

Latin America's faltering manufacturing competitiveness

What role for
intermediate services?

Rolando Avendano
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Abstract

Latin America's participation in world manufacturing exports has stagnated in recent decades, which contrasts with the performance of Asian developing countries. This is often explained by the region's comparative advantage-driven specialization in natural resources. Another potential explanation could be the insufficient incorporation of strategic intermediate services as a source of value added, which is the theme of this document.

We analyze the trends and patterns of servicification in manufacturing in selected countries in Latin America from 2005 to 2015 and evaluate its relationship with these countries' participation in world exports. The data show that Latin American countries do not underperform in terms of servicification levels, when compared with ASEAN economies. The main difference between the two regions is that services embodied in Latin American manufacturing exports have predominantly a domestic origin, while ASEAN countries show a larger participation of imported services (particularly in business services). Also, we find a significant statistical association between services value added and ASEAN countries' manufacturing competitiveness (as measured by export market shares), while no such evidence is found for Latin American countries.

Introduction

From 1990 to 2016, Latin America's participation in world exports of manufactures stagnated around 5%, with contrasting underlying trends. The region slightly gained market share in medium-technology manufactures, but lost ground in natural resource-based, low- and high- technology manufactures. This overall disappointing performance differs strongly from that of developing Asia—defined here as the Association of Southeast Asian Nations (ASEAN), China and India—, which increased its participation in world manufacturing exports from 23% to 37% during the same period.

Latin America's mediocre competitiveness in trade in manufactures is often explained by its comparative advantage-driven specialization in natural resources, which has been exacerbated by the fast-rising demand for these products by China and other Asian countries since the early 2000s. Another explanation could be the insufficient incorporation of strategic domestic and foreign intermediate services. A growing body of literature has shown an increasing role of services as a source of value added in manufacturing (Baldwin et al., 2015; Lodefalk, 2017; Miroudot and Cadestin, 2017). Evidence on developed countries shows that the so-called servicification is a key condition of successful manufacturing export performance. Services play a significant role in manufacturing-dominated global value chains (GVCs), as transport, logistics and information and communication technologies (ICT) facilitate the movement of goods and information between segments, reducing costs and improving productivity. Also, research and development (R&D) and other business services promote product diversification and value creation.

This document contributes to the scarce empirical literature on the role of services as a source of manufacturing competitiveness in developing economies, providing evidence on the Latin American region. We use the 2018 release of the Organisation for Economic Co-operation and Development (OECD)'s Trade in Value Added (TiVA) database to assess the servicification of manufacturing exports in seven Latin American countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico and Peru) between 2005 and 2015, in comparison with ten Asian emerging economies

(eight ASEAN countries (Brunei Darussalam, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam), China and India). In addition to total services value added, the document focuses on business services, which are a strategic driver of manufacturing competitiveness. A distinction is made between three groups of manufacturing industries: resource intensive, labour intensive and technology intensive.

The document is organized in three sections. Section I describes the channels through which services may enhance manufacturing performance and reviews the available evidence on the issue. Section II compares trends and patterns of servicification between Latin America and developing Asia. Finally, section III concludes and draws some policy lessons.

I. The role of services on manufacturing export performance

Services are playing an increasing role in manufacturing. This servicification has different motivations (Lodefalk, 2017). First, several services are important to reduce costs and improve production efficiency. Examples of these “cost” services are transport and logistics, ICT, management, renting and leasing of machinery, equipment and buildings, financial and insurance, and legal services. These services improve the coordination of the production process and save time and materials, being essential to establish and manage international production networks (Nordas, 2010; USITC, 2013). Their importance for competitiveness increases with the length of supply chains and the homogeneity of products (i.e., they are particularly relevant for standardized goods like economy cars, textiles and clothing) (Arbache et al., 2016). As many manufacturing firms do not consider these as part of their core competencies, cost services are usually outsourced to specialized providers.

Second, manufacturing firms can add services, combine them with goods or offer them in connection with the sale to differentiate their products and make them more attractive to customers in an often highly competitive environment. Also, services may reduce the environmental and social impacts of goods production and consumption through repurchasing and recycling. This category of services, referred to as “value” services, include R&D, design, consulting services, software, specialised technical services, high-end ICT services, branding, marketing and advertising. They contribute to innovation, product customisation and value creation. Generally, value services require higher levels of human capital and other capabilities, playing a more important role for sophisticated and differentiated products (Arbache et al., 2016).

Third, firms can use services to overcome barriers to foreign market entry in the form of exports or foreign direct investment (FDI) and to sustain foreign market sales (Lodefalk, 2017). Through the establishment of subsidiaries abroad, multinational companies provide different types of services, including

distribution, maintenance, marketing, matchmaking, and monitoring. These establishments and their local workers can help firms to boost sales by improving their knowledge about local markets.

A growing body of literature has provided evidence on the contribution of services to the export and productivity performance of manufacturing industries. Francois and Woerz (2008) observe an increasing importance of services as inputs in manufacturing exports in OECD countries in the 1990s. For a broader sample of countries, they show that the linkages between services and manufacturing increase with the level of economic development. Based on sector-level panel regressions for the period 1994-2004, they find that imports of business services, as well as openness to intermediate services trade, have a positive impact on the export performance of the most skill and technology intensive industries (chemicals, electric equipment, machinery, and motor vehicles) in OECD countries.¹ In contrast, a negative effect from imported business services and openness is found for labour intensive industries (especially, textiles and clothing). Thus, an increase in import penetration of intermediate services would have a positive impact on the skill and technology mix of exports.

Wolfmayr (2008) examines the role of service inputs in export competitiveness (i.e., export market share) of 18 manufacturing industries in 16 OECD countries over the period 1995-2000. In line with Francois and Woerz (2008), her results point to a positive impact of international service linkages on the export performance of high-skill and technology intensive manufacturing sectors (domestically sourced services have no significant impact), although the type of service input is not relevant. In addition, she finds a positive effect of knowledge intensive business services (KIBS) outsourcing on Austrian manufacturing' productivity growth in the period 1994-2003, which is more pronounced in high-skill intensive industries. Both results show the relevance of international service linkages and, therefore, services liberalization to promote the competitiveness of manufacturing exports.

Nordas and Kim (2013) analyze the relationship between the quality of services and competitiveness in manufacturing (measured by the degree of product differentiation, unit prices obtained in export markets and the duration of trade). They show that manufacturing sectors (except high-technology industries) became more services-intensive between 1995 and 2005, in both developed and emerging economies. This rising services intensity is mostly linked to the growing importance of imported services, particularly in low-technology sectors (where geographical fragmentation is largest, requiring extensive transport, logistics and other supply chain management services). Their econometric analysis shows a significant positive impact of services quality on manufacturing performance, which is not uniform across sectors and income groups. In low-income countries the impact is higher in low-technology industries, in middle-income countries it is higher in medium-technology sectors, while in high-income countries the highest impact is found in medium-high and high-technology industries. These results suggest that improved services quality contribute to moving up the value chain in industries where countries already have technological capabilities and comparative advantage.

The ECSIP consortium (2014) analyzed the contribution of domestic and foreign-sourced business services to manufacturing labour productivity growth in the European Union (EU), using data from the World Input-Output Database (WIOD). Although the service content of manufacturing production increased across countries between 1995 and 2011, at the EU level only imported business services seem to be associated with significantly higher labour productivity growth. When splitting the sample by country

¹ No significant effects are found for communication, insurance and financial services.

size, results are heterogenous. In larger economies, only backward linkages with domestic business services show a significant positive impact on labour productivity growth. In contrast, in small and medium-sized countries, only foreign business services play a role. Also, only in medium-high and high-technology industries—which are highly integrated in the most complex and diverse international production networks—there is evidence of a positive effect of (foreign) business services inputs on labour productivity improvements.

Evangelista et al. (2015) look into the role of business services in the international competitiveness of manufacturing industries in five European countries (France, Germany, Italy, Spain and the United Kingdom). Their analysis shows that business services contribute to enhance these countries' manufacturing competitiveness (as measured by export market shares), although the effect varies according to the type of intermediate service. While communication and computer related services—the most technology intensive business services—have a positive impact on both medium-high and medium-low technology sectors, other business services—a more heterogeneous category—only contribute to the international competitiveness of medium-high technology industries.

Miroudot and Cadestin (2017) provide evidence on the servicification of manufacturing and the role of services in GVCs, based on the 2015 edition of the OECD's TiVA database. They show that, in 2011, the share of services value-added in the gross value of world exports exceeded 30% for all sixteen manufacturing industries considered (except for coke and petroleum). Distribution services account for about one third of the total, while business services (including telecommunications, computer services, R&D, consulting, advertising and marketing) account for another third. The rest is split between transport, finance and other services. At the global level, there is no clear trend regarding a more intensive use of services inputs in manufacturing exports between 1995 and 2011, but there is a significant increase in the share of foreign services value-added (particularly, in industries like chemicals, rubber and plastics, ICT and electronics, electrical machinery, and motor vehicles). This suggests that services inputs were increasingly traded within GVCs. In many countries, except for China and the United States—who largely drive the aggregate results—the share of services value-added in manufacturing exports did increase during this period.² These results confirm those of De Backer et al. (2015), who analyze trends between 1995 and 2009 with an earlier edition of TiVA database.

² Miroudot and Cadestin (2017) also find evidence of an upward trend in the contribution of service activities within manufacturing firms (i.e., the provision of in-house services).

II. The servicification of Latin American manufacturing exports

Services trade statistics, as recorded as part of the balance of payment in most countries, largely underestimate the true importance of services in international trade. This is because many services are traded indirectly, being incorporated as intermediate inputs in exports of primary and manufacturing products. To measure both directly and indirectly traded services, trade needs to be decomposed into its value-added components. The use of inter-country input-output (ICIO) tables allows the decomposition of value added in trade according to the industry of origin (i.e., where value added is created), revealing the contribution of services to goods exports.³

This section analyzes servicification trends and patterns of manufacturing exports in Latin America from 2005 to 2015, based on indicators from the 2018 edition of the OECD's TiVA database. It also assesses the statistical relationship between the international competitiveness of countries' manufacturing sectors (measured by market shares) and their servicification levels.

The TiVA database provides information on 64 countries, including 7 Latin American economies (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico and Peru), and 34 sectors (including 16 manufacturing industries and 14 service activities). The contribution of services to Latin American manufacturing exports is compared here with that observed in 10 Asian emerging economies (8 ASEAN countries (Brunei Darussalam, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam), China and India).

Following Francois and Woerz (2008), manufacturing sectors are split into three groups: resource intensive, labour intensive, and technology intensive (see Annex table A.1). Service sectors

³ ICIO tables do not capture services activities provided within manufacturing firms (in-house services), which is another dimension of servicification.

are divided into four groups: distribution services, financial services, business services, and other services (see Annex table A.2). Distribution services (wholesale and retail trade, transportation and storage, and information and communication) and financial services (finance and insurance, and real estate activities) are used for the sourcing of inputs, the coordination of the production process, the delivery of goods to consumers and after-sales activities. Business services (computer programming, consultancy and related activities; legal and accounting activities; scientific research and development; and other professional, scientific and technical activities) contribute to innovation and value creation, playing a key role in firms' international competitiveness (Francois and Woerz, 2008; Wolfmayr, 2008; Evangelista et al., 2015; Arbache et al., 2016).

A. Evidence from international input-output tables

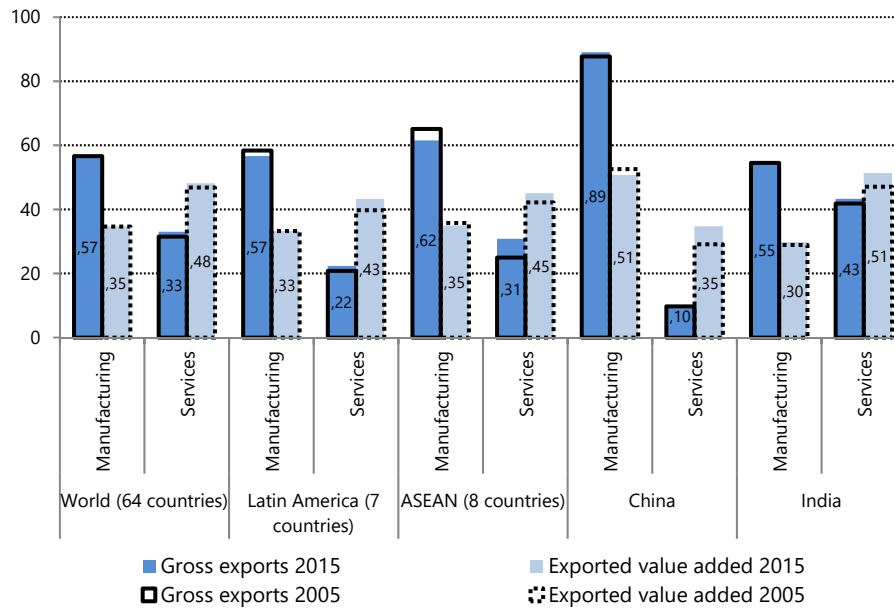
A first set of data shows that the share of services in international trade is significantly larger when measured in value-added terms (see figure 1). While services accounted for 33% of world gross exports in 2015, their contribution to exported value added was 48%. In contrast, the share of manufacturing in world exports reduces from 57% to 35% when the sectoral origin of value added is taken into consideration. This reflects the use of services as intermediate inputs in the production of goods exports. The same holds for the seven Latin American and ten Asian economies considered, where services account for a significantly larger share of exports when looking at flows in value-added terms.

At the aggregate level, Latin American countries show a considerably lower participation of services in gross exports than ASEAN economies (22% versus 31% in 2015) —and the world average—, although in value-added terms the contribution of services is similar in both regions (around 45%). However, a more detailed analysis reveals significant differences between countries (see figure 2). In Latin America, Costa Rica shows a much larger and increasing participation of services as origin of the exported value added (61% in 2015, compared to 47% in 2005), followed by Brazil (37% and 48% in 2005 and 2015, respectively) and Mexico (around 45% both years). Among Asian countries, Singapore and, to a lesser extent, India, exhibit the largest contribution of services value added (with around 70% and 50%, respectively, in 2015).

When the geographical origin of services value added is considered, data show a smaller participation of foreign services in Latin American exports in comparison with ASEAN economies (see figure 2).⁴ However, in both regions, the growing contribution of services from 2005 to 2015 is largely accounted for by domestic services, particularly those directly exported by services sectors. The share of domestic indirect services (i.e., domestic services embodied as inputs in goods exports) also increased significantly in several countries.

⁴ The share of foreign intermediate goods in Latin American exports is also generally smaller than that observed in Asian countries, revealing Latin America's lower backward participation in GVCs.

