



# SERVICES POLICY REVIEW



# PARAGUAY

(II)







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For further information on the publication, please contact:

**Trade Negotiations and Commercial Diplomacy Branch**

**Division on International Trade and Commodities**

**Tel: +41 22 917 56 40**

**Fax: +41 22 917 00 44**

**Website: [unctad.org/SPRs](http://unctad.org/SPRs)**

**[tncdb@unctad.org](mailto:tncdb@unctad.org)**

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## ABBREVIATIONS

AFD	Paraguayan Financial Agency for Development
AfDB	African Development Bank
AIS	automatic identification system
ANNP	National Administration of Navigation and Ports
APAR	Paraguayan Association of Architects
ASD	Asian Development Bank
BCP	Central Bank of Paraguay
CAF	Development Bank of Latin America
CAFYM	Centre of Fluvial and Maritime Shipowners
CAIASA	Complejo Agroindustrial Angostura S.A.
CAPACO	Paraguayan Chamber of Construction
CAPAVI	Paraguayan Chamber of Housing and Infrastructure
CAVIALPA	Chamber of Paraguayan Road Construction
CIAM	Commission for the Integration of Surveying, Agronomy, Architecture, Geology and Engineering for MERCOSUR
CIH	Hidrovia Intergovernmental Committee
COVID-19	coronavirus disease
CPC	central product classification
DGEEC	General Directorate of Statistics and Census
DGMM	General Directorate of Merchant Navy
DINAC	National Directorate of Civil Aeronautics
DINATRAN	National Transport Directorate
DITC	Division on International Trade and Commodities
dwt	deadweight tonnage
EBRD	European Bank for Reconstruction and Development
ECLAC	Economic Commission for Latin America and the Caribbean
EFTA	European Free Trade Association
EIB	European Investment Bank
ESCAP	Economic and Social Commission for Asia and the Pacific
EVAD	export value added database
FATS	Foreign Affiliates Trade in Services
FDI	foreign direct investment
FEPASA	Ferrocarril del Paraguay S. A.
FTA	free trade agreement
GATS	General Agreement on Trade in Services
GCI	global competitiveness index
GDP	gross domestic product
HPP	Hidrovia Paraguay-Paraná
ICT	information and communications technology
IDB	Inter-American Development Bank
IIRSA	Initiative for the Integration of the Regional Infrastructure of South America
IMO	International Maritime Organization
IsDB	Islamic Development Bank
IWT	inland water transport
KIS	knowledge intensive services
LAIA	Latin American Integration Association
MDB	Multilateral Development Bank
MEC	Ministry of Education and Sciences
MERCOSUR	Southern Common Market

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MIC	Ministry of Industry and Trade
MOPC	Ministry of Public Works and Communications
MOU	memorandum of understanding
MSME	micro, small and medium sized enterprise
MUVH	Ministry of Urbanism, Housing and Habitat
NDP 2030	national development plan 2030
NLP	national logistics plan
NSF	National Services Forum
PGN	General Naval Prefecture
RCA	revealed comparative advantage
RTA	regional trade agreement
REPSE	Registry of Services Providers
SDG	Sustainable Development Goal
SET	Under Secretariat of State for Taxation
SME	small and medium sized enterprise
SPR	Services Policy Review
STEM	science, technology, engineering, and mathematics
TNCDB	Trade Negotiations and Commercial Diplomacy Branch
TRN	net tonnage
TSD	Trade in Services and Development
UIC	International Union of Railways
UN-OHRLLS	United Nations Office of the High Representative for Least Developed Countries, Landlocked Developing Countries, and Small Island Developing States
UNA	National University of Asunción
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNI	National University of Itapúa
UNVES	National University of Villarrica del Espíritu Santo
VUE	single export window
WEF	World Economic Forum

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## EXECUTIVE SUMMARY

This Services Policy Review (SPR) of Paraguay is the second assessment, as a follow-up to the first SPR in 2014/2015, that the Paraguayan government has requested from UNCTAD to assist the country in diversifying and improving its economy for the benefit of its people.

