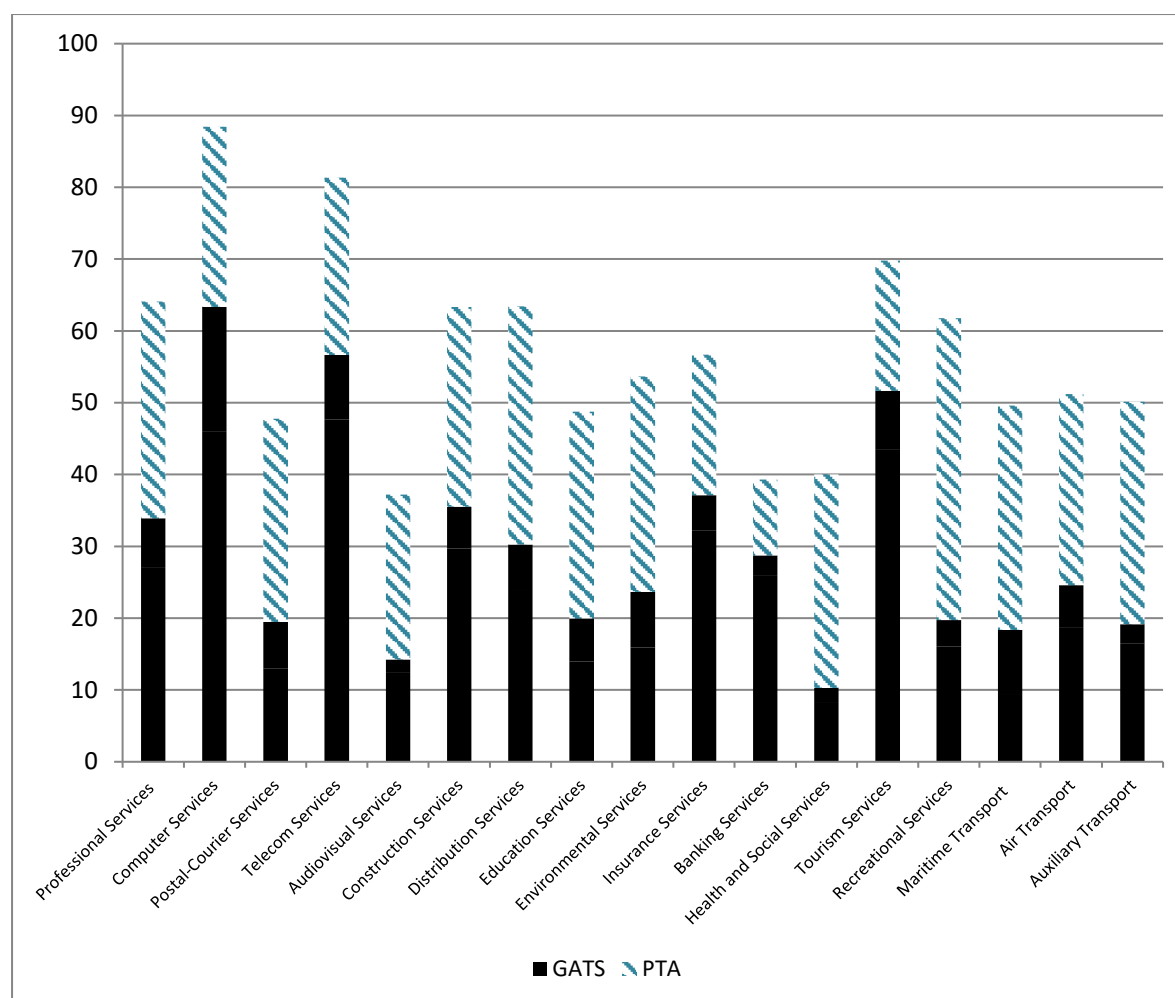
As documented in various studies (Roy et al., 2007; Marchetti and Roy, 2008; Fink and Molinuevo, 2008; Marchetti et al., 2012; Roy, 2014; Van der Marel and Miroudot, 2014), parties to services RTAs have undertaken, on average, significantly higher levels of commitments than under the GATS, as illustrated in Figure 19. This body of research showed how GATS+ commitments in RTAs varied across sectors, modes, countries of different regions and levels of development, as well as across agreements of different types of legal architecture, and examined the role of reciprocity in commitments among RTA parties in different sectors and modes of supply. Research focusing on determinants of the gap between GATS and RTA commitments on services find that such factors as the quality of governance, market size, skill endowments, and asymmetries between parties are relevant in accounting for GATS+ commitments in RTAs (Van der Marel and Miroudot, 2014), while others emphasize that the coherence and level of restrictiveness of parties' regulatory frameworks, as well as the importance of parties' bilateral merchandise trade, have a positive impact (Shingal et al., 2018).

Overall, the large gap between services commitments in RTAs and the WTO suggests that the former, at least in a number of cases, are more responsive to the evolving role of services in the global economy. In contrast with RTA disciplines on merchandise trade, most services RTAs – in spite of some important exceptions – provide for little or no new liberalization in practice, but have rather managed to bind existing levels of access and non-discrimination to a much greater extent than under the GATS.