Figure 1
Selected countries and regions: share of manufacturing and services exports, 2005 and 2015^a
(Percentages of total exports)



Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

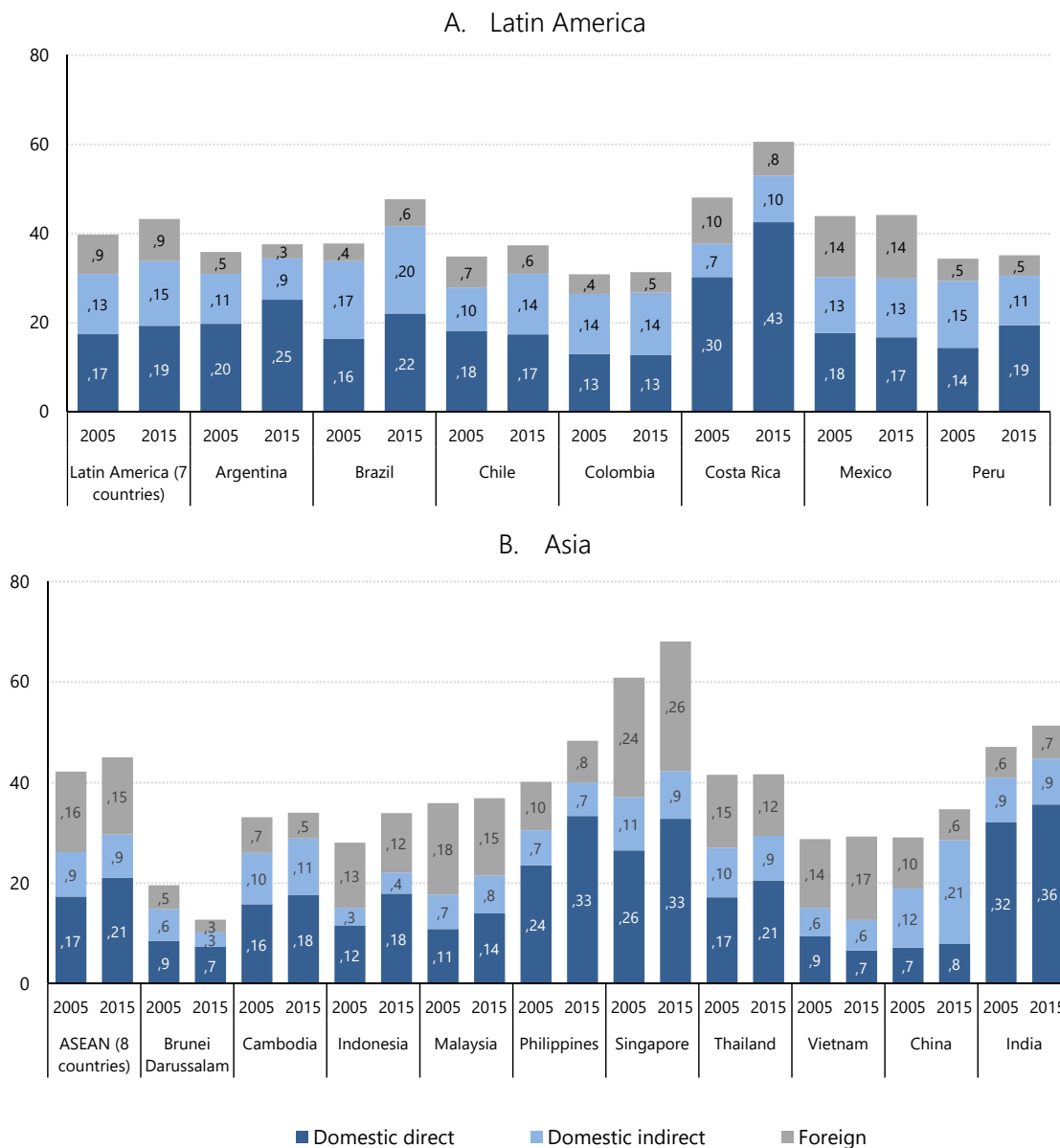
^a World (64 countries) corresponds to the aggregation (i.e., weighted average) of the 64 countries covered in the OECD's TiVA database.

Focusing the analysis on manufacturing exports, trends at the global level indicate that the contribution of services value added remained stagnant between 2005 and 2015 (see figure 3.A). Yet, Latin America experienced a small increase during this period, reaching a somewhat higher servicification level than the world average and that of Asian countries (34% in 2015, compared to 30% for the world average, ASEAN and China). Services embodied as inputs in Latin American manufacturing exports are predominantly domestic, while ASEAN countries show a larger participation of imported services. However, the share of foreign services in Latin American exports is higher than the world average, as well as that observed in China and India (in part because these two large Asian economies can more easily source services domestically).

The analysis by sector shows that technology intensive industries have higher servicification levels than resource intensive and, to a lesser extent, labour intensive ones (see figures 3.B to 3.D). Also, the share of foreign services is significantly larger in technology intensive industries, both in Latin America and ASEAN, reflecting a higher degree of backward integration in GVCs (also evident from the larger participation of foreign value added in their goods inputs).⁵

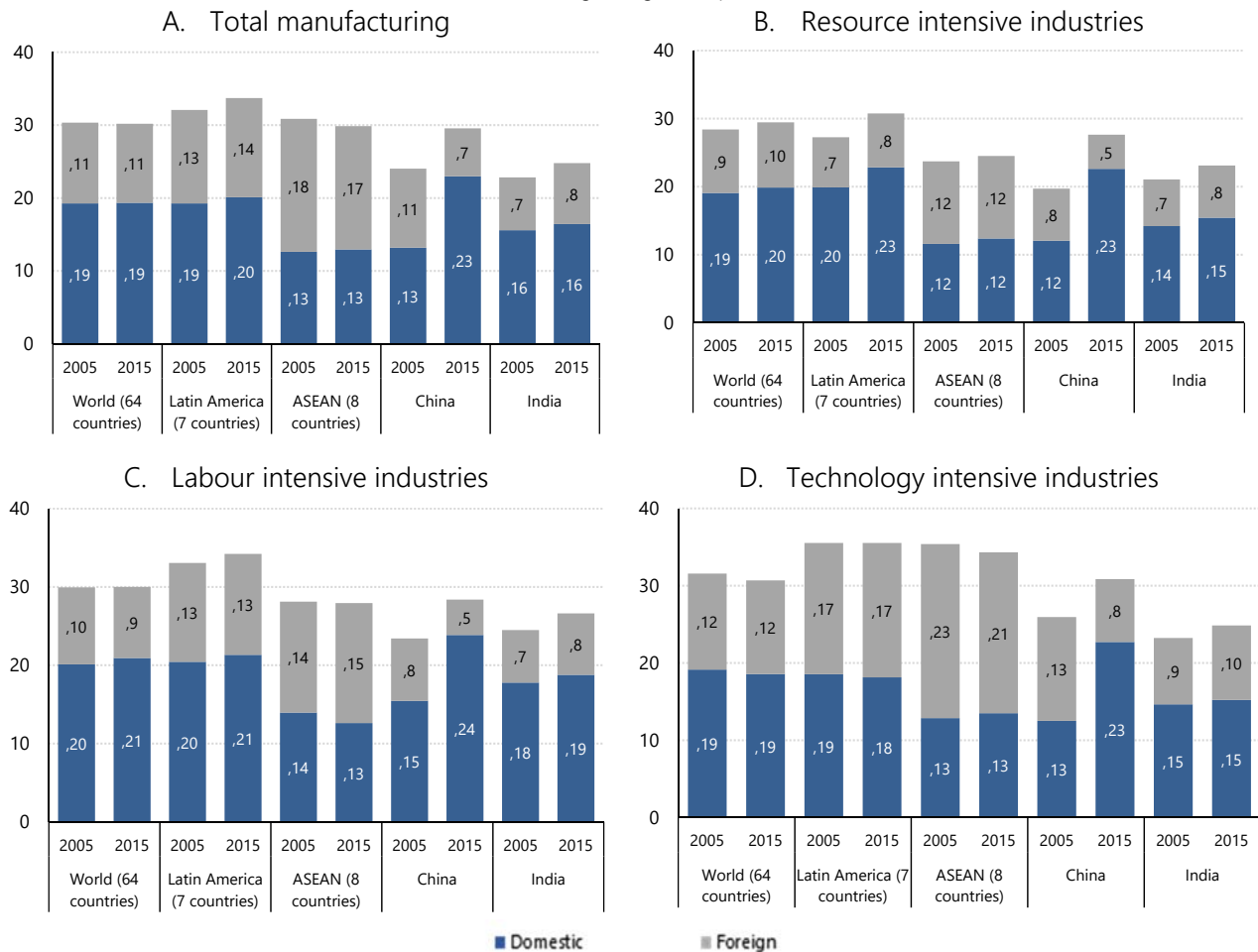
⁵ As previously pointed out, services activities provided within manufacturing firms (such as R&D services, particularly relevant in technology intensive industries) are not captured here.

Figure 2
Selected countries: direct, indirect and foreign services value added in gross exports, 2005 and 2015
(Percentages of total exports)



Source: Authors’elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TIVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

Figure 3
Selected countries and regions: services value added in gross manufacturing exports by geographical origin, 2005 and 2015^a
(Percentages of gross exports)

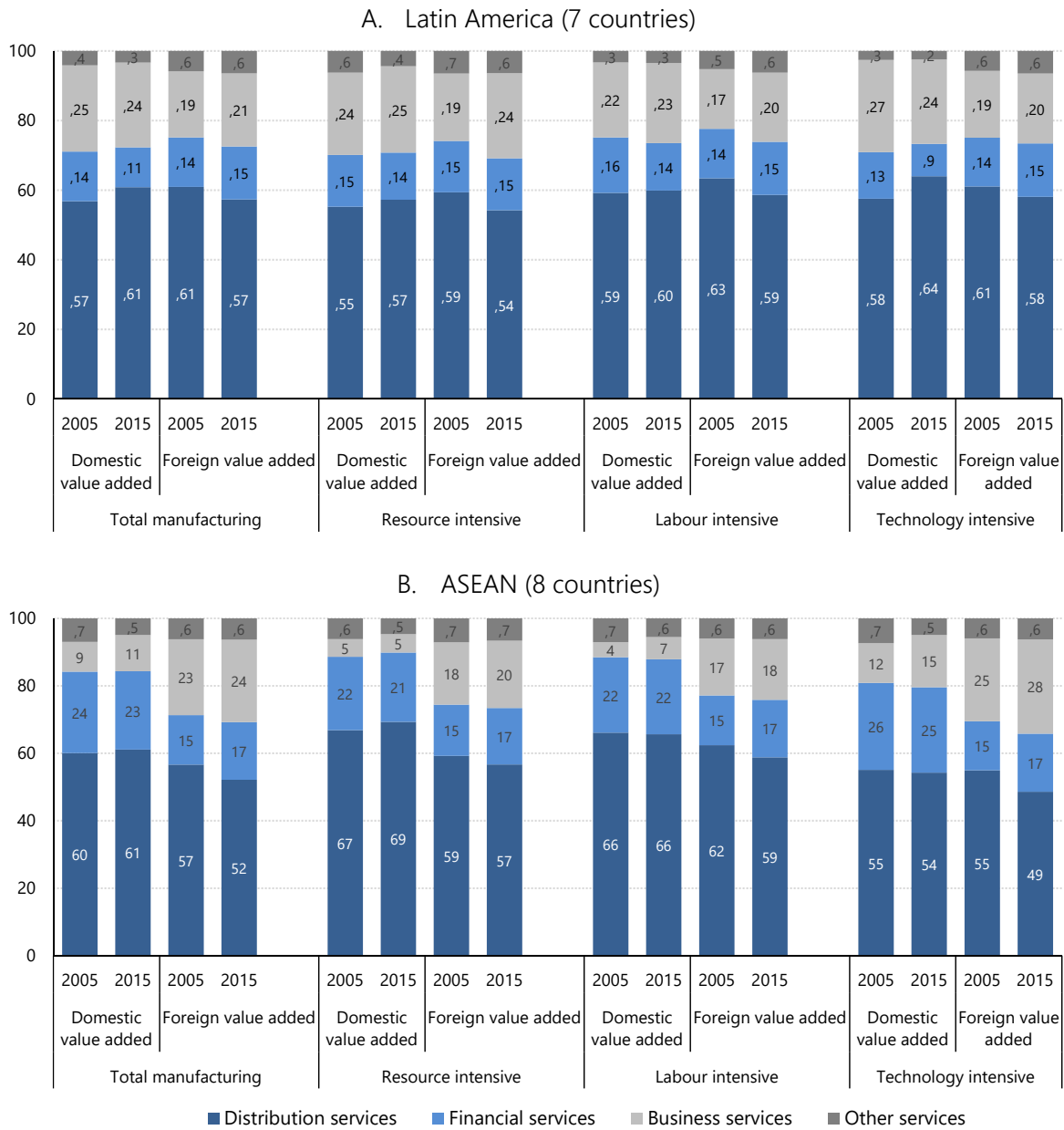


Source: Authors’elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a World (64 countries) corresponds to the aggregation (i.e., weighted average) of the 64 countries covered in the OECD’s TiVA database.

A decomposition by type of service shows that over half of both domestic and foreign services value added embodied in Latin America’s gross manufacturing exports are distribution services (see figure 4.A). The second main category is business services, which account for between 20% and 25% of the total in 2015 in the three groups of manufacturing industries considered, with an increasing participation between 2005 and 2015. Distribution services also account for the bulk of domestic and foreign services value added in ASEAN’s manufacturing exports, while business services have a significantly larger participation in foreign services (with the largest share in technology intensive industries) (see figure 4.B). As pointed out in section I, business services — particularly, those sourced from abroad— are an important driver of manufacturing competitiveness.

Figure 4
Latin America (7 countries) and ASEAN (8 countries): services value added in gross manufacturing exports
by type of service, 2005 and 2015
(Percentages of the total)



Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

Within Latin America, Brazil and Mexico —the two main manufactures exporters— show the largest participation of services as a source of value added in manufacturing exports (37% and 35%, respectively, for total manufacturing in 2015), followed by Costa Rica (33%) and Chile (30%). The other three countries are below the world average of 30% shown in figure 3 (particularly Argentina, with a servicification level of 19%) (see figure 5.A). Brazil also stands out as the Latin American country that experienced the largest increase in the contribution of services value added between 2005 and 2015 (9 percentage points), while Argentina and Mexico show a decline in this period (3 percentage points in each case).

Except for Mexico —highly integrated into international production networks—, most of the services value added embodied in Latin American manufacturing exports has a domestic origin, with foreign services accounting for between 20% and 33% of the total in 2015 (compared to 52% in the case of Mexico, and 36% for the world average). The contribution of domestic services increased between 2005 and 2015 in Costa Rica, Brazil, Chile and, to a lesser extent, Colombia (9, 6, 4 and 1 percentage points, respectively), while the other three countries show a small reduction (around 1 percentage point in each case).⁶ In all seven countries, distribution services are the main category, both in domestic and foreign value added. Business services, in second place, have a larger participation in Brazil (both in domestic and foreign value added), Chile and Costa Rica (in the case of domestic value added), with over 30% of the total.⁷

Latin American countries' overall servicification level (i.e., considering both domestic and foreign services value added) does not vary substantially across manufacturing sectors (see figures 5.B to 5.D). The largest differences are generally found between labour intensive and technology intensive industries, and range between -6 percentage points (Colombia) and 4 percentage points (Chile).⁸ Like for total manufacturing, Brazil, Chile, Costa Rica and Mexico are at or above the world average in all three sectors (the exception is Chile in technology intensive industries), while Argentina shows the lowest servicification levels. Technology intensive industries show a larger participation of foreign services than resource intensive and, in most cases, labour intensive sectors, although they are below the world average of 39% (except for Costa Rica and Mexico, where foreign services account for 40% and 54% of the total, respectively). Also, the share of business services is generally larger in technology intensive industries, particularly in comparison with the labour intensive ones.