International trade remains very important for Paraguay. The sum of imports and exports of goods and services was 71 per cent of GDP in 2018, above global and regional averages. Exports of merchandise from Paraguay remain concentrated in the Southern Common Market (MERCOSUR), which received 58 per cent of these exports in 2019, and focused on primary commodities, which represented 87 per cent of global merchandise exports from Paraguay in the same year. This calls for a higher focus on diversification strategies, including the role of services within the economy.

Although services exports represented only around 9 per cent of total exports from Paraguay in 2019, they have shown much more dynamism than goods exports. Between 2008 and 2019, services exports from Paraguay grew 8.3 per cent annually, as opposed to 2.1 per cent annual growth in goods exports. Most notably, the trade in services growth in Paraguay has been higher than in the MERCOSUR and in the Latin American Integration Association (LAIA) where, between 2008 and 2019, it grew 1.4 and 3.3 per cent, respectively. Moreover, trade in services has previously been more resilient than trade in goods. In 2009, where effects of the global economic and financial crisis of the last decade were most immediately felt, services trade continued to grow while merchandise trade dropped 20 per cent from the previous year. In the global trade downturn in 2015, services declined 4 per cent while goods decreased almost 16 per cent.

Yet there is still a long way to go. In 2019, Paraguay was responsible for 0.02 per cent of global services exports, ranking the country in the 120th position. Furthermore, the analysis of services exports by category shows the asymmetric export profiles of developed and developing economies. While developed economies rely more on financial, telecommunications and information and communications technology (ICT), which are sectors with high productivity and relevant forward linkages, developing economies have a higher focus on transport and travel services. In Paraguay, in 2019, these sectors explained more than 75 per cent of total services exports, more than the average of developing economies, the MERCOSUR and in the LAIA.

Employment distribution also reflects the relevance of the services sector. Tertiary activities accounted for 68 per cent of people employed in 2018, confirming that services are a key dimension of economic development through employment generation and need to be the focus of public policies. The services sector is also important for female employment, as revealed by the 45 per cent share of women in services workers in 2017, higher than 30 and 28 per cent for the primary sector and industry, respectively. But the categories displaying higher participation of women workers are of low productivity or rely on workers with less years of education. It is important for women's inclusiveness to develop strategies to increase their participation in other categories with higher productivity. Paraguay has improved its ranking in the global competitiveness index (GCI) from the World Economic Forum (WEF), but it is underperforming in pillars such as ICT adoption and innovation capability, revealing that strategies to upgrade services are required.

Recognising the need to develop its services sector, and following on from the first UNCTAD SPR, the Paraguayan government has requested UNCTAD for this second SPR and has proposed the National Plan on Trade in Services in an international seminar co-organized with UNCTAD in November 2018. This plan is based on two strategic pillars. The first pillar deals with the promotion of trade in services, strengthening of institutions, development of regulations, formalization of trade in services, and improving services statistics. The second pillar aims at expanding services market access for national suppliers in external markets. This SPR underscores the need to move forward

with the implementation of this plan, followed-up as appropriate by the National Services Forum (NSF). This will promote a multi-stakeholder approach to policymaking in services, give visibility to the achieved results and raise awareness on the importance of services for trade of all economic sectors.

This SPR underlines that supporting the development of services activities requires support from adequate statistics. To support the creation of services statistics, the Paraguayan government is pushing for mandatory connectivity of administrative records of the services providers, national and foreigners, as well as physical or legal persons. Improved statistics will be useful for policymakers and negotiators when adopting new regulations or when defining country trade positions.

This SPR focuses upon transport, particularly fluvial services, and professional services associated with the construction sector. For Paraguay, fluvial transport accounted for 32 per cent of the country's imports and 70 per cent of exports in 2013. Yet, there remains many impediments which need to be addressed in order to facilitate increased trade, including inadequate port equipment, limited dredging to access and navigation channels and insufficient beacons, limited statistical information, outdated legislation, among others.

On the construction side, the level of foreign direct investment (FDI) in the construction sector amounted to US\$146 million between 2008 and 2019, with an important part focusing on the real estate market. Professional services associated with the construction sector have a number of challenges: the sector tends to be of medium-productivity, relying more on people with less years of education; there is a perceived shortage of skilled professionals; there is insufficient disaggregated and up-to-dated data; there are inconsistencies in numbers presented by different professional registration schemes; among others.