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<sup>25</sup> The majority of services RTAs notified to the WTO since 1 January 2015 have been agreements involving developing countries, rather than north-north or north-south agreements.

**Figure 19: Index of GATS+ Commitments in Services RTAs, by Sector**



*Note: Based on commitments undertaken by 53 WTO Members (counting EU as 1) in 67 services RTAs (Roy, 2014)). The index score is brought within a scale of 0 to 100 for each sector, with 100 representing full commitments (i.e., without limitations) across all relevant subsectors. "GATS" reflects the index value for both GATS commitments and services offer in the DDA. "PTA" reflects the index value for a Member's 'best' RTA commitments across all its RTAs. The score for EU commitments is for the EC-15.*

## 7 CONCLUSION

The service sector is the largest contributor to economic activity and employment, and accounts for the greater number of enterprises, including SMEs, in most countries. Services trade and policies now play an increasingly important role in the global economy, including through their impact on foreign direct investment, economy-wide productivity, digital connectivity, and manufacturing competitiveness and exports. Trade in value-added statistics underscore that services are important for countries at all levels of development.

Still, limited attention is paid to services trade policies, which, overall, are relatively restrictive despite economy-wide costs. This persists despite the fact that services trade policies, which reach deep within borders, can be determinant in overcoming local bottlenecks and obstacles to domestic economic integration and efficiency.

WTO commitments are even more out of step with the role of services in the global economy. While more has been achieved in a number of services RTAs, especially in terms of providing for greater certainty and predictability by guaranteeing existing levels of openness, the set of bilateral and plurilateral RTAs only cover a segment of world services trade.

The purpose of this paper is not to explore the various factors that could explain this gap, even though the literature suggests a number of avenues in this regard. Among those, one reason for the more limited liberalization in services may have to do with the regulatory intensity of a number of services sectors (e.g., financial services, telecoms). Even though the removal of national treatment and market access barriers does not prevent the use of other governmental measures and therefore does not impede regulation or re-regulation, the importance of sound regulatory frameworks to accompany liberalization efforts has often been noted (see, for example, Van der Marel, 2016; Beverelli et al., 2017; Fiorini and Hoekman, 2018a). For example, transiting from a monopoly to competition in the telecom sector typically implies modifying regulatory frameworks. In that sense, liberalization in services can be more complex than the lowering of tariffs on certain goods, and this may partly explain why services barriers remain higher than for goods. In addition, designing and implementing revised regulations to best accompany liberalization can also pose some challenges to certain developing countries with more limited capacity.

Another possible explanation for the gap likely rests with institutional obstacles within governments that make it more challenging to formulate common approaches to services trade policy. Responsibilities for services are typically scattered across a wide diversity of government actors, including sectoral ministries. The main governmental responsibility for policies affecting services trade will vary depending on the sector at issue or the mode of supply concerned. This encourages a piecemeal approach that focuses on the specific features of each sector or mode, rather than a holistic one that concentrates on the broader contribution of the service sector.

This also poses certain challenges for trade ministries that seek to craft commitments in the context of an international negotiation. The gap between services commitments and the importance of the sector may in some cases be linked to uncertainty within governments – especially on the part of non-trade ministries – over the scope of commitments. Laws, regulations and practices of various government actors affect trade in services, but only a few of these are market access or national treatment measures and are bound through commitments. At the creation of the GATS, some government departments may have worried that commitments would inadvertently bind all such other measures, or that some relevant measures would have been omitted and therefore inadvertently liberalized. Since then, experience with the GATS, and involvement in services RTAs would have alleviated doubts, but these may still be harboured within some governments that have had less exposure to these matters.

## *Elevating Services Trade Policy*

The general policy implication of this paper is that governments – trade ministries, but also economic and sectoral ministries – should pay more attention to the contribution that services trade policies can make to the domestic policy environments for services sectors, as well as the pursuit of broader national economic objectives. In that regard, consideration may also be given to make better use of GATS commitments, so that these are more in line with the domestic importance of the sector and its growing role in the global economy.

Raising the profile of services trade policies may imply overcoming some of the institutional barriers that make it difficult to formulate a holistic view of the sector. Coordination may be enhanced by setting up a government-wide steering committee or task force that would bring together all relevant government actors with responsibilities for the services sector.<sup>26</sup> This would allow consideration of the sector's contribution to broader economic objectives and national development plans, and discussion of services trade policies in that context. Encouraging the creation of services coalitions involving private actors (services suppliers and consumers, as well as other stakeholders) can also assist in identifying key cross-sectoral issues and addressing them (ITC, 2014).

Such effort could, for example, help to highlight the contribution of services trade policies to a wide range of government objectives and priorities that have an important services dimension, whether SME or gender policies, Aid-for-Trade, digital connectivity, or the achievement of the Sustainable Development Goals (SDGs).<sup>27</sup> It could also help to make services policies and commitments central in efforts to attract FDI, as investment policy tends to be focused on manufacturing (Low and Pasadilla, 2015).