Asian economies show considerable diversity in their levels of servicification, which, in most cases, are below the world average (see figure 6). Across manufacturing sectors, the largest differences are found in Singapore (17 percentage points between resource intensive and technology intensive industries) and Indonesia (11 percentage points between resource intensive and labour intensive industries). Unlike Latin American countries, most ASEAN members characterize by a predominance of foreign services, which represent between 50% and around 70%

⁶ In the case of Brazil and Colombia, the contribution of foreign services experienced a larger increase than that of domestic services, leading to a higher participation of the former in the total services value added embodied in these countries' manufacturing exports.

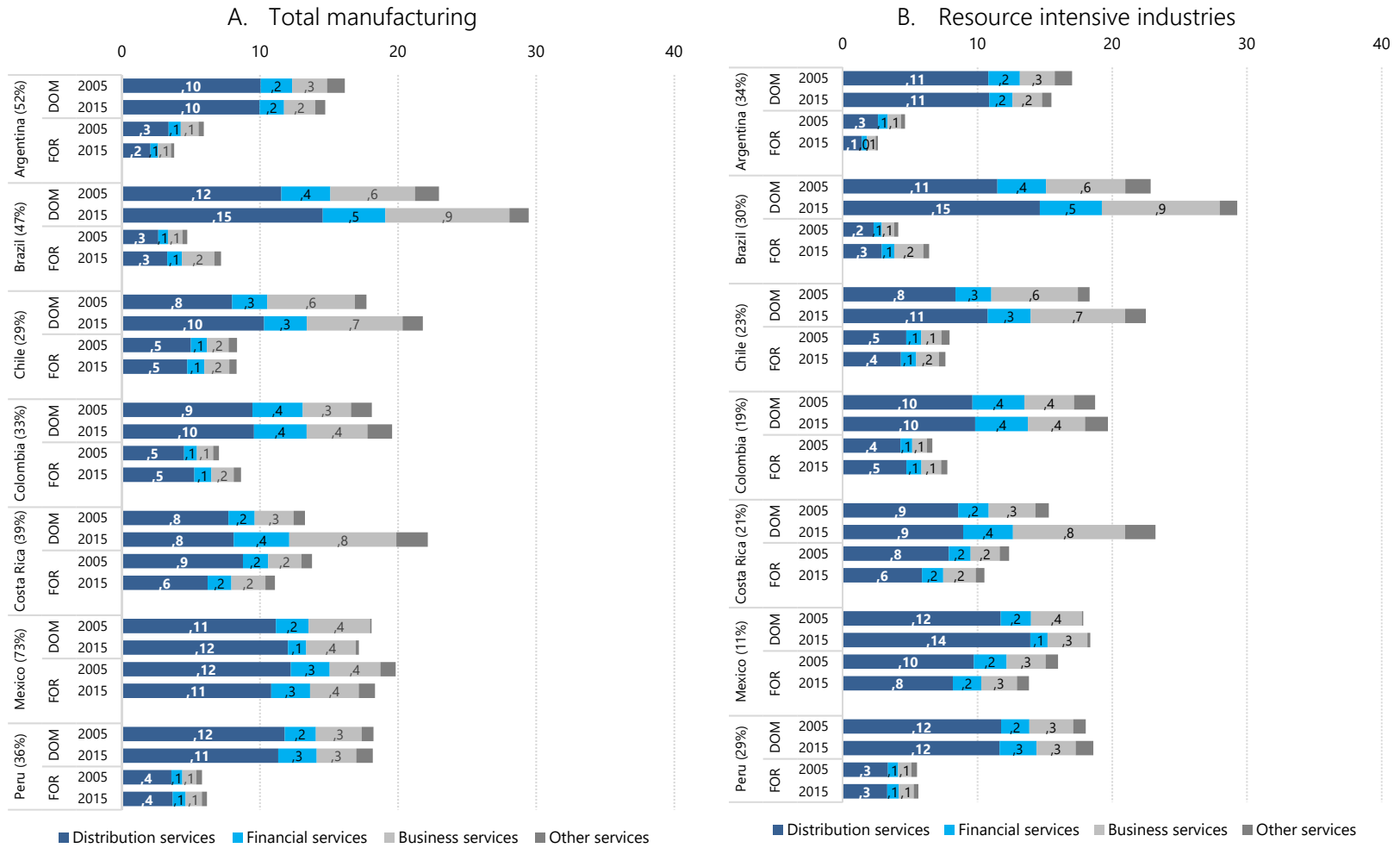
⁷ For example, in the case of Brazil, domestic business services accounted for 9% of the value added embodied in total manufacturing exports (30% of total domestic services value added), while foreign business services contributed with an additional 2% (equivalent to 33% of total foreign services value added).

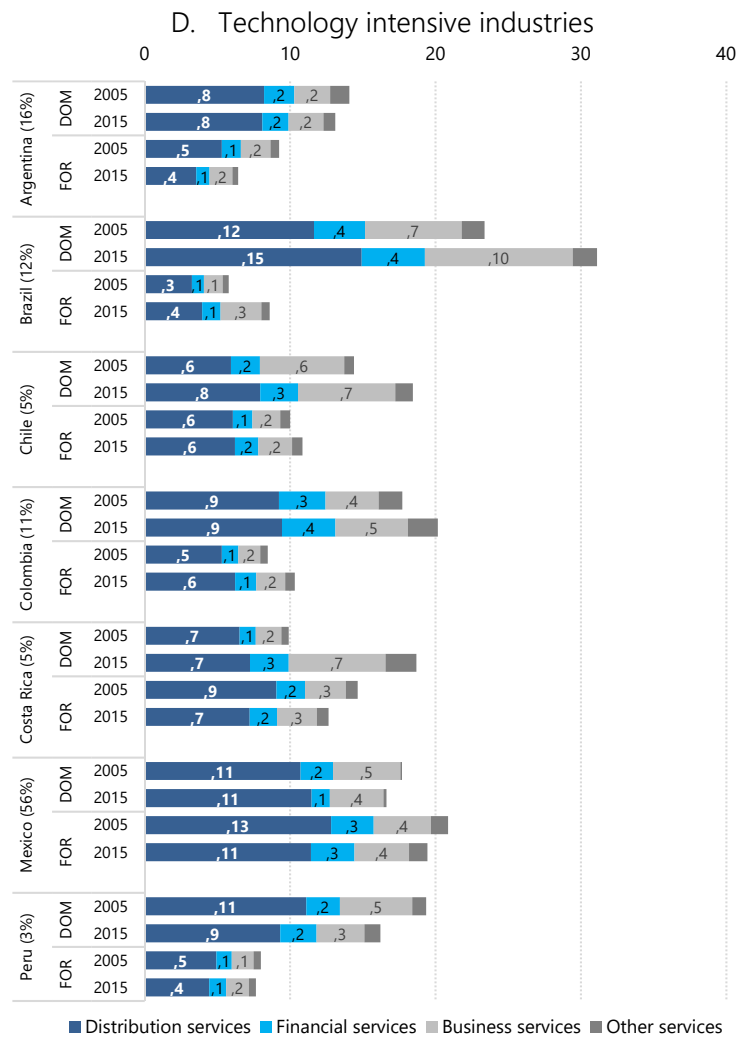
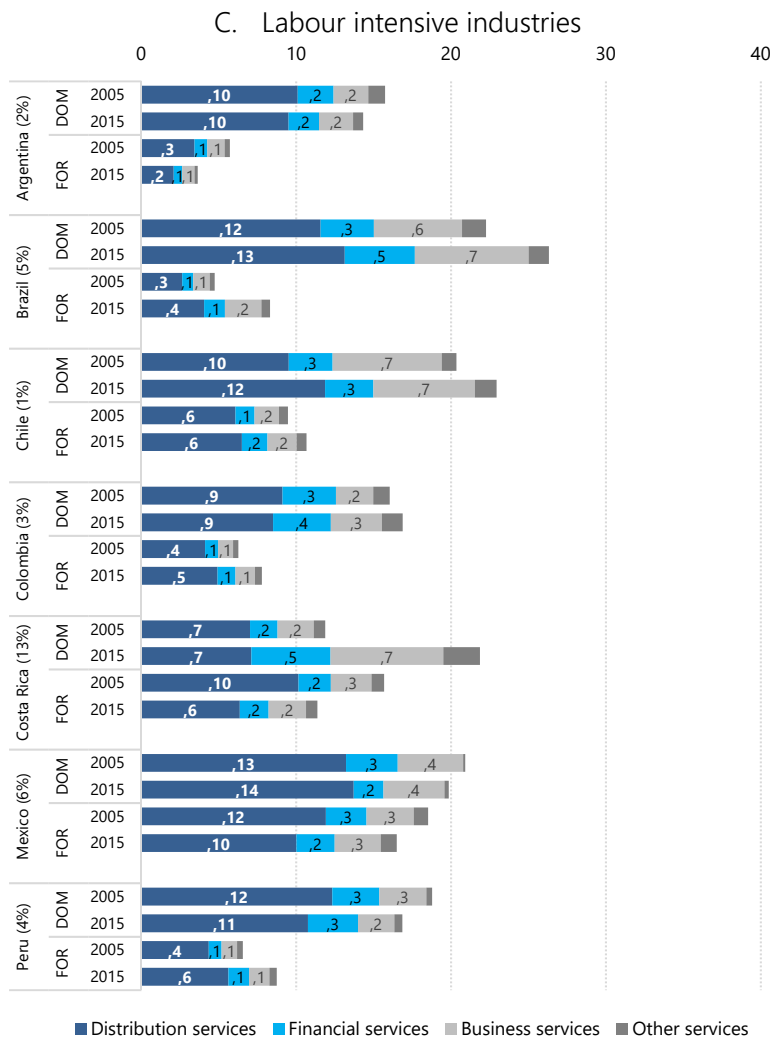
⁸ It should be noted that the level of servicification shows some intra-sectoral variation across industries. Although an industry-level analysis is beyond the scope of this document, more disaggregated data are presented in tables A.3 to A.5 in the annex.

of total services value added in manufacturing exports. The contribution of foreign services is remarkably large in Singapore (27% of gross manufacturing exports), although in comparison with domestic services they are more relevant in Cambodia, Malaysia and Viet Nam. In contrast, Brunei Darussalam and Indonesia, along with China and India —the two extra-ASEAN countries considered—, show the lowest contribution of foreign services (between 7% and 8% of gross manufacturing exports).

Distribution services are the main type of service embodied in most Asian countries' manufacturing exports. The exception is Singapore, where business services have a somewhat larger participation in technology intensive industries. In fact, in the three manufacturing sectors considered, Singapore shows a significantly larger contribution of business services than the other countries (i.e., a larger proportion of the value added embodied in Singaporean manufacturing exports originates in the business services sector). However, the contribution of business services increased in several Asian countries between 2005 and 2015 (particularly, China, India and Singapore), which would be related with the increasing depth of regional value chains. Overall, the participation of business services is considerably larger in foreign value added, in comparison with that of domestic origin (which concentrates in distribution and financial services). Also, unlike Latin American countries, the share of foreign services is significantly larger in business services than in the other services categories.

Figure 5
Selected Latin American countries: services value added in gross manufacturing exports by type of service and geographical origin, 2005 and 2015^a
(Percentages of gross exports)