This study details both the challenges and opportunities for the services sector, and in particular for river transport services and for professional services associated with the construction sector. It provides some cross-cutting policy recommendations including, but not limited to:

- Consider the important role that services have on other sectors and policy areas;
- Pursue upgrading strategies on services that enhance their cross-cutting enabling role for Paraguay's economy and trade, and women's empowerment;
- Advance in the implementation of the National Plan on Trade in Services;
- Improve evidence-based policymaking;
- Reinforce the institutional framework in support of services development, such as the follow-up of the services plan by the NSF and its embedded collaboration and the strengthened capacity of the MIC.

This SPR also provides specific and detailed recommendation for each sector under review. Regarding river transport services, options are provided at the normative and regulatory level, including the review of topics in several legal diplomas; regarding infrastructure, comprising port services and promotion of the intermodal environment, dredging and review of signage, marking, and beaconing; and at operational level, such as on the digitalization of procedures and on the assessment of possible continuous operation models. Regarding professional services associated with the construction sector, this study notes the need for a coordinated vision for these activities; to explore economies of scale from coordinated actions; to ensure coherence between the different policy areas that relate to these professional services; to build on international trade to harvest opportunities for these services; to build on the digital economy and on e-government tools; and to leverage education policies to enhance performance of these professional services and to facilitate the recognition of qualifications.

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By addressing these issues, Paraguay's service sector can serve as a catalyst for boosting the country's economy and participation in international trade, while increasing the welfare of Paraguayan nationals, most notably women. Furthermore, development of the services sector has the potential to help Paraguay achieve the 2030 Agenda for Sustainable Development. Among others, services contribute towards the following Sustainable Development Goals (SDGs): SDG 1 on poverty reduction; SDG 2 on ending hunger and achieving food security; SDG 4 on ensuring quality education; SDG 5 on gender equality; SDG 6 on ensuring water and sanitation services; SDG 8 on economic growth and decent employment; SDG 9 on industry, innovation, and technology; SDG 10 on reducing inequalities; SDG 11 on sustainable communities; and SDG 17 on global partnerships.

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# Overview of Paraguay's economy and trade

## A. Introduction

This study builds upon a previous study by the UNCTAD secretariat, in the “Services Policy Review” series, which focused upon financial, telecommunication, education, and construction services sectors within Paraguay (UNCTAD, 2015). This follow-up study focuses more in-depth on trade in the construction services sector and the transport services sector, in particular, fluvial transport services and professional services associated with the construction sector. It is designed to identify the bottlenecks and opportunities to pursue development gains from services, trade in services and services-enabled trade.

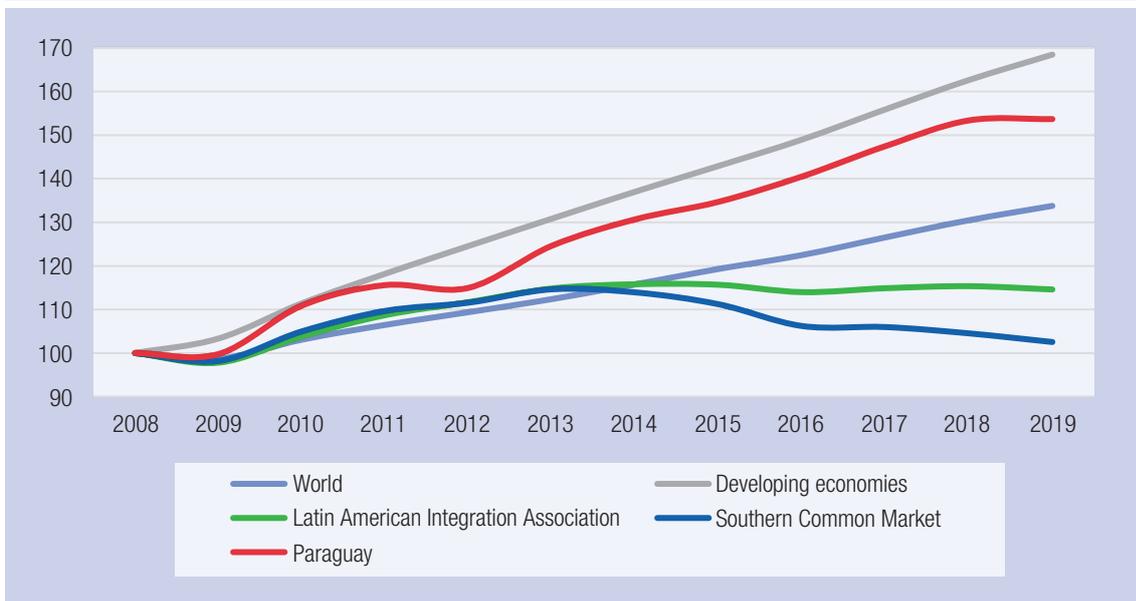
This first chapter presents an economic and trade assessment pertaining to the services sector. The second chapter analyses Paraguay’s national development plan, the National Plan on Trade in Services and the National Services Forum, trade negotiations and other recent initiatives in services. Detailed assessments on the fluvial transport services sector and on professional services associated with the construction sector follows in the third and fourth chapters, respectively. The fifth chapter concludes with a preliminary analysis of cross-cutting and sectoral options to support public policy instruments.