An intragovernmental process on services could also help identify – and subsequently promote – certain elements of a common vision for the sector's development and policy approach, detect bottlenecks to growth, identify obstacles to liberalization, whether regulatory or otherwise, and identify priority areas where regulatory assistance or cooperation at the regional or international levels might be warranted to overcome capacity constraints. New avenues for services research could arise from these government-wide deliberations, for example in relation to the impact of services trade on jobs and wages.

This process could also yield greater efforts to improve services trade statistics, and also spur a better understanding of one's own applied services trade regime through a mapping out of existing market access and national treatment measures across all services sectors and modes of supply. Such an exercise could help to better assess the costs and benefits of existing policies, facilitate participation in negotiations by alleviating concerns about measures subject to scheduling, and promote trade and investment by providing for more transparency. In addition, non-binding schedules or lists depicting the existing levels of openness could be used for transparency, and facilitate trade and investment promotion efforts.

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<sup>26</sup> See World Bank (2009) for some suggestions in this regard.

<sup>27</sup> On services trade policy and SDGs, see Fiorini and Hoekman (2018b). On digital connectivity and Aid-for-Trade, see Roy (2017).

An intragovernmental process may also prove useful in considering how international commitments could support domestic services trade policy objectives. The experience of many RTAs suggest that the focus has been on binding existing levels of openness, thereby accompanying autonomous liberalization rather than driving reductions in barriers, as may be the case in merchandise trade.<sup>28</sup> This may suggest a less 'mercantilistic' approach to negotiations, where providing for greater transparency, facilitation, and predictability of services measures is understood as advancing the interests, foremost, of the one undertaking the commitments. Moreover, discussions of commitments can spur exchanges on best responses to regulatory challenges arising from liberalization and, along the lines of the Trade Facilitation Agreement, help mobilize international support for capacity needs arising from relevant commitments for new liberalization.

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<sup>28</sup> A greater focus on transparency and predictability need not prevent discussing or addressing trade irritants. Commitments providing for new liberalization are sometimes seen as useful to lock-in desired reforms that are either ongoing or foreseen. A number of Members taking specific commitments on telecommunication services in the Uruguay Round or extended negotiations provided for new liberalization to be phased in over a specified period of time.

## References

- Adlung, R. and M. Roy (2005), "Turning Hills into Mountains? Current Commitments under the GATS and Prospects for Change", *Journal of World Trade* 39 (6), pp. 1161-1194.
- Amirapu, A. and A. Subramanian (2015), "Manufacturing or Services? An Indian Illustration of a Development Dilemma", Centre for Global Development Working Paper 409, June 2015.
- Andrenelli, A., C. Cadestin, K. De Backer, S. Miroudot, D. Rigo, M. Ye (2018), "Multinational production and trade in services", OECD Trade Policy Papers, No. 212, OECD Publishing, Paris.
- Ariu, A., H. Breinlich, G. Corcos, G. Mion (2019), "The Interconnections between Services and Goods Trade at the Firm-Level", *Journal of International Economics* 116, pp. 173-188.
- Arnold, J., A. Mattoo, and G. Narciso, (2008), "Services inputs and firm productivity in Sub-Saharan Africa: Evidence from firm level data", *Journal of African Economies* 17 (4), pp. 578–99.
- Arnold, J., B. Javorcik, and A. Mattoo (2011), "Does services liberalization benefit manufacturing firms? Evidence from the Czech Republic", *Journal of International Economics* 85(1), pp. 136–46.
- Arnold, J., B. Javorcik, M. Lipscomb, and A. Mattoo (2015), "Services reform and manufacturing performance: Evidence from India", *The Economic Journal* 126, pp. 1–39.
- Balchin, N., B. Hoekman, H. Martin, M. Mendez-Parra, P. Papadavid, D. Primack, and D. Willem te Velde (2016), *Trade in Services and Economic Transformation*, Overseas Development Institute, London.
- Bertho, F., I. Borchert, and A. Mattoo (2016), "The Trade-Reducing Effects of Restrictions on Liner Shipping", *Journal of Comparative Economics* 44 (2), pp. 231-42.
- Beverelli, C., M. Fiorini, and B. Hoekman (2017) "Services Trade Restrictiveness and Manufacturing Productivity: The Role of Institutions", *Journal of International Economics* 104 (1), pp. 166–182.
- Borchert, I., B. Gootiiz, A. G. Goswami, and A. Mattoo (2017), "Services Trade Protection and Economic Isolation", *World Economy* 40:3, pp. 632-652.
- Borchert, I., B. Gootiiz and A. Mattoo (2012), "Guide to the Services Trade Restrictions Database", World Bank Policy Research Working Paper 6108, Washington DC.
- Borchert, I., B. Gootiiz, and A. Mattoo, (2014) "Policy Barriers to International Trade in Services: Evidence from a New Database", *World Bank Economic Review* 28 (1), pp. 162–188.