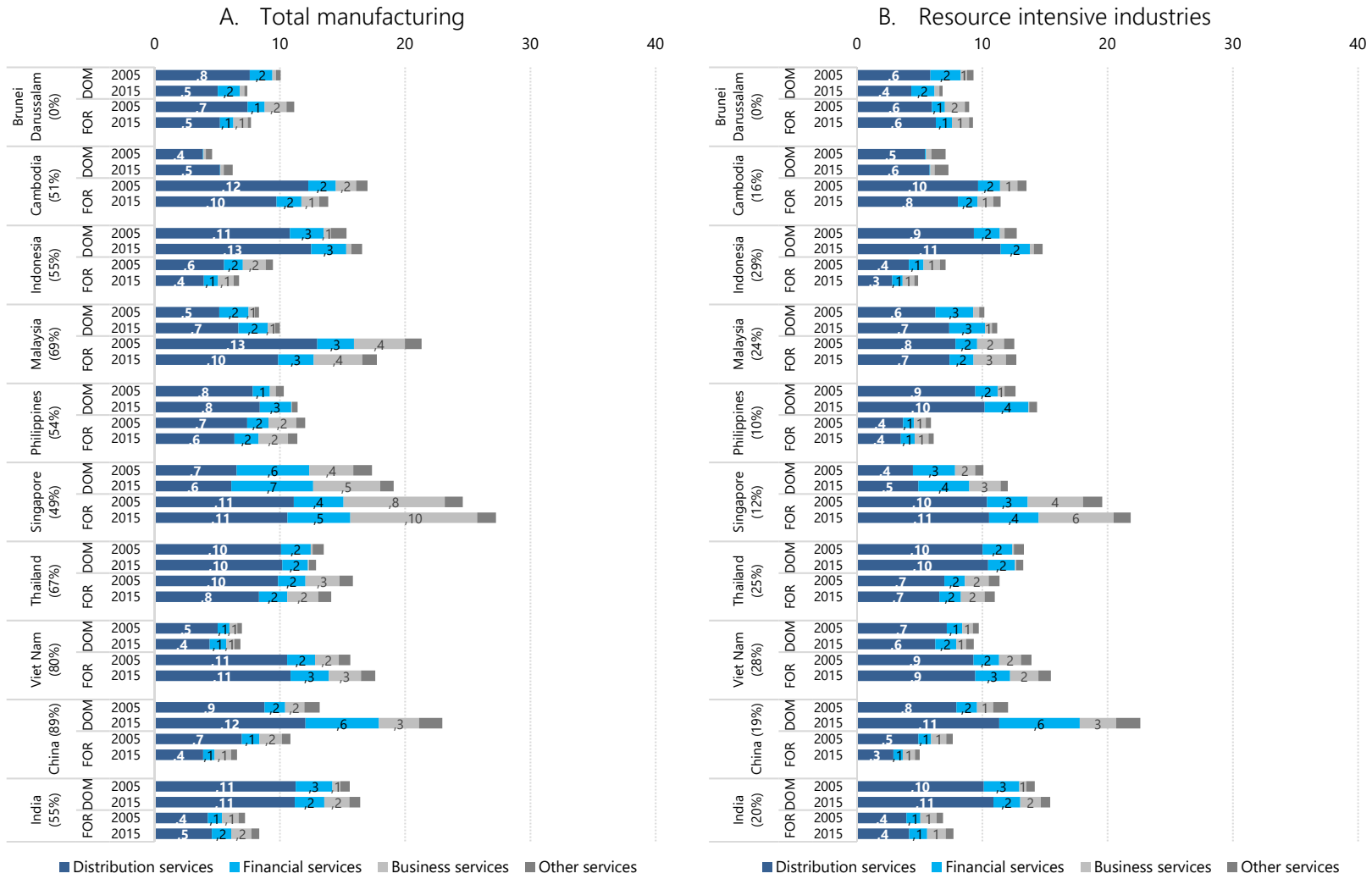


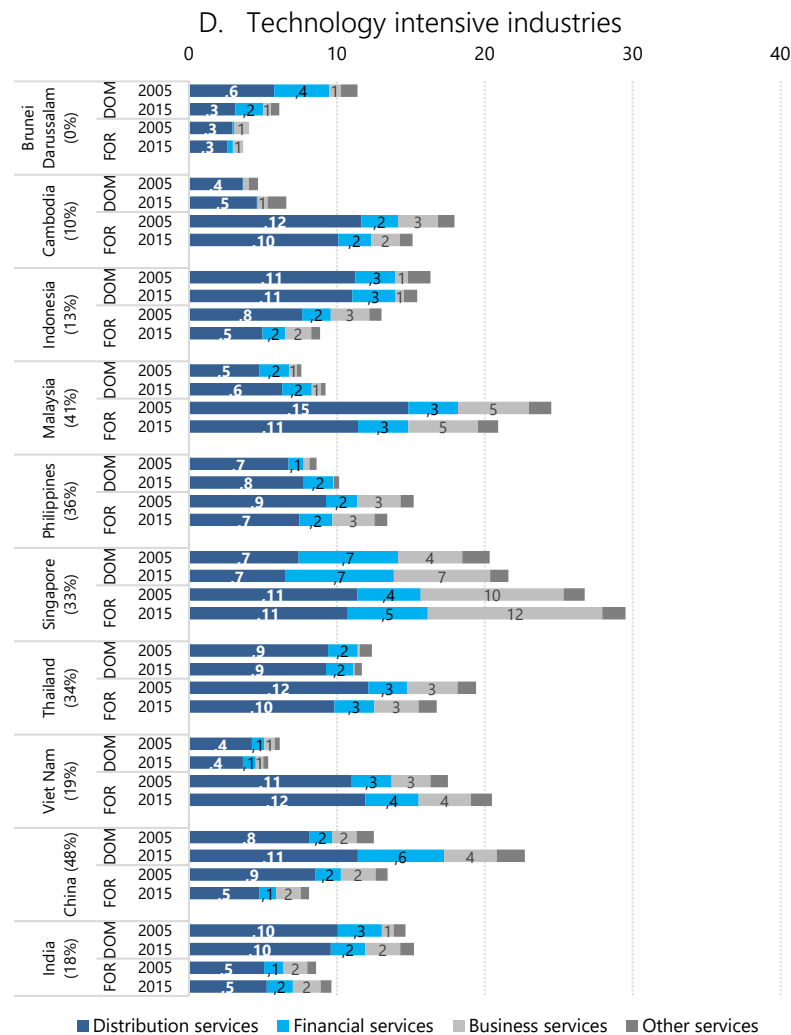
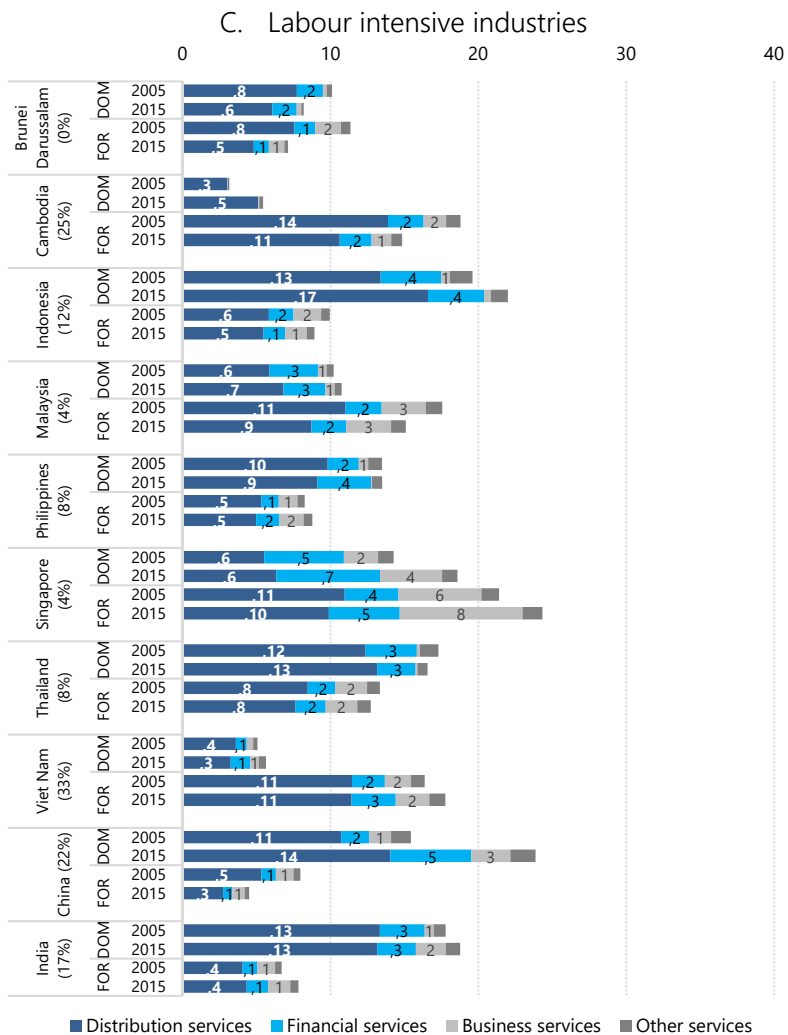


Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a DOM = Domestic, FOR = Foreign. Percentages in brackets indicate the share of the corresponding manufacturing category (i.e., total, resource intensive, labour intensive or technology intensive) in countries' total gross exports in 2015.

Figure 6
Selected Asian countries: services value added in gross manufacturing exports by type of service and geographical origin, 2005 and 2015^a
(Percentages of gross exports)





Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a DOM = Domestic, FOR = Foreign. Percentages in brackets indicate the share of the corresponding manufacturing category (i.e., total, resource intensive, labour intensive and technology intensive) in countries' total gross exports in 2015.

B. Correlation analysis

In order to assess the relationship between the international competitiveness of countries' manufacturing exports and their servicification levels, we performed a correlation analysis using the Spearman's rank coefficient (r_s). This coefficient is a non-parametric (i.e., distribution-free) statistical measure of the strength and direction (positive or negative) of the monotonic association between two variables.⁹ It ranges between -1 and 1; the closer r_s is to ± 1 the stronger the relationship (when significant). A positive coefficient indicates that both variables increase or decrease simultaneously, while a negative value implies that one variable increases (decreases) as the other one decreases (increases).

As shown in tables 1 and 2, the results on Latin America (7 countries) do not provide evidence of a statistically significant (monotonic) association between countries' manufacturing competitiveness (as measured by their share in world exports) and the contribution of services value added (see also figures 7 and 8). Neither in the case of total services nor in that of business services, and irrespective of the geographical origin of value added (i.e., domestic or foreign), correlation coefficients are significant for any manufacturing sector. In contrast, ASEAN countries do show a significant positive relationship between the extent of their presence in foreign markets and the level of servicification. The association between the two variables is particularly strong in technology intensive industries, both for total services and business services.

The disaggregation by geographical origin of value added shows relevant differences between manufacturing sectors. For resource intensive industries and technology intensive industries, a larger contribution of total domestic services is found to be associated with a larger share of ASEAN countries in world exports (with a somewhat larger correlation coefficient in resource intensive industries). In contrast, total foreign services are only significantly related with the competitiveness of technology intensive industries. In the case of business services, there is no evidence of a significant association between domestic value added and any of the three sectors' participation in world exports, while foreign value added is only found to be positively related with the competitiveness of technology intensive industries.

It should be noted that the above results cannot be regarded as indicative of a causal effect of countries' servicification levels on their competitiveness in foreign markets (or viceversa). Although such impact might be possible, further research is needed to assess whether that is the case here.

⁹ There is a monotonic relationship between two variables when they are simultaneously increasing (or simultaneously decreasing), or when one variable decreases as the other one increases. Unlike Pearson's correlation coefficient, Spearman's coefficient does not require the assumption that the relationship between the variables is linear, nor that of normal distribution. It considers the ranked values of the data, assigning a rank of 1 to the lowest value, 2 to the next lowest and so on. If there are not tied (i.e., same value) observations, like in our case, Spearman's coefficient can be computed as: $r_s = 1 - \frac{6 \sum d_i^2}{n(n^2-1)}$, where d_i is the difference in the ranks assigned to the values of the variable for item (here, country-year) i , and n is the number of observations.

Table 1
Spearman's rank correlation coefficient of countries' share in world manufacturing exports and servicification level (total services), 2005-2015^a

	Total		Domestic		Foreign	
	Latin America (7 countries)	ASEAN (8 countries)	Latin America (7 countries)	ASEAN (8 countries)	Latin America (7 countries)	ASEAN (8 countries)
Total manufacturing	0.3896 (0.3785)	0.8447*** (0.1405)	0.2662 (0.2717)	0.5401** (0.2441)	-0.0891 (0.4626)	0.5527** (0.2284)
Resource intensive industries	0.2079 (0.3322)	0.5021* (0.2825)	0.1503 (0.3385)	0.6161** (0.2506)	-0.2806 (0.3953)	0.0940 (0.3041)
Labour intensive industries	0.2454 (0.3980)	0.5962** (0.2743)	0.2249 (0.3526)	0.4317 (0.3288)	0.0023 (0.4246)	0.2163 (0.3113)
Technology intensive industries	0.4243 (0.3573)	0.9180*** (0.0848)	0.3253 (0.2818)	0.5571** (0.2461)	-0.0209 (0.4387)	0.7540*** (0.1996)
Observations	77	88	77	88	77	88

Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TIVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a Bootstrapped standard errors in brackets (1000 replications); *** significant at the 1% level, ** significant at the 5% level, * significant at the 10% level.

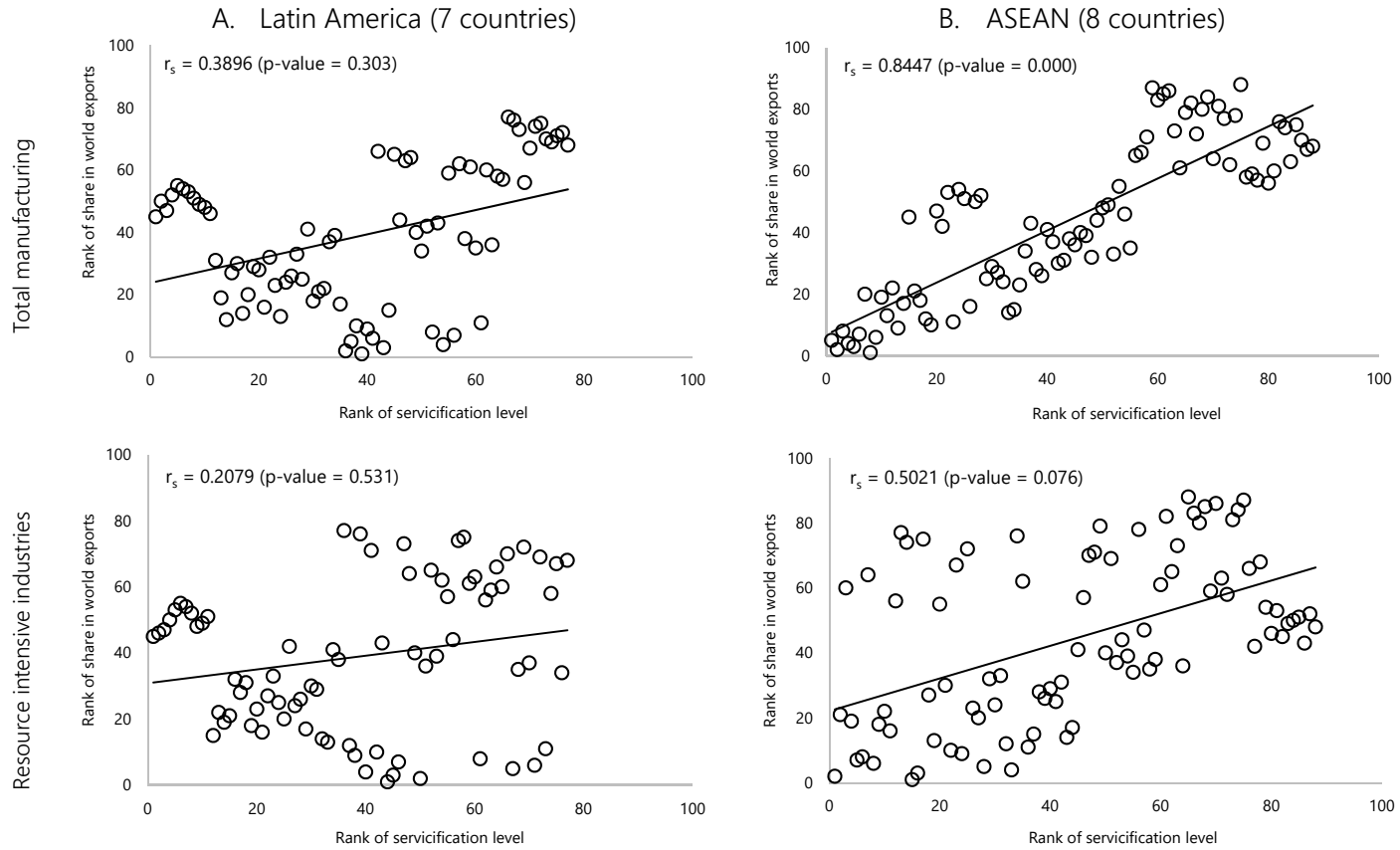
Table 2
Spearman's rank correlation coefficient of countries' share in world manufacturing exports and servicification level (business services), 2005-2015^a