## B. Output

The real gross domestic product (GDP) of Paraguay has performed well in terms of overall growth, particularly in the context of the region (figure 1). Between 2008 and 2019, the compound annual growth rate of real GDP was 4.0 per cent, above 1.2 per cent in the LAIA, 0.2 per cent in the MERCOSUR, and 2.7 per cent globally,<sup>1</sup> implying some catching up. This strong performance of the economy was underpinned by agricultural and services production, the recovery of domestic demand, and public and private investment (WTO, 2017a). In 2019, GDP stood at US\$41.3 billion.<sup>2</sup> ECLAC estimated, before the coronavirus disease (COVID-19) pandemic, that GDP growth in Paraguay would be 3 per cent in 2020 (ECLAC, 2019).

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**Figure 1. Real gross domestic product, 2008–2019 (index: 2008=100)**

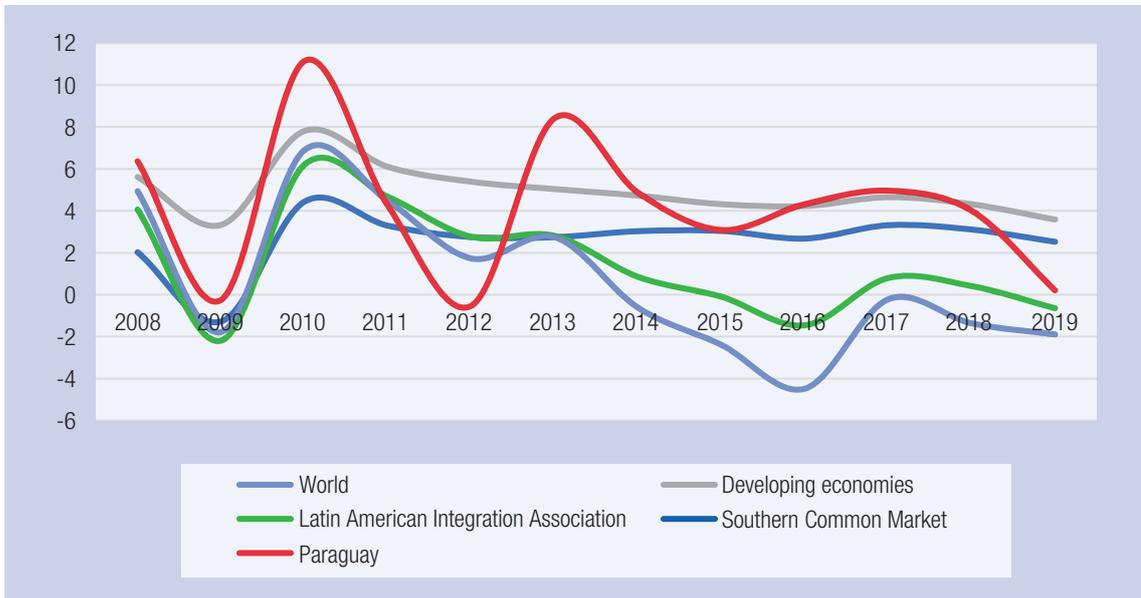


Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

Notwithstanding, GDP growth has been subject to more volatility than the regional and global average (figure 2). The performance of GDP in Paraguay in recent years can be better interpreted by analysing the underlying sectors. The disaggregation of GDP annual growth by economic sectors reveals that the volatility is primarily associated to the primary sector (figure 3). This occurred in the global economic and financial crisis of the last decade and in 2012, where the output of primary activities plunged in 2011 and most severely in 2012, with a negative sectoral real GDP growth rate of almost 20 per cent.<sup>3</sup> This is mainly due to the severe drought that hit the country at the end of 2011 and beginning of 2012 (ECLAC, 2013). It is also noteworthy that the services sector was decelerating less in 2009 and in 2012, keeping the highest sectoral growth rates in the country on both occasions, pointing to its importance for the economic resilience of the country.