- Cadestin, C., K. De Backer, I. Desnoyers-James, S. Miroudot, D. Rigo, M. Ye (2018), "Multinational Enterprises and Global Value Chains: the OECD and AMNE Database", OECD Trade Policy Papers, No. 211, OECD Publishing, Paris.
- Cadot, O., A. Fernandes, J. Gourdon, A. Mattoo and J. de Melo (2014), "Evaluating Aid for Trade: A Survey of Recent Studies", World Bank Policy Research Paper 6742, Washington DC.
- Cali, M., K. Ellis, D. W. te Velde, (2008), "The Contribution of Services to Development and the Role of Trade Liberalisation and Regulation", Overseas Development Institute Working Paper 298, London.
- Choi, C. (2010), "The Effect of the Internet on Service Trade", *Economics Letters* 109, pp. 102-104.
- Ciuriak, D. and D. Lysenko (2016), "The Effect of Binding Commitments on Services Trade", Working Paper, Ciuriak Consulting Inc.
- Collier, P. (2007), "Africa's Economic Growth: Opportunities and Constraints", *African Development Review* 9:1, April, pp. 6-25.
- De Backer, K., I. Desnoyers-James, and L. Moussiégt (2015), "Manufacturing or Services – That Is (Not) the Question"; The Role of Manufacturing and Services in OECD Economies", OECD Science, Technology and Industry Policy Papers, No. 19, OECD Publishing, Paris.
- Diao, X., M. McMillan, and D. Rodrik (2017), "The Recent Growth Boom in Developing Economies: A Structural Change Perspective", NBER Working Paper No. 23132, February 2017.
- Díaz-Mora, C., R. Gandoy, B. González-Díaz (2018), "Looking into Global Value Chains: Influence of Foreign Services on Export Performance", *Review of World Economics* 154, pp. 785-814.
- Doumbouya, S.F., A. Ndiaye, and D. Primack (2015), "Business Process Outsourcing and Information Technology Services: A Case Study of Senegal", in S. Stephenson and C. Tumuhimbise (eds.), *Services Exports for Growth and Development: Case Studies from Africa*, African Union Commission, Addis Ababa.
- Duggan, V., S. Rahardja, and G. Varela (2013), "Service Sector Reform and Manufacturing Productivity: Evidence from Indonesia", World Bank Policy Research Working Paper 6349. Washington, DC.
- Eichengreen, B. and P. Gupta (2013), "The Two Waves of Service-Sector Growth", *Oxford Economic Papers* 65:1, pp. 96-123.

Eschenbach, F. and B. Hoekman (2006), "Services Policy Reform and Economic Growth in Transition Economies", *Review of World Economics* 142(4), pp. 746-764.

Fink, C., A. Mattoo, I.C. Neagu (2005), "Assessing the Impact of Communication Costs on International Trade", *Review of International Economics* 67:2, pp. 428-445.

Fink, C. and M. Molinuevo (2008), "East Asian Preferential Trade Agreements in Services: Liberalization Content and WTO Rules", *World Trade Review* 7(4), pp. 641-673.

Fiorini, M. and B. Hoekman (2018a), "EU Services Trade Liberalization and Economic Regulation: Complements or Substitutes?", *Review of International Organizations*, Published online: 26 November 2018.

Fiorini, M. and B. Hoekman (2018b), "Services Trade Policy and Sustainable Development", *World Development* 112, pp. 1-12.

Fiorini, M. and B. Hoekman (2018c), "Trade Agreements, Regulatory Institutions and Services Liberalization", *Global Policy* 9:4, pp. 441-450.

Freund, C. and D. Weinhold (2002), "The Internet and International Trade in Services", *American Economic Review* 92 (2), pp. 236-240.

Ghani, E. and S.D. O'Connell (2014), "Can Service Be a Growth Escalator in Low Income Countries?", World Bank Policy Research Paper No. 6971, July, Washington DC.

Gootiiz, B. and A. Mattoo (2009), "Services in Doha: What's on the Table?", *Journal of World Trade* 43(5), pp. 1013–1030.

Hoekman, B. and B. Shepherd (2017), "Services Productivity, Trade Policy and Manufacturing Exports", *World Economy* 40:3, pp. 499-516.

International Trade Centre (2014), "Creating Coalitions of Services Industries", Geneva.

ILO (2016), *Women at Work: Trends 2016*, Geneva.

ILO (2018), *World Employment Social Outlook: Trends 2018*, Geneva.

ITU (2014), "Trends in Telecommunication Reform - Fourth-generation regulation: Driving digital communications ahead", Geneva.

ITU (2016a), *ICT Facts and Figures 2016*, Geneva.

ITU (2016b), "Trends in Telecommunication Reform 2016: Regulatory Incentives to Achieve Digital Opportunities", Geneva.



ITU (2017), "Spanning the Internet Divide to Drive Development", in WTO and OECD (eds.), *Aid for Trade at a Glance 2017; Promoting Trade, Inclusiveness and Connectivity for Sustainable Development*, Paris.

Jafari, Y. and D. G. Tarr (2017), "Estimates of *Ad Valorem* Equivalents of Barriers Against Foreign Suppliers of Services in Eleven Services Sectors and 103 Countries", *World Economy* 40:3, pp. 544-573.