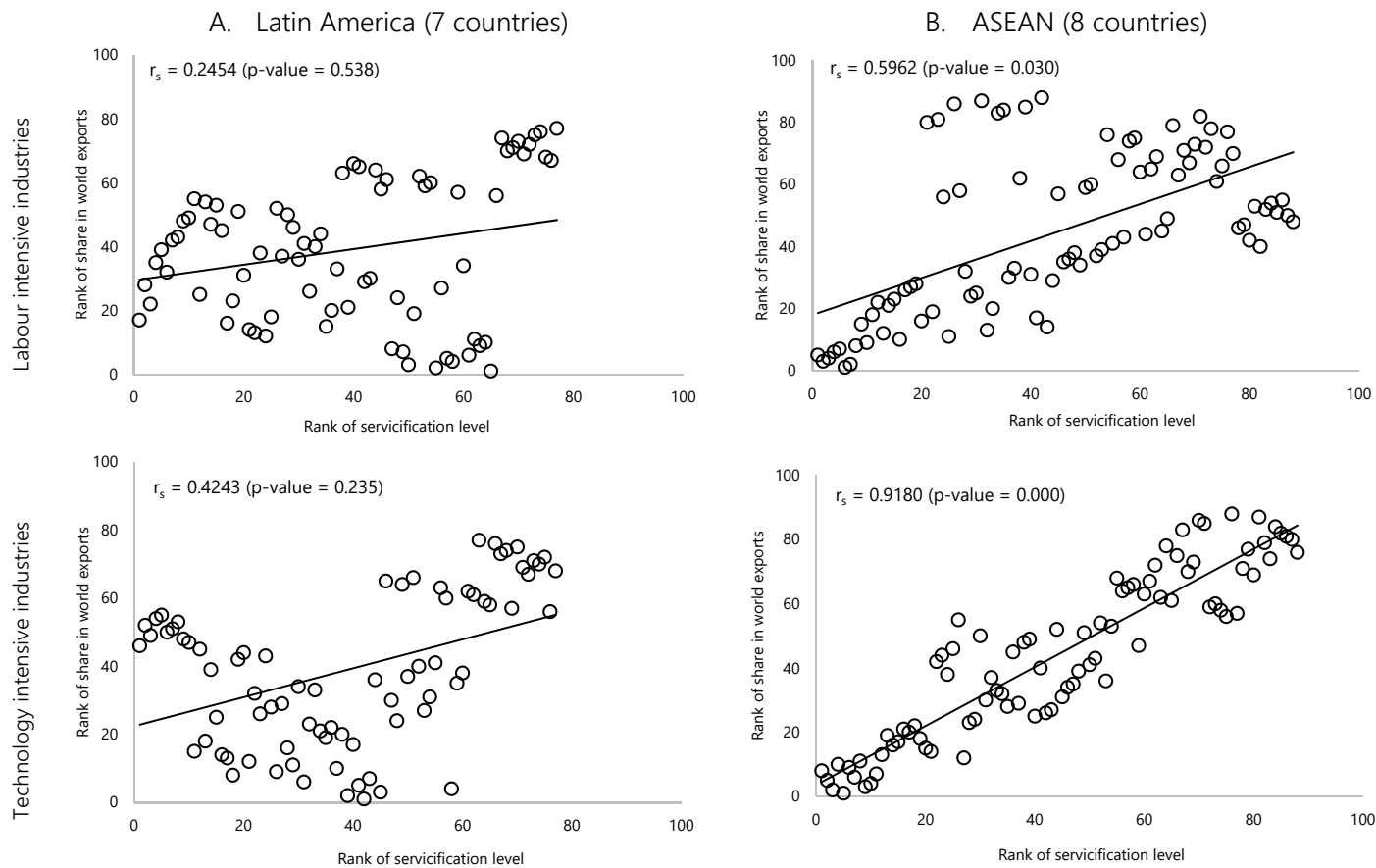
	Total		Domestic		Foreign	
	Latin America (7 countries)	ASEAN (8 countries)	Latin America (7 countries)	ASEAN (8 countries)	Latin America (7 countries)	ASEAN (8 countries)
Total manufacturing	0.2353 (0.3062)	0.7267*** (0.1655)	0.1550 (0.2998)	0.2889 (0.3061)	0.1246 (0.4157)	0.7310*** (0.1801)
Resource intensive industries	0.0639 (0.3428)	0.2926 (0.2827)	-0.0230 (0.3554)	-0.0840 (0.3241)	-0.1411 (0.3633)	0.3464 (0.3137)
Labour intensive industries	-0.0456 (0.3486)	0.5365* (0.2751)	-0.0759 (0.3441)	0.4031 (0.2723)	0.1281 (0.3812)	0.4515 (0.2896)
Technology intensive industries	0.3022 (0.2894)	0.8373*** (0.1418)	0.1885 (0.2797)	0.1107 (0.3439)	0.1453 (0.4117)	0.8703*** (0.1162)
Observations	77	88	77	88	77	88

Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TIVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a Bootstrapped standard errors in brackets (1000 replications); *** significant at the 1% level, ** significant at the 5% level, * significant at the 10% level.

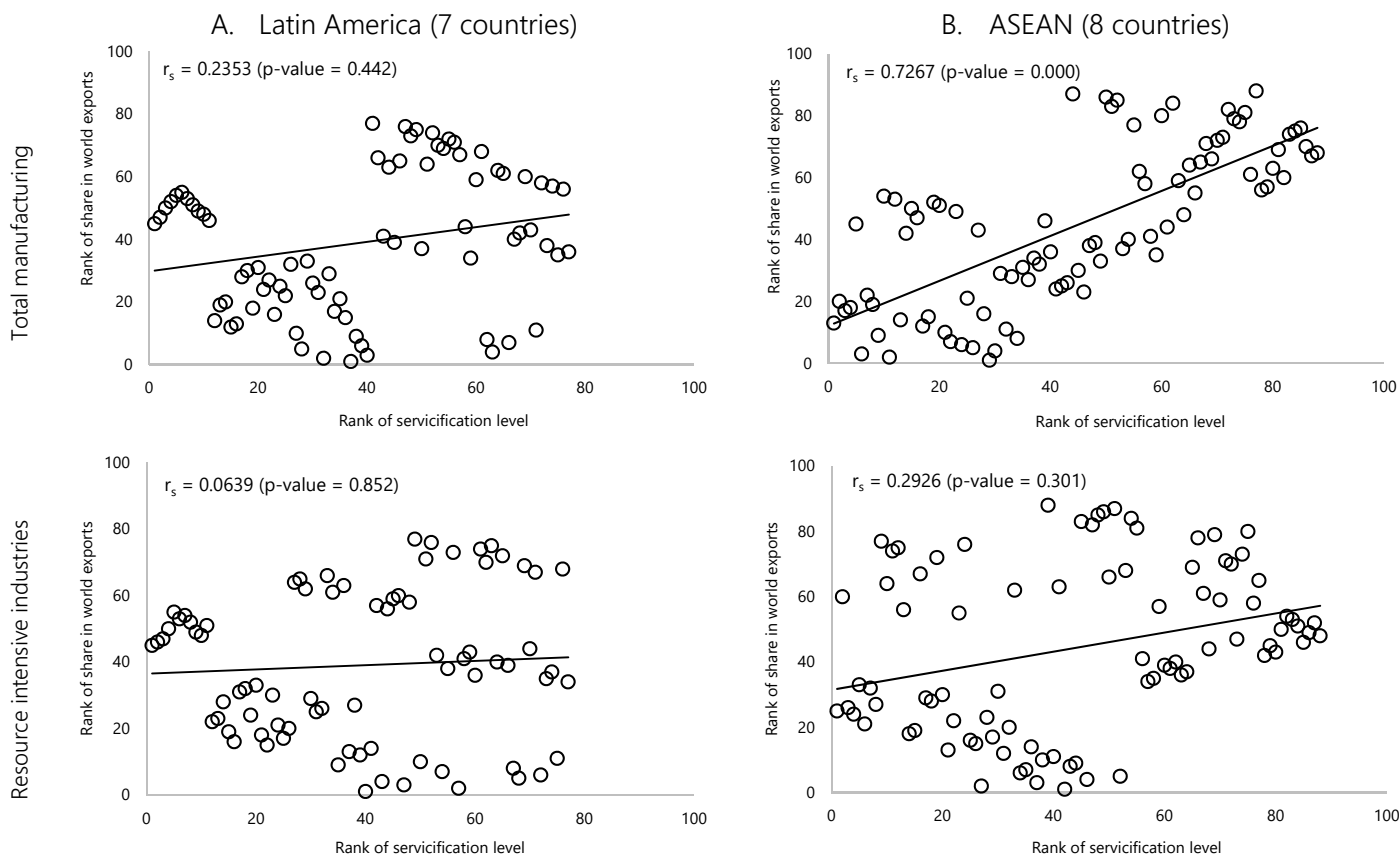
Figure 7
Latin America (7 countries) and ASEAN (8 countries): rank of total services value added in gross manufacturing exports vs. rank of share in world exports, 2005-2015

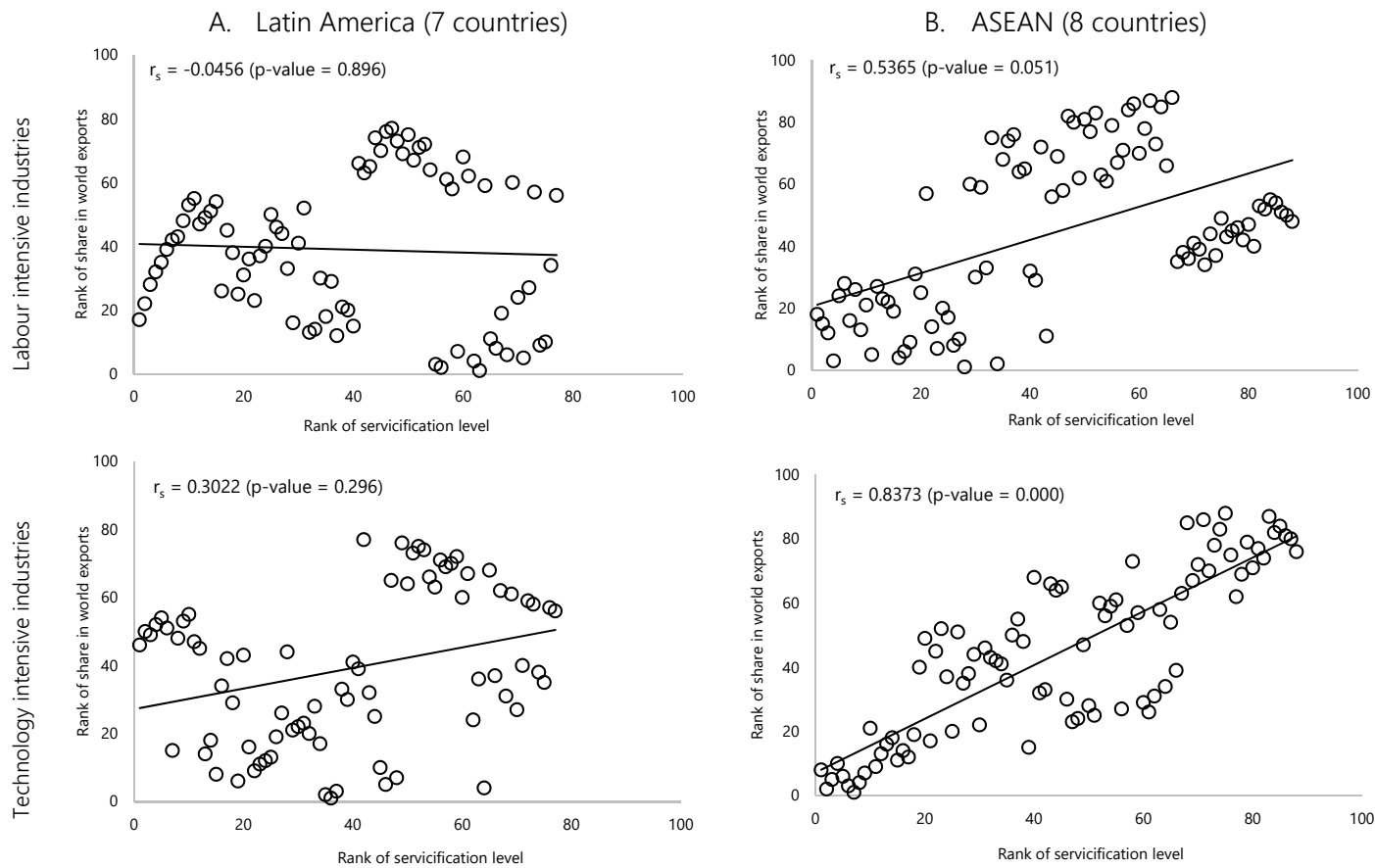




Source: Authors'elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

Figure 8
 Latin America (7 countries) and ASEAN (8 countries): rank of business services value added in gross manufacturing exports vs. rank of share in world exports, 2005-2015





Source: Authors'elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2

III. Conclusions

This document analyzes the trends and patterns of Latin American countries' incorporation of intermediate services in manufacturing exports, as a potential explanation for the region's stagnant performance in foreign markets over the past two decades. The data show that Latin American countries have similar servicification levels than ASEAN economies. The main difference between the two groups of countries is that services embodied in Latin American manufacturing exports are mostly domestic, whereas ASEAN economies show a larger participation of imported services (particularly in business services). This could be due to the fact that ASEAN countries are more integrated in GVCs.

A correlation analysis shows a significant positive relationship between the extent of ASEAN countries' participation in foreign markets and their level of servicification (particularly, in the case of technology intensive industries, and for foreign value added). In contrast, no evidence of a significant association between services value added and manufacturing competitiveness is found for Latin American countries.

The analysis performed in this document could be further developed to the extent that more comprehensive data become available. Particularly, data on relevant control variables would allow econometric analysis to better understand differences between Latin American and Asian countries in terms of the international performance of their manufacturing sectors, and its relationship with different domestic and imported intermediate services intensities.

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Annex

Annex 1

Table A.1
Classification of manufacturing industries

ISIC rev.4	Code	Description	Category
10, 11, 12	D10T12	Food products, beverages and tobacco	Resource intensive
13, 14, 15	D13T15	Textiles, wearing apparel, leather and related products	Labour intensive
16	D16	Wood and products of wood and cork	Resource intensive
17, 18	D17T18	Paper, paper products and printing	Resource intensive
19	D19	Coke and refined petroleum products	Resource intensive
20, 21	D20T21	Chemicals and pharmaceutical products	Technology intensive
22	D22	Rubber and plastics products	Resource intensive
23	D23	Other non-metallic mineral products	Resource intensive
24	D24	Basic metals	Resource intensive
25	D25	Fabricated metal products, except machinery and equipment	Resource intensive
26	D26	Computer, electronic and optical products	Technology intensive
27	D27	Electrical equipment	Technology intensive
28	D28	Machinery and equipment n.e.c.	Technology intensive
29	D29	Motor vehicles, trailers and semi-trailers	Technology intensive
30	D30	Other transport equipment	Labour intensive
31, 32, 33	D31T33	Other manufacturing; repair and installation of machinery and equipment	Labour intensive

Source: Authors' elaboration based on OECD's TiVA database and Francois, J. and J. Woerz (2008), "Producer Services, Manufacturing Linkages, and Trade," *Journal of Industry, Competition and Trade*, 8:3, 199-229.