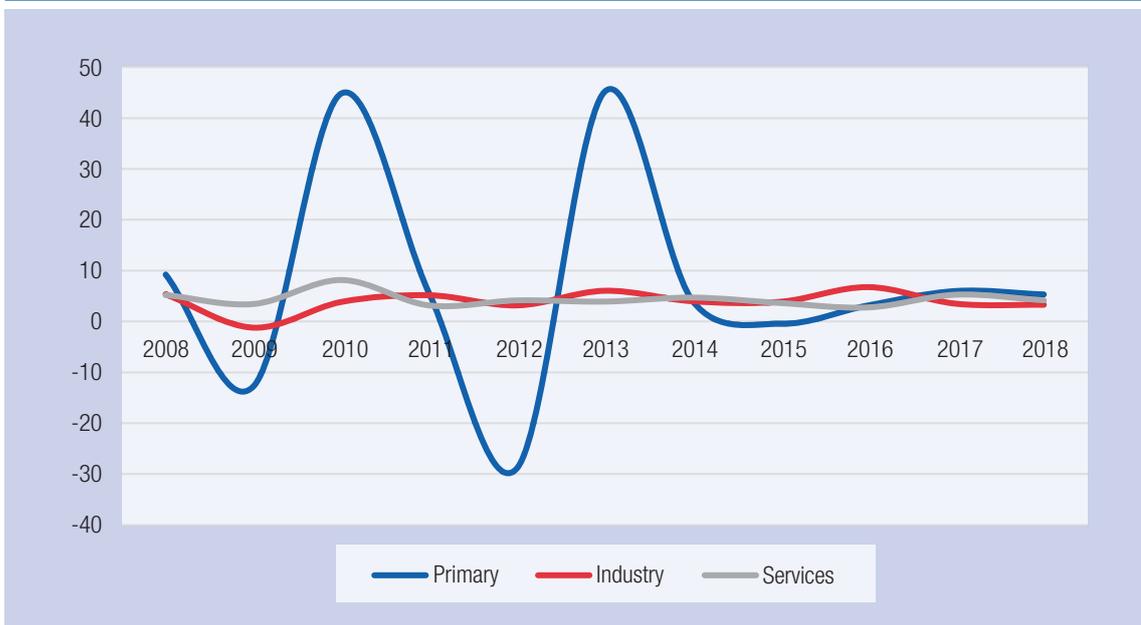
In 2019, after several years of annual growth almost always above 4 per cent, growth stood at a modest 0.2 per cent (figure 2). Further to an unfavourable situation in the main trading partners, this lower performance was also linked to bad weather, with droughts that affected agriculture and energy production, followed by heavy rain and floods that disturbed the primary sector and the construction sector (ECLAC, 2019).

Figure 2. Real gross domestic product growth rate, 2008–2019 (percentage)