Jensen, J. B., L. G. Kletzer (2005), "Tradable Services: Understanding the Scope and Impact of Services Offshoring", Institute for International Economics Working Paper No. 05-9.

Jones R. W. and H. Kierkowski (1988), "The Role of Services in Production and International Trade: A Theoretical Framework", RCER Working Papers, University of Rochester Center for Economic Research (RCER).

Kaldor, N. (1966), *Causes of the Slow Rate of Economic Growth of the United Kingdom*, Cambridge University Press, London.

Kowalski, P., J. Lopez Gonzalez, A. Ragoussis, and C. Ugarte (2015), "Participation of Developing Countries in Global Value Chains: Implications for Trade and Trade-Related Policies", OECD Trade Policy Papers, no. 179, OECD Publishing, Paris.

Lamprecht, P. and S. Miroudot (2018), "The Value of Market Access and National Treatment Commitments in Services Trade Agreements", Trade Policy Paper, OECD Publishing, Paris.

Lanz, R. and R. Piermartini (2018), "Specialization *Within* Global Value Chains: The Role of Additive Transport Costs", WTO Staff Working Paper, ERSD-2018-05, Geneva.

Lestage, R., D. Flacher, Y. Kim, J. Kim, and Y. Kim (2013), "Competition and Investment in Telecommunications: Does Competition have the Same Impact on Investment by Private and State-Owned Firms", *Information Economics and Policy* 25, pp. 41-50.

Liu, X., A. Mattoo, Z. Wang, S. Wei (2018), "Services Development and Comparative Advantage in Manufacturing", World Bank Policy Research Working Paper 8450, May 2018, Washington DC.

Low, P. and Pasadilla, G. O. (2015), "Manufacturing-Related Services: Summary Report", in "Services in Global Value Chains: Manufacturing-Related Services", APEC Policy Support Unit, November 2015, Singapore.

Marchetti, J. and M. Roy (2008), "Services Liberalization in the WTO and PTAs", in J. Marchetti and M. Roy (eds.), *Opening Markets for Trade in Services; Countries and Sectors in Bilateral and WTO Negotiations*, Cambridge University Press and WTO, Cambridge (UK), pp. 61-112.

- Marchetti, J., M. Roy, and L. Zoratto (2012), "Is There Reciprocity in Preferential Trade Agreements on Services?", WTO Staff Working Paper, ERSD-2012-16, Geneva.
- Mattoo, A., R. Rathindran, and A. Subramanian (2006), "Measuring Services Trade Liberalization and Its Impact on Economic Growth: An Illustration", *Journal of Economic Integration* 21(1), pp. 64-98
- Maurer, A., J. Magdeleine and R. Lanz and (2016), "Measuring Trade in Services in a World of Global Value Chains", in Sauv   and Roy (eds.), *Research Handbook on Trade in Services*, Edward Elgar, Cheltenham (UK), pp. 42-65.
- Miroudot, S. and C. Cadestin (2017a), "Services In Global Value Chains: From Inputs to Value-Creating Activities", OECD Trade Policy Papers, No. 197, OECD Publishing, Paris.
- Miroudot, S. and C. Cadestin (2017b), "Services in Global Value Chains: Trade Patterns and Gains from Specialization", OECD Trade Policy Papers, No. 208, OECD Publishing, Paris.
- Miroudot, S. and K. Pertel (2015), "Water in the GATS: Methodology and Results", OECD Trade Policy Papers, No. 185, OECD Publishing, Paris.
- Miroudot, S., J. Sauvage, and B. Shepherd (2012), "Trade Costs and Productivity in Services Sectors", *Economics Letters* 114(1), pp. 36-38.
- Miroudot, S., J. Sauvage, and B. Shepherd (2013), "Measuring the Cost of International Trade in Services", *World Trade Review* 12(4), pp. 719-735.
- Miroudot, S. and B. Shepherd (2014), "The Paradox of 'Preferences': Regional Trade Agreements and Trade Costs in Services", *World Economy* 37(12), pp. 1751-1772.
- Miroudot, S. and B. Shepherd (2016), "Trade Costs and Global Value Chains in Services", in Sauv   and Roy (eds.), *Research Handbook on Trade in Services*, Edward Elgar Publishing, Cheltenham (UK), pp. 66-84.
- Nord  s, H. (2015), "Demography, Technology and Trade: A Demand Perspective", Presentation at the Global Forum, <https://www.oecd.org/tad/events/GFT-2015-session-1-nordas.pdf>
- Nord  s, H. and Y. Kim (2013), "The Role of Services for Competitiveness in Manufacturing", OECD Trade Policy Papers, No. 148, OECD Publishing, Paris.
- Nord  s, H. and D. Rouzet (2016), "The Impact of Services Trade Restrictiveness on Trade Flows", *World Economy* 40(6), pp. 1155-1183.
- OECD (2017), *Entrepreneurship at a Glance*, OECD Publishing, Paris.

OECD (2018a), "OECD Services Trade Restrictiveness Index: Policy Trends Up to 2018", OECD Publishing, Paris.

OECD (2018b), "Trade Policy Implications of Global Value Chains", Trade Policy Brief, December 2018.