Table A.2
Classification of services

ISIC rev.4	Code	Name	Category
45, 46, 47	D45T47	Wholesale and retail trade; repair of motor vehicles	Distribution services
49, 50, 51, 52, 53	D49T53	Transportation and storage	Distribution services
55, 56	D55T56	Accommodation and food services	Other services
58, 59, 60	D58T60	Publishing, audiovisual and broadcasting activities	Distribution services
61	D61	Telecommunications	Distribution services
62, 63	D62T63	IT and other information services (Computer programming, consultancy and related activities; Information service activities)	Business services
64, 65, 66	D64T66	Financial and insurance activities	Financial services
68	D68	Real estate activities	Financial services
69, 70, 71, 72, 73, 74, 75, 77, 78, 79, 80, 81, 82	D69T82	Other business sector services (e.g., Legal and accounting activities; Activities of head offices; management consultancy activities; Architectural and engineering activities, technical testing and analysis; Scientific research and development; Advertising and market research; Rental and leasing activities)	Business services
84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96, 97, 98	D84T98	Public admin, education and health; social and personal services	Other services

Source: Authors' elaboration based on OECD's TiVA database and Wolfmayr, Y. (2008), *Producer Services and Competitiveness of Manufacturing Exports, FIW Research Report*, N° 009, WIFO, Vienna.

Table A.3
Selected regions: services value added in gross manufacturing exports by type of service and geographical origin, 2015^{a,b}
(Percentages of gross exports)

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
World (64 countries)	Resource intensive	D10T12	32.9	23.7	9.2	18.8	13.9	4.9	4.8	3.3	1.5	6.7	4.4	2.3
		D16	29.1	20.6	8.5	15.1	10.7	4.5	5.5	4.1	1.4	6.0	3.9	2.1
		D17T18	33.3	23.5	9.8	16.5	11.5	4.9	5.6	4.0	1.5	8.3	5.6	2.6
		D19	20.4	11.8	8.6	11.0	6.5	4.5	3.5	2.0	1.4	4.3	2.3	2.0
		D22	31.6	20.2	11.4	16.4	10.3	6.1	5.5	3.8	1.8	6.7	4.1	2.6
		D23	29.5	21.9	7.6	14.4	10.4	4.0	5.9	4.6	1.3	6.5	4.6	1.9
		D24	30.3	19.9	10.4	14.5	9.2	5.3	6.3	4.4	1.9	6.2	3.8	2.4
	Labour intensive	D25	28.4	18.8	9.6	13.0	8.2	4.8	5.9	4.2	1.7	6.6	4.3	2.3
		D13T15	29.4	21.5	7.9	18.2	13.3	4.9	5.2	4.0	1.2	4.0	2.6	1.4
		D30	31.6	20.9	10.7	14.1	8.8	5.4	6.1	4.3	1.8	8.6	5.9	2.8
	Technology intensive	D31T33	29.1	20.0	9.1	14.6	9.9	4.7	5.6	4.0	1.6	6.3	4.2	2.1
		D20T21	31.3	19.6	11.8	14.8	9.4	5.5	5.1	3.1	2.0	8.2	4.7	3.5
		D26	30.9	16.9	14.0	15.6	8.5	7.1	5.5	3.3	2.2	7.6	3.8	3.8
		D27	30.2	19.4	10.7	15.4	9.6	5.8	5.7	4.0	1.7	6.3	3.9	2.4
		D28	29.7	19.5	10.2	14.0	8.9	5.1	5.6	3.9	1.7	7.2	4.7	2.5
D29	30.7	18.3	12.4	16.3	9.6	6.7	4.7	2.8	1.9	7.0	4.2	2.8		
Latin America (7 countries)	Resource intensive	D10T12	31.4	25.6	5.8	18.0	14.8	3.1	4.0	3.2	0.8	8.0	6.5	1.5
		D16	27.3	21.2	6.1	13.7	10.5	3.2	4.3	3.3	0.9	7.7	6.2	1.5
		D17T18	33.3	24.8	8.6	17.4	12.9	4.5	4.8	3.6	1.2	9.3	7.0	2.3
		D19	27.9	19.0	8.9	15.3	10.4	5.0	4.1	2.9	1.2	7.1	4.9	2.2
		D22	36.1	22.0	14.1	22.5	14.3	8.2	4.4	2.4	2.0	7.5	4.6	3.0
		D23	31.5	20.3	11.2	17.5	11.1	6.4	4.3	2.7	1.6	8.1	5.7	2.4
		D24	27.8	20.1	7.7	15.3	11.3	4.0	4.5	3.3	1.2	6.4	4.5	2.0
	Labour intensive	D25	32.7	18.7	13.9	19.1	11.4	7.7	4.6	2.3	2.3	7.5	4.5	3.0
		D13T15	29.7	17.7	12.0	19.2	11.6	7.6	4.4	2.7	1.7	5.0	2.9	2.0
		D30	36.3	23.6	12.8	19.0	12.2	6.8	5.6	3.5	2.1	9.8	6.7	3.0
	Technology intensive	D31T33	36.6	22.9	13.7	22.1	14.0	8.0	4.8	2.7	2.1	8.2	5.5	2.7
		D20T21	35.9	24.1	11.8	20.8	14.0	6.8	4.4	2.7	1.6	8.8	6.1	2.7
		D26	35.5	14.5	21.0	21.8	9.4	12.4	4.4	1.0	3.4	7.8	3.9	3.8
		D27	34.6	18.3	16.3	22.0	12.5	9.5	4.1	1.5	2.6	7.0	3.9	3.1
		D28	33.5	20.2	13.3	20.1	12.7	7.4	4.2	2.1	2.1	7.7	4.8	2.9
D29	36.0	18.3	17.7	22.1	11.9	10.2	4.4	1.7	2.6	8.0	4.3	3.7		

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
ASEAN	Resource intensive	D10T12	22.9	14.2	8.7	16.4	11.1	5.2	3.4	2.0	1.3	2.1	0.5	1.6
		D16	21.7	12.5	9.3	13.7	8.3	5.4	4.6	3.0	1.6	2.0	0.4	1.6
		D17T18	27.8	16.6	11.2	16.7	10.7	6.0	5.9	4.0	1.9	3.6	1.0	2.6
		D19	23.3	8.6	14.7	12.4	4.6	7.8	5.0	2.4	2.5	4.6	1.1	3.4
		D22	30.2	14.1	16.1	19.5	9.9	9.6	5.5	3.0	2.5	3.4	0.5	2.9
		D23	22.3	10.7	11.5	13.7	7.0	6.7	4.5	2.5	1.9	2.8	0.6	2.2
		D24	23.7	10.2	13.5	13.6	6.2	7.4	5.5	3.0	2.5	3.0	0.5	2.5
	Labour intensive	D25	29.0	10.8	18.2	15.6	6.1	9.6	6.6	3.1	3.5	4.7	1.0	3.7
		D13T15	25.9	11.8	14.2	18.0	8.7	9.3	4.3	2.1	2.3	2.2	0.4	1.8
		D30	33.4	14.3	19.1	16.3	7.2	9.1	7.8	4.3	3.6	7.1	1.9	5.2
	Technology intensive	D31T33	29.0	13.4	15.7	16.4	8.0	8.4	6.3	3.5	2.8	4.4	1.1	3.3
		D20T21	31.3	13.8	17.5	16.3	7.6	8.7	6.5	3.6	2.9	6.8	1.9	4.9
		D26	37.8	14.2	23.5	18.0	7.2	10.8	7.7	3.6	4.0	10.0	2.7	7.3
		D27	28.7	9.6	19.2	16.9	6.2	10.7	5.6	2.2	3.3	4.4	0.7	3.7
		D28	34.2	13.7	20.5	16.8	6.8	10.0	8.1	4.2	3.9	7.2	1.9	5.3
		D29	28.1	12.2	15.9	18.4	9.1	9.3	4.8	2.2	2.6	3.1	0.3	2.8

Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a This table shows the participation of services value added in each manufacturing industry's gross exports, disaggregated by type of service and geographical origin (domestic and foreign). For example, in the case of Latin America (7 countries), domestic services value added accounted for 25.6% of industry D10T12's gross exports, while the contribution of foreign services value added was 5.8%, for a total of 31.4%. By type of service, distribution services represented 18% of gross exports (57% of total services value added), financial services 4% (13% of the total), business services 8% (25% of the total), and other services (not shown) 1.4% (4% of the total) (i.e., 18% + 4% + 8% + 1.4% = 31.4%). Each type of service is also disaggregated by geographical origin.

^b For a description of industry codes see table A.1.

Table A.4
Selected Latin American countries: services value added in gross manufacturing exports by type of service and geographical origin, 2015^{ab}
(Percentages of gross exports)

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Argentina	Resource intensive	D10T12	19.5	17.3	2.2	13.5	12.3	1.2	2.1	1.8	0.3	3.0	2.4	0.6
		D16	18.5	16.0	2.4	12.9	11.6	1.4	2.1	1.8	0.4	2.6	2.0	0.6
		D17T18	20.7	16.8	3.9	13.2	11.0	2.1	2.8	2.3	0.6	3.7	2.7	1.0
		D19	10.5	7.7	2.7	5.7	4.3	1.5	2.0	1.5	0.4	2.2	1.5	0.7
		D22	19.6	14.0	5.6	12.3	9.1	3.2	2.7	1.9	0.8	3.5	2.2	1.3
		D23	14.5	11.8	2.7	9.4	7.9	1.5	1.9	1.6	0.4	2.5	1.8	0.6
		D24	13.9	10.5	3.4	8.9	7.1	1.8	1.9	1.4	0.5	2.2	1.4	0.8
	Labour intensive	D25	13.7	10.4	3.3	8.8	7.0	1.8	1.9	1.4	0.5	2.3	1.5	0.8
		D13T15	18.4	14.9	3.5	12.1	10.0	2.1	2.6	2.1	0.5	3.0	2.2	0.7
		D30	16.5	11.7	4.8	9.9	7.3	2.6	2.4	1.6	0.8	3.2	2.1	1.1
	Technology intensive	D31T33	16.3	13.3	3.0	10.4	8.7	1.7	2.2	1.7	0.5	2.8	2.1	0.7
		D20T21	19.1	14.6	4.5	10.8	8.3	2.5	2.8	2.1	0.6	4.2	3.1	1.1
		D26	23.4	17.8	5.6	12.9	9.9	3.0	3.8	3.0	0.9	5.4	4.0	1.4
		D27	20.0	14.0	6.0	12.9	9.6	3.3	2.6	1.6	0.9	3.4	2.1	1.3
		D28	16.2	12.0	4.2	10.1	7.8	2.3	2.2	1.6	0.7	2.9	1.9	1.0
		D29	20.0	12.1	7.8	12.2	7.8	4.3	2.7	1.6	1.1	3.9	2.0	1.9
Brazil	Resource intensive	D10T12	38.0	32.5	5.5	19.2	16.7	2.5	5.3	4.5	0.8	11.9	10.0	1.9
		D16	27.3	22.3	4.9	13.5	11.2	2.3	4.6	3.9	0.7	7.9	6.3	1.6
		D17T18	33.7	26.8	6.8	16.4	13.2	3.1	5.1	4.2	0.9	10.6	8.2	2.3
		D19	36.6	28.5	8.1	18.4	14.8	3.6	5.2	4.1	1.2	11.3	8.6	2.8
		D22	35.9	28.0	7.9	18.0	14.1	3.8	5.5	4.3	1.1	10.8	8.3	2.4
		D23	33.3	27.5	5.8	15.4	12.8	2.5	5.2	4.4	0.8	11.1	9.1	2.0
		D24	34.1	26.8	7.3	16.1	12.8	3.2	6.4	5.3	1.1	9.8	7.4	2.4
	Labour intensive	D25	28.8	22.3	6.5	12.4	9.6	2.8	5.2	4.2	1.0	9.5	7.3	2.2
		D13T15	30.0	24.5	5.5	16.8	13.8	2.9	5.3	4.5	0.8	6.7	5.2	1.4
		D30	38.8	28.0	10.8	18.2	13.1	5.1	6.6	4.8	1.8	11.6	8.5	3.1
	Technology intensive	D31T33	30.9	24.8	6.1	14.8	11.9	2.9	4.6	3.7	0.9	10.0	8.1	1.9
		D20T21	40.4	32.1	8.2	19.4	15.4	4.0	5.5	4.4	1.1	13.2	10.6	2.6
		D26	47.2	36.3	10.9	24.5	19.1	5.4	5.9	4.3	1.7	14.4	11.3	3.2
		D27	38.2	29.9	8.3	18.4	14.5	4.0	5.5	4.2	1.3	12.2	9.8	2.4
		D28	36.5	28.5	8.0	18.4	14.7	3.7	5.3	4.0	1.2	10.9	8.4	2.5
		D29	40.5	31.5	9.0	18.2	14.3	3.9	5.9	4.5	1.3	14.0	10.8	3.2

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Chile	Resource intensive	D10T12	31.3	24.8	6.5	16.6	12.7	3.8	4.2	3.2	0.9	8.8	7.4	1.4
		D16	27.6	21.1	6.6	13.1	9.5	3.6	4.3	3.2	1.0	8.4	6.9	1.5
		D17T18	30.7	22.3	8.4	14.4	9.7	4.7	4.7	3.4	1.3	9.2	7.3	1.9
		D19	31.0	12.3	18.6	14.2	4.9	9.3	4.7	2.1	2.6	10.1	4.6	5.5
		D22	33.1	20.0	13.1	16.5	8.8	7.7	5.2	3.3	1.9	9.4	6.7	2.7
		D23	31.8	22.8	9.0	15.0	9.9	5.1	4.8	3.4	1.4	9.9	7.9	2.0
		D24	26.9	18.3	8.7	12.7	7.9	4.8	4.4	2.9	1.5	7.3	5.5	1.8
	Labour intensive	D25	18.8	11.9	6.9	8.4	4.6	3.8	3.3	2.0	1.2	5.7	4.3	1.4
		D13T15	35.7	23.7	12.0	21.6	13.8	7.8	4.8	3.0	1.8	7.4	5.7	1.8
		D30	29.6	19.2	10.4	14.2	8.5	5.6	4.6	2.8	1.7	8.6	6.3	2.3
	Technology intensive	D31T33	33.0	24.6	8.5	15.8	11.0	4.8	4.9	3.5	1.4	10.1	8.3	1.8
		D20T21	31.5	20.1	11.4	15.2	8.6	6.6	4.3	2.7	1.6	10.0	7.5	2.5
		D26	19.7	10.2	9.4	10.4	4.9	5.5	2.7	1.2	1.5	5.4	3.5	1.9
		D27	27.7	18.0	9.8	13.2	7.7	5.5	4.2	2.6	1.6	8.2	6.2	2.0
		D28	22.1	14.0	8.1	10.4	6.0	4.5	3.5	2.1	1.4	6.7	4.9	1.7
		D29	30.7	18.4	12.3	15.0	7.9	7.1	4.9	2.9	1.9	8.6	6.2	2.4
Colombia	Resource intensive	D10T12	26.6	21.4	5.2	14.6	11.5	3.1	4.4	3.6	0.8	5.5	4.5	1.0
		D16	25.4	21.0	4.3	13.3	10.7	2.6	4.9	4.2	0.7	5.2	4.3	0.9
		D17T18	31.1	24.4	6.6	15.7	11.8	3.9	6.0	5.0	1.0	6.8	5.4	1.4
		D19	30.2	19.5	10.7	17.3	10.5	6.8	5.1	3.8	1.3	5.8	3.9	1.9
		D22	36.4	23.1	13.3	19.8	11.7	8.1	6.2	4.4	1.8	7.5	4.9	2.5
		D23	20.9	17.1	3.8	10.3	8.1	2.2	4.0	3.4	0.6	5.0	4.2	0.8
		D24	23.6	16.9	6.7	11.5	7.6	3.9	5.0	4.0	1.1	4.9	3.7	1.2
	Labour intensive	D25	29.7	20.0	9.7	13.4	7.8	5.6	6.2	4.6	1.6	7.4	5.6	1.8
		D13T15	25.0	16.9	8.0	14.4	9.1	5.3	4.9	3.8	1.2	4.0	2.8	1.1
		D30	32.1	16.0	16.1	15.9	7.8	8.1	5.9	3.1	2.7	7.9	3.8	4.1
	Technology intensive	D31T33	21.9	16.9	5.0	9.7	6.8	3.0	4.6	3.8	0.8	5.5	4.6	0.9
		D20T21	31.3	20.6	10.7	16.5	10.0	6.5	5.0	3.5	1.4	7.0	4.9	2.1
		D26	35.0	22.6	12.4	15.3	8.0	7.3	6.3	4.3	1.9	10.5	8.0	2.5
		D27	30.3	20.2	10.1	13.7	7.9	5.9	5.9	4.3	1.6	7.9	6.0	1.9
		D28	24.8	17.7	7.1	12.7	8.6	4.1	4.5	3.4	1.1	5.6	4.2	1.4
		D29	31.5	19.3	12.2	16.1	8.8	7.3	5.7	3.9	1.8	7.1	4.8	2.3