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

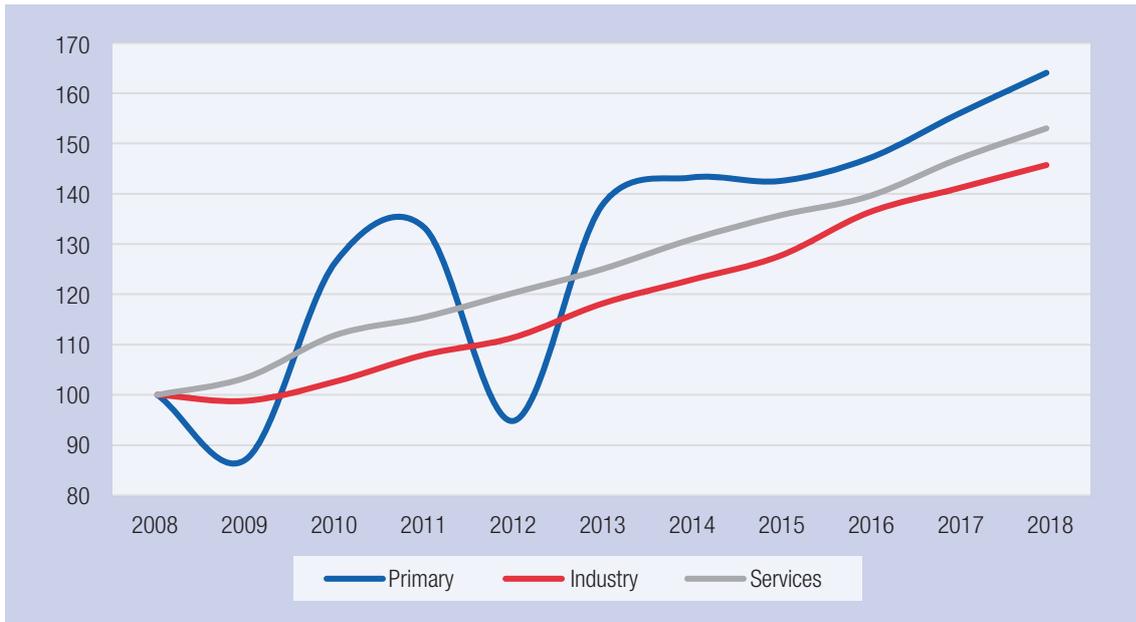
Figure 3. Paraguay: Real gross domestic product growth rate by economic sector, 2008–2018 (percentage)



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

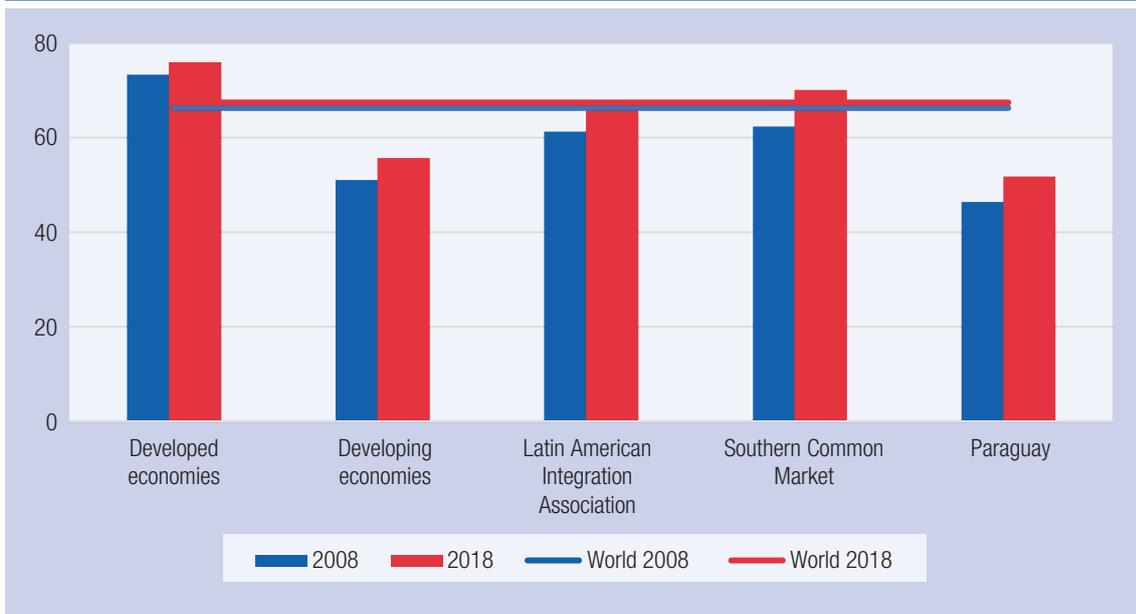
Services grew faster than industry in Paraguay between 2008 and 2018 (figure 4), with a compound annual growth rate of the corresponding real output of 4.3 per cent, above 3.8 per cent of industry. The primary sector, while presenting the fastest growth, was also more volatile and with the lowest share of GDP. Services have been the main contributor to GDP, accounting for 51.8 per cent of total nominal output in Paraguay in 2018, up from 46.4 per cent in 2008.<sup>4</sup> Despite this growing importance of services, the country is still below the tertiarization trends at regional and global levels (figure 5).