Osnago, A., R. Piermartini, and N. Rocha (2015), "Trade Policy Uncertainty as Barrier to Trade", WTO Staff Working Paper, ERSD-2015-05, Geneva.

Raballand, G. and P. Macchi (2009), "Transport Prices and Costs: The Need to Revisit Donors' Policies in Transport in Africa", Bureau for Research and Economic Analysis of Development (BREAD) Working Paper 190, Washington, DC.

Riddle, D. (1986), *Service-Led Growth: The Role of the Service Sector in World Development*, Praeger Publishers, NY.

Rodrick, D. (2018), "New Technologies, Global Value Chains, and Developing Economies", NBER Working Paper No. 25164, October 2018.

Rouzet, D., S. Benz and F. Spinelli (2017), "Trading Firms and Trading Costs in Services: Firm-Level Analysis", OECD Trade Policy Papers, No. 210, OECD Publishing, Paris.

Roy, M. (2011), "Democracy and the Political Economy of Multilateral Commitments on Trade in Services", *Journal of World Trade* 45 (6), pp. 1157-1180.

Roy, M. (2014), "Services Commitments in Preferential Trade Agreements: Surveying the Empirical Landscape", in P. Sauvé and A. Shingal (eds.), *The Preferential Liberalization of Trade in Services: Comparative Regionalism*, Edward Elgar Publishing, Cheltenham (UK), pp. 15-36.

Roy, M. (2016), "Charting the Evolving Landscape of Services Trade Policies: Recent Patterns of Protection and Liberalization", in Sauvé and Roy (eds.), *Research Handbook on Trade in Services*, Edward Elgar Publishing, Cheltenham (UK), pp. 25-41.

Roy, M. (2017), "The Contribution of Services Trade Policies to Connectivity in the Context of Aid for Trade", WTO Staff Working Paper, ERSD-2017-12, Geneva.

Roy, M., H. Lim and J. Marchetti (2007), "Services Liberalization in the New Generation of Preferential Trade Agreements (PTAs): How Much Further than the GATS?", *World Trade Review* 6(2), pp. 155-192.

Schettkat, R. and L. Yocarini (2006), "The Shift to Services Employment: A Review of the Literature", *Structural Change and Economic Dynamics* 17:2, pp. 127-147.

Teravaninthorn, S. and G. Raballand (2009), *Transport Prices and Costs in Africa: A Review of the Main International Corridors*, Washington DC: World Bank.

Tuthill, L. (2016), "Cross-border Data Flows: What Role for Trade Rules?", in P. Sauvé and M. Roy (eds.), *Research Handbook on Trade in Services*, Edward Elgar Publishing, Cheltenham (UK), pp. 357-382.

UN, Eurostat, IMF, OECD, UNCTAD, UNWTO, WTO (2010), *Manual on Statistics on International Trade in Services*, Geneva.

UN Broadband Commission (2013), "The State of Broadband 2013: Universalizing Broadband", Report by the ITU and UNESCO, Geneva.

UNCTAD (2015), "International Trade in ICT Services and ICT-Enabled Services; Proposed Indicators from the Partnership on Measuring ICT for Development", UNCTAD Technical Notes on ICT for Development, No. 3, Geneva.

UNCTAD (2016), "World Investment Report 2016. Investor Nationality: Policy Challenges", Geneva.

UNECLAC (2017), *International Trade Outlook for Latin America and the Caribbean; Recovery in an Uncertain Context*, Santiago (Chile).

Van der Marel, E. (2012), "Trade in Services and TFP: The Role of Regulation", *World Economy* 35(11), pp. 1530-1558.

Van der Marel, E. (2016), "Ricardo Does Services: Service Sector Regulation and Comparative Advantage in Goods", in P. Sauvé and M. Roy (eds.), *Research Handbook on Trade in Services*, Edward Elgar Publishing, Cheltenham (UK), pp. 85-106.

Van der Marel, E. and S. Miroudot (2014), "The Economics and Political Economy of Going Beyond the GATS", *Review of International Organizations* 9(2), pp. 205–239.

Wolfmayr, Y. (2012), "Export Performance and Increased Services Content in Manufacturing", *National Institute Economic Review* No. 220, April 2012, pp. 36-52.

World Bank (2009), "Negotiating Trade in Services: A Practical Guide for Developing Countries", Washington DC.

World Bank (2016), *World Development Report 2016; Digital Dividends*, Washington DC.

WTO (2014), *World Trade Report 2014: Trade and Development: Recent Trends and the Role of the WTO*, Geneva.

WTO (2018a), "Report to the TPRB From the Director-General on Trade-Related Developments (Mid-October 2017 to Mid-May 2018)", Trade Policy Review Body, 10 July 2018, WT/TPR/OV/W/12.

WTO (2018b), *World Trade Report 2018: The Future of World Trade: How Digital Technologies Are Transforming Global Commerce*", Geneva.

WTO (2018c), *World Trade Statistical Review 2018*, Geneva.

WTO and OECD (2015), *Aid for Trade at a Glance – Reducing Trade Costs for Inclusive, Sustainable Growth*, Paris and Geneva.