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Costa Rica	Resource intensive	D10T12	34.8	25.4	9.3	14.6	9.4	5.1	5.1	3.7	1.4	12.0	9.7	2.3
		D16	23.2	17.7	5.6	7.9	5.0	3.0	4.5	3.5	0.9	7.9	6.5	1.4
		D17T18	31.0	19.3	11.7	15.2	8.4	6.7	5.2	3.5	1.7	8.1	5.6	2.5
		D19	31.2	17.1	14.0	17.7	9.2	8.5	4.4	2.4	1.9	7.0	4.2	2.8
		D22	33.5	18.9	14.6	17.3	8.7	8.6	5.1	3.0	2.1	8.5	5.5	3.0
		D23	31.9	22.2	9.7	11.7	7.1	4.6	5.0	3.4	1.6	12.4	9.5	2.8
		D24	33.2	22.0	11.1	13.1	7.2	5.9	8.8	6.8	2.0	8.6	6.2	2.4
	Labour intensive	D25	29.9	18.6	11.3	13.3	7.1	6.2	5.7	3.7	2.0	8.1	5.8	2.3
		D13T15	25.5	14.7	10.8	13.7	6.9	6.8	4.5	3.0	1.5	5.7	3.9	1.9
		D30	36.1	24.5	11.5	14.6	8.1	6.5	8.5	6.4	2.0	10.9	8.4	2.5
	Technology intensive	D31T33	33.6	22.2	11.4	13.4	7.1	6.3	7.1	5.2	1.9	9.9	7.4	2.5
		D20T21	34.0	22.0	12.0	14.8	8.0	6.9	4.7	3.0	1.7	11.0	8.3	2.8
		D26	29.7	19.2	10.5	12.7	6.8	5.9	5.2	3.6	1.6	9.7	7.3	2.4
		D27	28.6	15.0	13.6	14.3	6.5	7.8	4.2	2.1	2.1	7.7	4.9	2.8
		D28	28.2	14.3	13.9	14.6	6.5	8.1	4.4	2.2	2.2	6.8	4.0	2.8
		D29	37.5	23.6	13.9	16.1	8.2	7.9	7.9	5.7	2.3	10.7	7.8	3.0
Mexico	Resource intensive	D10T12	31.1	20.4	10.8	22.4	15.8	6.6	2.8	1.1	1.7	5.1	3.2	1.9
		D16	30.6	19.1	11.6	20.6	13.7	6.9	3.2	1.5	1.7	5.8	3.6	2.2
		D17T18	40.7	24.3	16.4	28.1	18.4	9.7	4.1	1.8	2.3	7.2	3.8	3.4
		D19	23.4	11.0	12.4	15.8	7.9	7.9	2.6	0.9	1.6	4.2	2.0	2.2
		D22	39.0	21.3	17.7	26.9	16.5	10.5	4.0	1.4	2.5	6.7	3.2	3.5
		D23	34.8	16.8	18.0	22.0	11.0	11.0	4.0	1.4	2.6	7.4	4.1	3.3
		D24	26.5	15.5	10.9	18.8	12.5	6.3	2.8	1.1	1.7	3.9	1.8	2.1
	Labour intensive	D25	36.5	18.7	17.8	23.0	13.0	10.1	4.5	1.6	2.9	7.4	3.9	3.6
		D13T15	32.4	14.2	18.2	22.7	11.0	11.7	4.0	1.4	2.6	4.5	1.6	2.9
		D30	34.5	18.4	16.1	21.0	11.6	9.4	4.4	1.9	2.5	7.8	4.7	3.1
	Technology intensive	D31T33	39.0	23.2	15.7	25.2	15.8	9.3	4.6	2.2	2.4	7.9	4.9	3.0
		D20T21	41.5	23.5	18.0	28.8	18.1	10.8	3.9	1.4	2.5	7.3	3.7	3.6
		D26	35.4	14.1	21.2	21.8	9.2	12.6	4.4	1.0	3.4	7.6	3.8	3.9
		D27	34.9	17.2	17.7	23.1	12.7	10.4	4.0	1.2	2.8	6.5	3.2	3.3
		D28	34.1	17.8	16.2	22.0	12.6	9.4	3.9	1.3	2.6	6.9	3.7	3.2
		D29	36.5	17.3	19.3	23.1	11.9	11.3	4.3	1.4	2.9	7.6	3.7	3.9

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Peru	Resource intensive	D10T12	31.7	25.2	6.5	20.6	16.7	3.8	4.5	3.5	1.0	5.3	4.0	1.3
		D16	24.0	18.4	5.7	15.8	12.5	3.4	3.7	2.9	0.9	3.6	2.5	1.1
		D17T18	24.6	18.2	6.4	13.7	10.1	3.6	4.5	3.5	1.0	4.9	3.5	1.4
		D19	20.5	13.9	6.6	11.5	7.6	3.9	3.7	2.8	1.0	4.1	2.8	1.3
		D22	29.6	18.4	11.2	17.7	11.1	6.6	4.9	3.3	1.7	5.5	3.3	2.2
		D23	19.3	15.0	4.3	11.6	9.1	2.5	3.0	2.2	0.7	3.1	2.2	0.9
		D24	15.5	12.5	3.1	8.9	7.1	1.7	2.2	1.6	0.5	1.9	1.4	0.6
	Labour intensive	D25	17.4	12.6	4.8	11.3	8.6	2.7	2.5	1.6	0.8	2.3	1.5	0.9
		D13T15	27.5	17.8	9.6	17.7	11.4	6.3	5.0	3.5	1.5	3.9	2.5	1.4
		D30	20.4	13.8	6.6	12.6	8.7	3.8	3.2	2.1	1.1	3.2	2.0	1.2
	Technology intensive	D31T33	16.9	12.4	4.5	10.4	7.8	2.6	2.7	1.9	0.7	2.7	1.8	0.8
		D20T21	26.4	17.9	8.5	14.6	9.7	4.9	4.2	2.9	1.2	5.9	4.1	1.8
		D26	25.4	16.8	8.6	13.8	8.9	4.9	4.0	2.6	1.4	5.8	4.0	1.8
		D27	19.7	13.9	5.8	12.5	9.1	3.4	2.7	1.8	0.9	2.9	1.8	1.1
		D28	18.5	12.9	5.5	11.7	8.5	3.2	2.7	1.7	0.9	2.8	1.8	1.1
		D29	22.6	13.8	8.9	14.6	9.3	5.2	3.2	1.8	1.4	3.5	1.8	1.7

Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a This table should be read as table A.3.

^b For a description of industry codes see table A.1.

Table A.5
Selected Asian countries: services value added in gross manufacturing exports by type of service and geographical origin, 2015^{a,b}
(Percentages of gross exports)

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Brunei Darussalam	Resource intensive	D10T12	21.5	8.2	13.3	14.5	5.4	9.1	3.9	2.0	1.9	2.3	0.4	1.9
		D16	15.5	10.4	5.2	8.4	4.8	3.6	5.2	4.4	0.8	1.6	0.8	0.8
		D17T18	19.9	12.1	7.7	10.7	5.3	5.3	6.1	5.1	1.0	2.4	1.0	1.5
		D19	4.1	3.1	1.1	2.4	1.7	0.7	1.2	1.0	0.2	0.5	0.3	0.2
		D22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		D23	5.6	5.2	0.4	4.1	3.7	0.4	1.1	1.1	0.0	0.4	0.4	0.0
		D24	5.4	3.3	2.1	3.7	2.2	1.4	1.1	0.9	0.1	0.5	0.1	0.4
	Labour intensive	D25	10.8	5.4	5.4	8.1	2.7	5.4	2.7	2.7	0.0	0.0	0.0	0.0
		D13T15	15.7	8.5	7.2	11.3	6.5	4.9	2.6	1.6	1.0	1.3	0.3	1.0
		D30	15.2	7.1	8.1	9.1	4.0	5.1	3.0	2.0	1.0	3.0	1.0	2.0
	Technology intensive	D31T33	12.7	5.8	6.9	7.8	3.4	4.4	2.8	1.8	1.0	1.5	0.3	1.2
		D20T21	9.1	5.9	3.2	5.2	3.0	2.2	2.1	1.8	0.4	1.2	0.5	0.7
		D26	20.0	17.5	2.5	12.5	10.0	2.5	5.0	5.0	0.0	2.5	2.5	0.0
D27		9.8	4.9	4.9	7.3	2.4	4.9	2.4	2.4	0.0	0.0	0.0	0.0	
		D28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		D29	16.3	7.5	8.8	10.6	4.0	6.6	3.5	2.6	0.9	1.8	0.4	1.3
Cambodia	Resource intensive	D10T12	18.1	8.9	9.2	13.8	7.2	6.7	1.1	0.1	1.1	1.5	0.4	1.0
		D16	10.1	5.5	4.7	8.2	4.8	3.4	0.6	0.0	0.6	0.6	0.1	0.5
		D17T18	25.6	8.7	16.9	17.9	6.2	11.7	2.5	0.1	2.4	2.5	0.5	2.0
		D19	26.7	8.4	18.3	21.3	7.2	14.1	2.0	0.1	2.0	2.1	0.3	1.8
		D22	23.3	6.6	16.8	17.0	5.1	11.8	2.4	0.1	2.3	2.1	0.3	1.7
		D23	22.5	7.5	15.0	16.6	5.7	10.9	1.9	0.1	1.8	2.0	0.4	1.6
		D24	23.5	6.4	17.2	16.4	4.7	11.7	2.6	0.1	2.6	2.2	0.2	2.0
	Labour intensive	D25	18.4	4.7	13.7	12.2	3.3	8.9	2.3	0.0	2.3	2.0	0.3	1.7
		D13T15	20.8	5.5	15.3	16.2	5.2	11.0	2.2	0.0	2.2	1.4	0.0	1.3
		D30	17.6	5.0	12.6	12.3	3.9	8.4	2.0	0.0	1.9	1.7	0.2	1.5
	Technology intensive	D31T33	15.8	5.2	10.6	11.6	4.2	7.4	1.6	0.0	1.5	1.4	0.3	1.1
		D20T21	23.1	7.5	15.6	16.7	5.6	11.1	2.1	0.1	2.0	2.2	0.5	1.7
		D26	22.6	7.4	15.2	14.7	4.7	10.1	2.3	0.1	2.2	3.1	1.1	2.0
D27		21.5	4.8	16.7	14.4	3.6	10.8	2.8	0.0	2.8	2.5	0.4	2.1	
		D28	19.7	5.2	14.4	13.1	3.7	9.4	2.4	0.1	2.3	2.2	0.4	1.8
		D29	19.6	5.8	13.9	14.3	5.1	9.2	2.0	0.0	1.9	2.1	0.2	1.9

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Indonesia	Resource intensive	D10T12	17.5	14.3	3.2	13.7	11.8	1.9	2.2	1.7	0.5	0.9	0.2	0.6
		D16	16.2	13.1	3.1	11.7	10.0	1.8	2.8	2.2	0.5	0.9	0.3	0.6
		D17T18	26.8	19.6	7.2	18.1	14.0	4.1	5.1	3.9	1.2	2.0	0.5	1.5
		D19	14.6	10.4	4.2	10.1	7.7	2.4	2.7	1.9	0.8	1.1	0.3	0.8
		D22	30.4	19.6	10.9	20.5	14.1	6.4	5.5	3.7	1.8	2.6	0.5	2.0
		D23	13.0	10.2	2.7	9.7	8.1	1.6	1.9	1.5	0.5	0.7	0.2	0.5
		D24	17.2	11.9	5.3	11.5	8.5	2.9	3.4	2.4	1.0	1.3	0.3	1.0
	Labour intensive	D25	27.4	17.1	10.2	16.9	11.3	5.6	6.0	4.1	2.0	2.4	0.6	1.9
		D13T15	31.8	22.9	8.9	23.8	18.1	5.7	4.9	3.5	1.4	1.7	0.4	1.3
		D30	40.6	26.1	14.5	24.4	16.5	7.9	8.8	6.2	2.6	3.9	1.0	2.9
	Technology intensive	D31T33	25.5	18.2	7.3	16.6	12.4	4.1	5.2	3.9	1.3	2.0	0.6	1.4
		D20T21	18.1	12.4	5.7	12.7	9.4	3.3	2.9	2.0	0.9	1.5	0.4	1.1
		D26	31.8	19.0	12.8	20.0	13.1	6.9	6.1	3.8	2.3	3.8	1.0	2.8
D27		22.4	13.1	9.3	14.3	9.1	5.2	4.4	2.7	1.7	2.2	0.5	1.7	
		D28	33.9	21.4	12.4	21.0	14.2	6.8	7.3	4.9	2.3	3.2	0.8	2.4
		D29	18.8	12.1	6.7	13.7	9.6	4.1	2.8	1.7	1.0	1.3	0.3	1.1
Malaysia	Resource intensive	D10T12	25.4	14.6	10.8	17.7	11.1	6.6	4.0	2.5	1.5	2.7	0.5	2.1
		D16	19.7	11.5	8.2	12.2	7.4	4.8	4.2	3.0	1.2	2.2	0.5	1.7
		D17T18	23.1	11.5	11.6	13.8	7.1	6.7	4.9	3.2	1.7	3.2	0.7	2.5
		D19	15.1	7.2	7.9	8.4	4.1	4.3	3.6	2.4	1.2	2.3	0.5	1.9
		D22	29.8	11.7	18.1	18.0	7.4	10.6	5.8	3.2	2.7	4.3	0.7	3.6
		D23	23.9	11.2	12.7	14.0	6.7	7.3	5.2	3.3	1.9	3.4	0.7	2.7
		D24	27.6	9.6	18.0	15.2	5.0	10.2	6.7	3.6	3.0	4.0	0.5	3.5
	Labour intensive	D25	26.9	8.8	18.1	14.9	4.9	10.1	6.1	2.9	3.2	4.1	0.6	3.5
		D13T15	27.5	12.9	14.6	18.1	8.9	9.2	5.1	3.0	2.1	3.1	0.5	2.6
		D30	29.1	9.7	19.4	16.6	6.1	10.5	5.8	2.5	3.3	4.7	0.5	4.2
	Technology intensive	D31T33	24.0	10.0	14.0	13.9	6.0	7.9	5.1	2.9	2.2	3.6	0.7	2.9
		D20T21	24.3	10.0	14.4	14.9	6.5	8.4	4.6	2.6	2.1	3.5	0.6	3.0
		D26	32.4	9.5	23.0	19.0	6.7	12.3	5.6	1.8	3.8	6.0	0.7	5.4
D27		28.4	7.7	20.7	16.7	4.9	11.8	5.4	2.0	3.4	4.5	0.5	4.0	
		D28	24.4	7.3	17.1	14.0	4.4	9.5	5.0	2.1	2.9	3.9	0.5	3.4
		D29	33.9	12.1	21.8	20.2	7.7	12.5	6.6	3.1	3.5	5.0	0.8	4.3