**Figure 4. Paraguay: Real gross domestic product by economic sector, 2008–2018 (index: 2008=100)**



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

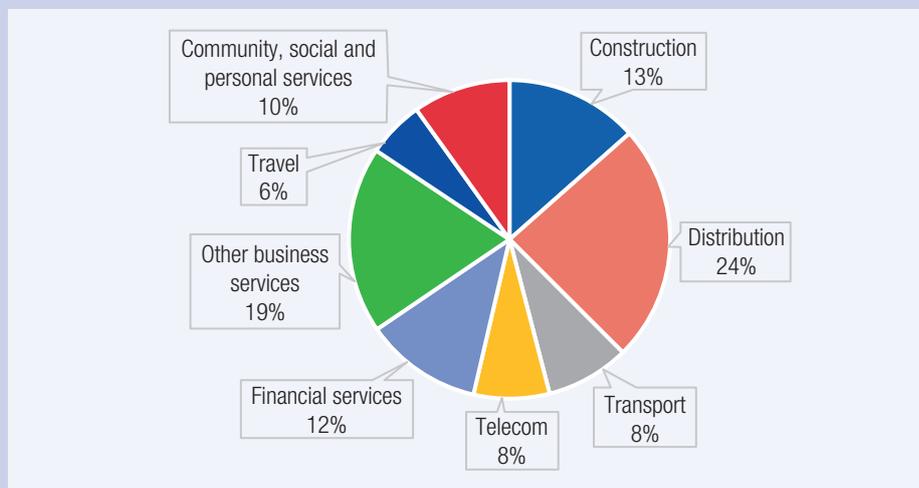
**Figure 5. Contribution of services to gross domestic product, 2008 and 2018 (percentage)**



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

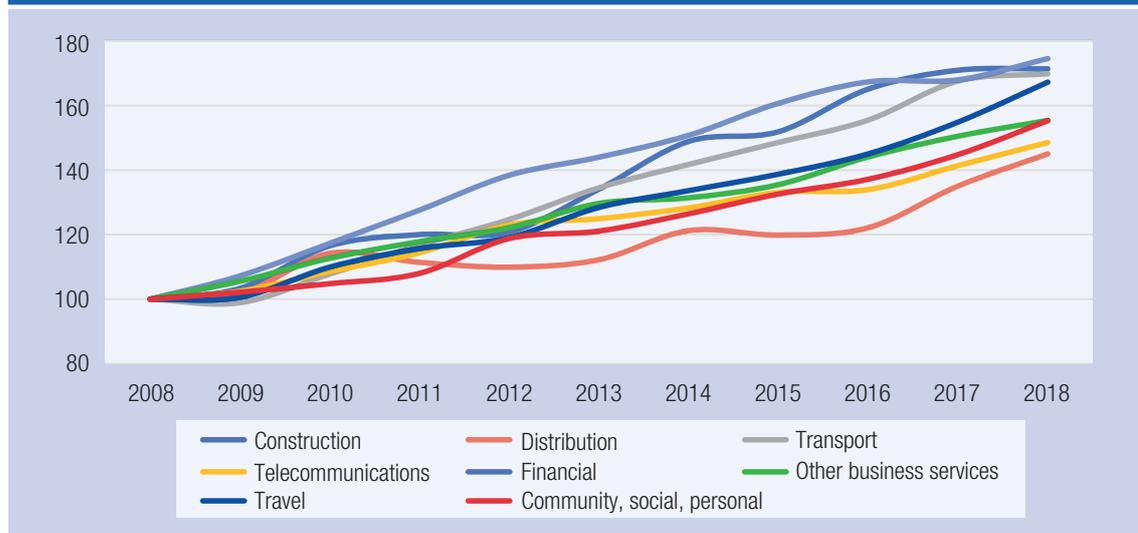
Within services, the predominant category in Paraguay in 2018 was distribution services, encompassing wholesale and retail trade, accounting for 24 per cent of the real output of commercial services, followed by other business services with 19 per cent (figure 6). The categories whose contributions to the GDP of commercial services have grown more between 2008 and 2018 were financial services, construction, and transport, respectively 5.7, 5.5, and 5.4 per cent (figure 7). Many of the categories that contributed more to commercial services output in 2018 have medium productivity: distribution and construction services. The latter, as mentioned, was also one of the fastest growing categories between 2008 and 2018. This points to the partially untapped upgrading potential in the country's economy. On the other hand, the other fast-growing categories of financial services and transport have high productivity.<sup>5</sup>