## ANNEX

### Box A1 - ICT services in Jordan and Senegal

In **Jordan**, start-up companies have used ICT developments to expand their trade in services. Jordan has produced a number of local ICT service companies that have expanded trade with other countries in the Gulf through a combination of modes of supply. As trade has grown, some of the companies have moved segments of their operations to locations such as Dubai. For example, *MarkaVIP*, an online retailer, has grown far beyond its roots in Jordan. Its delivery network extends to six Gulf countries as well as Lebanon, and it plans to begin offering products in Egypt. *MarkaVIP*'s head office is now in Dubai, where most of its customers are located. However, harnessing Jordan's reserves of educated people, *MarkaVIP* has kept most of its back office, as well as its call centre and finance employees, in Amman, supplying these services remotely. Other successful Jordanian-founded companies include *Jamalon*, an online bookseller that is expanding substantially in the Gulf. Arabia Weather, the region's largest online private weather company, was founded in Amman and has established itself in Dubai as it expands its presence in the region. *Aramex*, a logistics group, is another example of a company that started up in Amman, rapidly expanding to take advantage of the growing trade opportunities offered by the region's larger markets, while continuing to supply back office services from Jordan. Jordan has also carved out a niche in ICT innovation for cross-border online outsourcing, for example through the translation and cultural adaptation of English-language media and web content. Jordan's government has promoted the ICT sector as a source of jobs, considering its main resources to be its people. One of the means of support is *Oasis500*, a government-promoted business accelerator to help start-ups grow through mentorship and funding. Government support was also lent for the development of the *Jordan Gaming Lab*, a training facility for aspiring software designers that was set up in 2011. It has helped Jordan become one of the region's leading suppliers of original gaming content. Jordan has a telecoms infrastructure that surpasses most other countries in the region in terms of bandwidth, infrastructure, consistency, and price, constituting a clear asset for ICT companies and making online trade more feasible.

**Senegal** is another developing country that has recently experienced strong growth in services exports, driven in large part by the export of ICT services. Senegal's most important export services (BOP basis, 2016) are in "other commercial services" (51%), followed by travel (36%) and transport (12%). Telecommunication, computer and information services accounted for a significant share of "other commercial services" category. Policies targeting the domestic environment have played a key role in facilitating the success of service suppliers in ICT and BPO. Key steps include the liberalization of the sale of computer terminals in 1997, the lowering of tariffs on computer imports, and a series of policies to create a more competitive and efficient telecommunication sector. These policy choices include privatization of the incumbent telecom operator, pre-commitments on telecommunication services, adoption of the Reference Paper on Regulatory Principles in the extended GATS negotiations on telecommunications, and the establishment of an independent telecom regulator. All of this helped provide ICT and BPO service operators with access to relatively low-priced and robust infrastructure that has allowed them to expand. These efforts have been complemented by reforms in other areas, such as the inclusion of incentives in the investment code and the adaptation of the labour code to take into account the work schedules of call-centers.

Exports of Senegalese BPO and ICT services are mostly in mode 1, although some suppliers have also established a commercial presence abroad, mostly in other West African countries. Experts also travel regionally to work for subsidiaries and to provide consulting services directly (mode 4). For example, *Call Me* — created in 2002 as a subsidiary of Chaka Group, the Senegalese computer engineering firm — is 100% owned by Senegalese interests. *Call Me* provides BPO services, including voice services and outsourced appointment-taking for visa applications. It also provides advisory services (quality management, team training, and performance in customer teams). *Call Me* has numerous customers in Senegal and abroad (France, Belgium, Switzerland). In Africa, *Call Me* has opened subsidiaries in Mali (2003), Côte d'Ivoire (2004), Guinea and Mauritania (2005), and Cameroon (2008). The domestic Senegalese market accounted for approximately 25% of *Call Me*'s turnover, while 60% is generated from other African markets and 15% from non-African foreign markets.

*Sources: Jordan case adapted from Financial Times (22 December 2015), "Jordan seeks to reinvigorate its IT". Information on Senegal is adapted from Doumbouya et al. (2015).*

**Table A1: Specific commitments across selected sectors, by modes of supply**

	Number of Schedules with Specific Commitments (out of 152)	Mode 1			Mode 2			Mode 3			Mode 4	
		Full	Partial	Unbound	Full	Partial	Unbound	Full	Partial	Unbound	Full/Partial	Unbound
<b>BUSINESS SERVICES</b>												
<b>Professional services</b>												
- Legal Services	77	25%	66%	9%	35%	60%	5%	13%	82%	5%	97%	4%
- Accounting/auditing/bookkeeping services	88	42%	40%	18%	55%	36%	9%	27%	72%	1%	92%	8%
- Engineering services	89	55%	30%	15%	71%	17%	12%	48%	49%	2%	97%	3%
<b>Computer services</b>												
- Consultancy services related to the installation of computer hardware	84	79%	7%	14%	85%	6%	10%	79%	20%	1%	98%	2%
- Software implementation services	89	74%	13%	12%	81%	12%	7%	71%	28%	1%	97%	3%
- Data processing services	87	72%	15%	13%	80%	13%	7%	70%	29%	1%	97%	3%
- Data base services	80	78%	9%	14%	86%	8%	6%	75%	24%	1%	97%	3%
- Other	62	71%	26%	3%	74%	23%	3%	63%	37%	0%	98%	2%
<b>R&amp;D services</b>												
- R&D services on natural sciences	42	71%	17%	12%	69%	19%	12%	64%	36%	0%	95%	5%
<b>Other business services</b>												
- Advertising services	70	61%	29%	10%	64%	29%	7%	50%	49%	1%	100%	0%