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Philippines	Resource intensive	D10T12	19.7	16.0	3.7	15.4	13.2	2.2	3.0	2.4	0.6	0.7	0.0	0.7
		D16	22.4	15.2	7.3	13.4	9.2	4.2	6.3	5.0	1.3	1.4	0.1	1.3
		D17T18	26.5	16.5	10.0	16.1	10.3	5.8	6.9	5.2	1.7	1.9	0.1	1.8
		D19	18.5	11.6	6.9	11.5	7.6	3.9	4.6	3.4	1.2	1.3	0.0	1.3
		D22	24.1	13.6	10.6	15.4	9.1	6.3	5.5	3.8	1.7	1.9	0.1	1.8
		D23	22.7	15.1	7.6	14.0	9.7	4.3	6.0	4.6	1.4	1.4	0.1	1.4
		D24	18.5	12.4	6.0	11.4	8.0	3.3	4.7	3.5	1.2	1.1	0.0	1.1
	Labour intensive	D25	19.9	11.4	8.6	12.1	7.4	4.7	5.1	3.3	1.8	1.5	0.0	1.5
		D13T15	22.8	16.8	6.1	16.6	12.8	3.8	4.3	3.4	1.0	1.0	0.1	1.0
		D30	24.7	13.0	11.7	14.9	8.5	6.4	5.9	3.7	2.2	2.3	0.1	2.3
	Technology intensive	D31T33	20.9	12.3	8.6	12.7	7.8	4.8	5.3	3.7	1.5	1.7	0.1	1.6
		D20T21	22.9	13.7	9.2	14.9	9.5	5.4	5.1	3.6	1.5	1.8	0.1	1.7
		D26	23.9	9.6	14.3	15.4	7.5	7.9	4.0	1.7	2.4	3.3	0.1	3.2
		D27	22.7	11.1	11.6	14.4	7.8	6.6	4.8	2.7	2.0	2.2	0.1	2.1
		D28	20.4	10.4	10.0	12.6	7.0	5.6	4.7	2.9	1.8	1.9	0.1	1.8
		D29	23.8	12.0	11.8	16.5	9.1	7.4	4.3	2.4	1.9	1.9	0.1	1.8
Singapore	Resource intensive	D10T12	41.3	17.7	23.6	18.1	7.7	10.4	9.6	5.5	4.0	11.6	3.6	8.0
		D16	47.1	21.5	25.6	17.1	6.2	11.0	17.6	10.9	6.7	10.3	3.5	6.7
		D17T18	42.3	19.5	22.9	14.5	6.2	8.3	12.8	8.1	4.7	13.1	4.5	8.6
		D19	30.3	9.6	20.7	15.0	4.3	10.7	6.5	2.9	3.6	6.9	1.9	5.1
		D22	39.4	17.3	22.2	14.6	5.7	8.9	11.3	6.8	4.5	11.7	4.1	7.6
		D23	49.3	20.3	29.0	18.7	6.6	12.1	13.6	7.8	5.7	14.5	5.0	9.6
		D24	50.3	21.5	28.8	17.4	5.8	11.6	16.4	9.8	6.6	13.2	4.2	8.9
	Labour intensive	D25	46.2	19.5	26.6	14.9	4.9	10.0	14.1	8.4	5.7	14.5	5.0	9.5
		D13T15	44.3	20.6	23.6	18.3	6.7	11.6	15.2	10.4	4.9	9.0	2.9	6.0
		D30	38.2	16.1	22.1	14.8	5.7	9.1	10.1	5.8	4.3	11.2	3.7	7.5
	Technology intensive	D31T33	50.1	22.3	27.9	18.4	7.3	11.1	14.2	8.6	5.6	14.7	5.0	9.7
		D20T21	42.6	17.6	25.0	18.1	7.2	10.9	9.9	5.4	4.4	12.4	4.0	8.4
		D26	57.6	24.7	32.9	17.1	6.4	10.7	14.3	8.3	6.0	22.9	8.4	14.5
		D27	48.4	20.3	28.1	15.9	5.3	10.6	14.0	8.2	5.7	15.8	5.6	10.2
		D28	47.7	19.7	28.0	16.0	5.3	10.7	13.7	7.9	15.3	5.3	10.0	
		D29	39.0	16.2	22.7	14.4	5.0	9.4	10.9	6.5	4.5	11.4	3.8	7.6

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
Thailand	Resource intensive	D10T12	22.4	16.1	6.3	17.6	13.7	3.9	2.7	1.8	0.9	1.2	0.1	1.1
		D16	24.2	14.1	10.1	15.6	9.5	6.1	5.1	3.6	1.5	1.9	0.1	1.8
		D17T18	25.0	13.3	11.7	16.5	9.5	7.0	4.8	3.0	1.8	2.2	0.1	2.1
		D19	15.4	7.2	8.2	10.2	5.6	4.7	2.7	1.3	1.4	1.5	0.1	1.5
		D22	31.3	15.0	16.2	21.2	11.3	9.8	5.3	2.8	2.4	2.9	0.1	2.8
		D23	25.0	14.1	10.9	17.0	10.4	6.5	4.4	2.8	1.7	2.1	0.2	1.9
		D24	25.1	9.8	15.3	15.6	6.8	8.8	5.0	2.4	2.7	2.6	0.1	2.5
	Labour intensive	D25	27.6	9.5	18.2	17.2	6.8	10.4	5.3	2.0	3.2	3.1	0.1	3.0
		D13T15	28.9	20.0	8.9	22.6	16.9	5.7	3.7	2.5	1.3	1.5	0.1	1.4
		D30	28.4	11.0	17.4	17.9	8.2	9.7	5.1	2.2	3.0	3.5	0.1	3.4
	Technology intensive	D31T33	29.9	14.8	15.1	19.9	10.9	8.9	5.4	2.9	2.5	2.7	0.2	2.6
		D20T21	23.6	12.1	11.5	16.1	9.3	6.9	3.8	2.1	1.7	2.2	0.1	2.1
		D26	29.1	11.2	17.9	19.6	9.2	10.3	4.4	1.5	2.9	3.5	0.1	3.4
		D27	30.1	10.1	20.0	19.7	8.0	11.7	5.0	1.6	3.4	3.4	0.1	3.4
		D28	29.8	10.9	18.9	19.2	8.2	11.0	5.2	2.0	3.2	3.3	0.1	3.2
		D29	29.9	13.2	16.7	20.4	10.4	10.0	4.8	2.2	2.7	2.9	0.1	2.8
Viet Nam	Resource intensive	D10T12	25.7	11.2	14.5	17.3	8.1	9.2	4.0	1.6	2.4	2.9	0.8	2.1
		D16	28.4	10.4	18.0	16.6	5.9	10.7	6.0	2.5	3.4	3.7	1.0	2.7
		D17T18	26.3	9.2	17.1	15.9	5.5	10.3	5.1	2.0	3.1	3.5	1.0	2.6
		D19	18.6	7.0	11.6	10.5	3.8	6.7	4.4	2.0	2.4	2.4	0.7	1.7
		D22	26.5	7.3	19.2	16.1	4.4	11.7	4.8	1.5	3.3	3.6	0.7	2.9
		D23	19.8	7.2	12.6	11.7	4.3	7.4	4.0	1.5	2.4	2.6	0.7	1.9
		D24	20.9	5.8	15.1	11.8	3.3	8.5	4.7	1.5	3.2	2.8	0.5	2.3
	Labour intensive	D25	24.8	5.3	19.5	14.0	3.1	10.9	5.2	1.2	4.0	3.5	0.6	3.0
		D13T15	23.0	5.4	17.6	14.8	3.1	11.7	4.2	1.3	2.9	2.6	0.5	2.1
		D30	26.0	5.8	20.2	14.7	3.5	11.2	5.0	1.2	3.8	4.2	0.6	3.6
	Technology intensive	D31T33	24.4	6.6	17.8	14.4	3.8	10.6	4.8	1.5	3.3	3.4	0.7	2.7
		D20T21	24.4	6.3	18.0	14.8	3.6	11.2	4.3	1.4	2.9	3.5	0.8	2.7
		D26	26.8	4.9	21.9	16.3	3.7	12.6	4.3	0.5	3.7	4.6	0.4	4.2
		D27	25.7	5.3	20.4	15.6	3.7	11.9	4.6	0.9	3.7	3.8	0.5	3.3
		D28	26.8	5.3	21.6	15.7	3.3	12.3	5.1	1.0	4.1	4.0	0.5	3.5
		D29	23.9	5.7	18.2	14.4	3.8	10.6	4.4	1.1	3.4	3.4	0.6	2.9

Country	Sector	Industry	Total services			Distribution services			Financial services			Business services		
			Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
China	Resource intensive	D10T12	20.6	17.6	3.0	13.2	11.4	1.9	3.9	3.4	0.4	2.2	1.7	0.5
		D16	25.7	20.7	5.0	14.0	11.0	3.0	6.2	5.4	0.7	3.5	2.6	0.9
		D17T18	29.6	24.7	4.9	17.3	14.4	2.9	6.4	5.7	0.7	3.8	2.8	1.0
		D19	26.5	19.7	6.8	14.2	10.4	3.8	6.3	5.2	1.1	4.0	2.6	1.4
		D22	30.6	24.7	5.9	16.3	12.7	3.6	7.3	6.5	0.8	4.5	3.4	1.1
		D23	28.3	24.3	4.0	14.2	11.9	2.4	7.3	6.7	0.6	4.3	3.5	0.8
		D24	27.8	22.2	5.6	13.5	10.3	3.1	8.1	7.2	0.9	3.8	2.7	1.1
	Labour intensive	D25	28.9	23.8	5.1	13.9	11.0	2.9	8.1	7.3	0.8	4.3	3.3	1.0
		D13T15	28.8	24.8	4.0	18.1	15.6	2.6	5.8	5.2	0.5	3.1	2.4	0.7
		D30	28.1	21.9	6.3	14.3	10.9	3.4	6.9	6.0	1.0	4.5	3.1	1.4
	Technology intensive	D31T33	27.4	22.5	4.9	14.6	11.7	2.9	6.6	5.9	0.7	3.9	2.9	0.9
		D20T21	28.1	22.8	5.3	14.7	11.6	3.1	6.5	5.8	0.7	4.4	3.4	1.0
		D26	32.0	21.4	10.6	17.3	11.0	6.3	6.5	5.1	1.4	5.8	3.6	2.2
		D27	31.0	24.3	6.6	16.1	12.2	3.9	7.5	6.5	1.0	4.9	3.6	1.3
		D28	29.7	24.1	5.7	14.7	11.4	3.3	7.8	6.9	0.8	4.7	3.6	1.2
		D29	29.3	23.4	5.9	15.2	11.8	3.4	7.2	6.3	0.8	4.6	3.4	1.2
India	Resource intensive	D10T12	21.5	18.7	2.7	16.9	15.4	1.5	1.9	1.4	0.5	1.9	1.4	0.5
		D16	16.6	13.5	3.1	11.9	10.2	1.7	2.0	1.4	0.6	1.9	1.3	0.6
		D17T18	25.2	17.5	7.6	15.7	11.5	4.2	3.8	2.5	1.4	4.1	2.5	1.5
		D19	16.9	9.4	7.5	9.5	5.6	3.9	3.1	1.8	1.4	3.0	1.5	1.5
		D22	24.3	15.3	9.1	15.1	10.0	5.1	3.9	2.3	1.6	3.8	2.1	1.7
		D23	24.9	17.4	7.5	15.6	11.5	4.1	3.9	2.5	1.4	3.9	2.5	1.4
		D24	30.7	19.2	11.5	19.6	13.4	6.2	5.3	3.1	2.2	3.8	1.7	2.1
	Labour intensive	D25	25.6	15.3	10.4	16.0	10.4	5.6	4.3	2.3	2.0	3.8	1.8	2.0
		D13T15	25.5	19.4	6.0	18.0	14.6	3.5	3.5	2.4	1.1	2.7	1.6	1.1
		D30	24.8	16.1	8.8	14.1	9.4	4.7	4.7	3.0	1.7	4.4	2.6	1.8
	Technology intensive	D31T33	28.8	18.6	10.2	17.8	12.2	5.6	4.7	2.8	1.9	4.4	2.5	2.0
		D20T21	22.7	14.6	8.1	13.8	9.2	4.5	3.5	2.1	1.4	4.0	2.4	1.6
		D26	27.8	14.2	13.6	15.0	7.6	7.4	4.7	2.3	2.5	6.3	3.4	2.8
		D27	25.7	13.5	12.2	15.5	8.8	6.7	4.4	2.1	2.3	4.1	1.8	2.3
		D28	26.2	15.8	10.5	15.5	9.9	5.6	4.7	2.7	2.0	4.3	2.2	2.0
		D29	28.4	18.5	9.9	17.1	11.7	5.4	4.8	3.0	1.9	4.6	2.7	1.9

Source: Authors' elaboration, on the basis of Organization for Economic Cooperation and Development (OECD), Trade in Value Added (TiVA) [online database] https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2018_C2.

^a This table should be read as table A.3.

^b For a description of industry codes see table A.1.



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