	Number of Schedules with Specific Commitments (out of 152)	Mode 1			Mode 2			Mode 3			Mode 4	
		Full	Partial	Unbound	Full	Partial	Unbound	Full	Partial	Unbound	Full/Partial	Unbound
- Management consulting	83	80%	11%	10%	84%	10%	6%	80%	19%	1%	100%	0%
<b>COMMUNICATION SERVICES</b>												
- Postal services	14	36%	57%	7%	57%	36%	7%	21%	71%	7%	79%	21%
- Courier services	65	54%	34%	12%	60%	34%	6%	43%	57%	0%	95%	5%
<b>Telecommunication services</b>												
- Voice telephone services	100	24%	70%	6%	51%	44%	5%	18%	81%	1%	95%	5%
- Packet-switched data transmission services	93	34%	62%	4%	55%	41%	3%	21%	78%	1%	96%	4%
- Circuit-switched data transmission services	94	35%	60%	5%	56%	40%	4%	22%	76%	2%	96%	4%
- Private leased circuit services	89	36%	61%	3%	58%	39%	2%	24%	75%	1%	97%	3%
- On-line information and data base retrieval	85	50%	45%	5%	63%	29%	8%	37%	60%	2%	98%	2%
- on-line information and/or data processing	70	55%	38%	7%	69%	23%	8%	42%	56%	1%	97%	3%
<b>DISTRIBUTION SERVICES</b>												
- Wholesale trade services	65	38%	54%	8%	45%	51%	5%	35%	62%	3%	98%	2%
- Retailing services	64	34%	53%	13%	39%	55%	6%	28%	66%	6%	97%	3%

	Number of Schedules with Specific Commitments (out of 152)	Mode 1			Mode 2			Mode 3			Mode 4	
		Full	Partial	Unbound	Full	Partial	Unbound	Full	Partial	Unbound	Full/Partial	Unbound
<b>EDUCATION SERVICES</b>												
- Higher education services	53	64%	26%	9%	72%	25%	4%	45%	49%	6%	98%	2%
<b>FINANCIAL SERVICES</b>												
<b>Banking and other financial services</b>												
- Acceptance of deposits	112	30%	34%	36%	46%	33%	21%	21%	79%	1%	95%	5%
- Lending of all types	112	29%	38%	33%	48%	33%	19%	21%	77%	2%	95%	5%
- All payment and money transmission services	103	27%	37%	36%	49%	32%	19%	20%	79%	1%	94%	6%
<b>TOURISM AND TRAVEL RELATED SERVICES</b>												
- Travel agencies and tour operators services	119	56%	22%	22%	75%	15%	10%	48%	49%	3%	93%	7%
<b>RECREATIONAL SERVICES</b>												
- News agency services	33	85%	12%	3%	94%	6%	0%	67%	30%	3%	97%	3%
<b>TRANSPORT SERVICES</b>												
Maritime transport services												
- Freight transportation	49	31%	53%	16%	43%	47%	10%	29%	61%	10%	90%	10%
Rail transport services												
- Freight transportation	20	40%	25%	35%	95%	0%	5%	30%	70%	0%	100%	0%
Road transport services												

	Number of Schedules with Specific Commitments (out of 152)	Mode 1			Mode 2			Mode 3			Mode 4	
		Full	Partial	Unbound	Full	Partial	Unbound	Full	Partial	Unbound	Full/Partial	Unbound
- Freight transportation	46	22%	13%	65%	54%	39%	7%	30%	67%	2%	100%	0%
<b>Services auxiliary to all modes of transport</b>												
- Cargo-handling services	36	40%	10%	50%	63%	33%	5%	40%	58%	3%	95%	5%
- Storage and warehouse services	52	28%	11%	61%	65%	33%	2%	41%	59%	0%	97%	3%
- Freight transport agency services	46	49%	39%	12%	42%	58%	0%	41%	59%	0%	98%	2%

Note: EC-12 is counted as 1. The second column indicates, for each subsector listed, the number of Members with specific commitments in their schedule. Subsequent columns indicate the level of binding (full, partial, unbound) for those Members that have specific commitments. Horizontal limitations are not taken into account when determining whether the level of treatment bound is "full" or "partial". "Full" = commitments without market access or national treatment limitations; "Partial" = commitments with limitations (either in the market access, national treatment or sector column); "Unbound" = No commitment on both market access and national treatment for a particular mode of supply. Sectoral classification is on the basis of the Services Sectoral Classification List (W/120).