**Figure 6. Paraguay: Real gross domestic product by commercial services' category, 2018 (percentage)**



Source: Central Bank of Paraguay (BCP), accessed in November 2020. Available at: <https://www.bcp.gov.py/>

**Figure 7. Paraguay: Real gross domestic product of commercial services by category, 2008–2018 (index: 2008=100)**



Source: Central Bank of Paraguay (BCP), accessed in November 2020. Available at: <https://www.bcp.gov.py/>

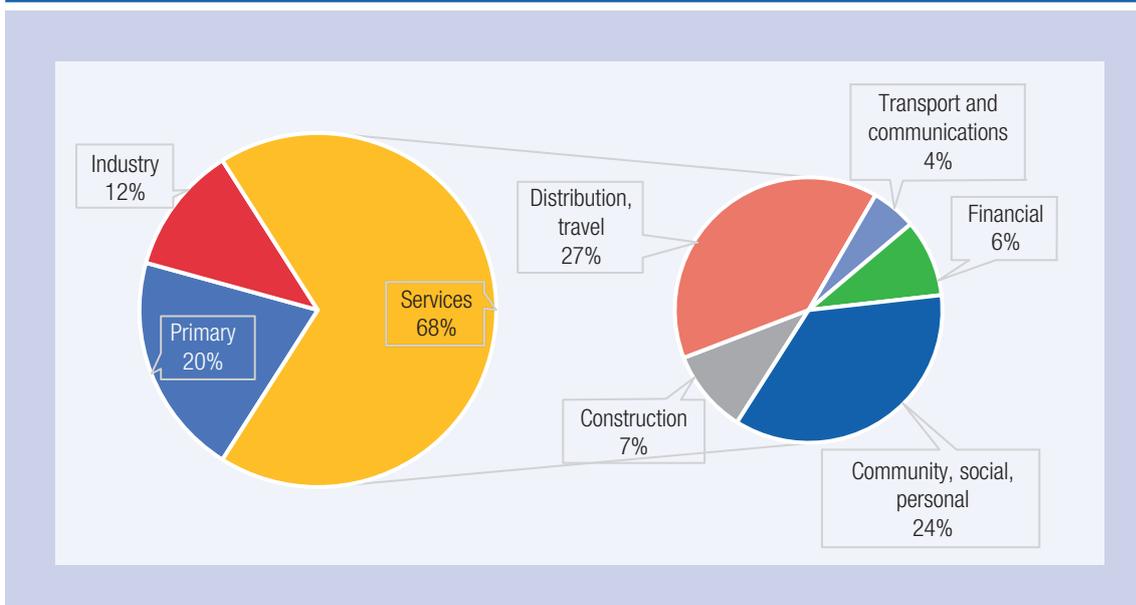
### C. Employment

Employment distribution also reflects the magnitude of the services sector. Tertiary activities accounted for 68 per cent of people employed in 2018. Distribution and travel, and community, social and personal services stand out, with 27 and 24 per cent of total employment in 2018 (figure 8). In line with the output analysis, employment data confirms that services are a key dimension of economic development through employment generation and need to be the focus of public policies.

It is noteworthy that services have been employing more workers with more years of education than the primary sector or industry. Be that as it may, some of the main services categories in employment have been relying on workers with up to 12 years of education rather than in workers with higher education. This occurs, for example, in the main category of distribution and travel, where 78 per cent of workers had in 2018 up to 12 years of education, and in construction, where the same share reaches 92 per cent. As in the output analysis, these figures point to the importance of strategies to upgrade employment. This can occur either by upgrading these services categories or by promoting a structural transformation towards activities that have higher productivity and rely on workers with higher education, as financial services where 60 per cent of workers had between 13 and 18 years of education in 2018 (figure 9).

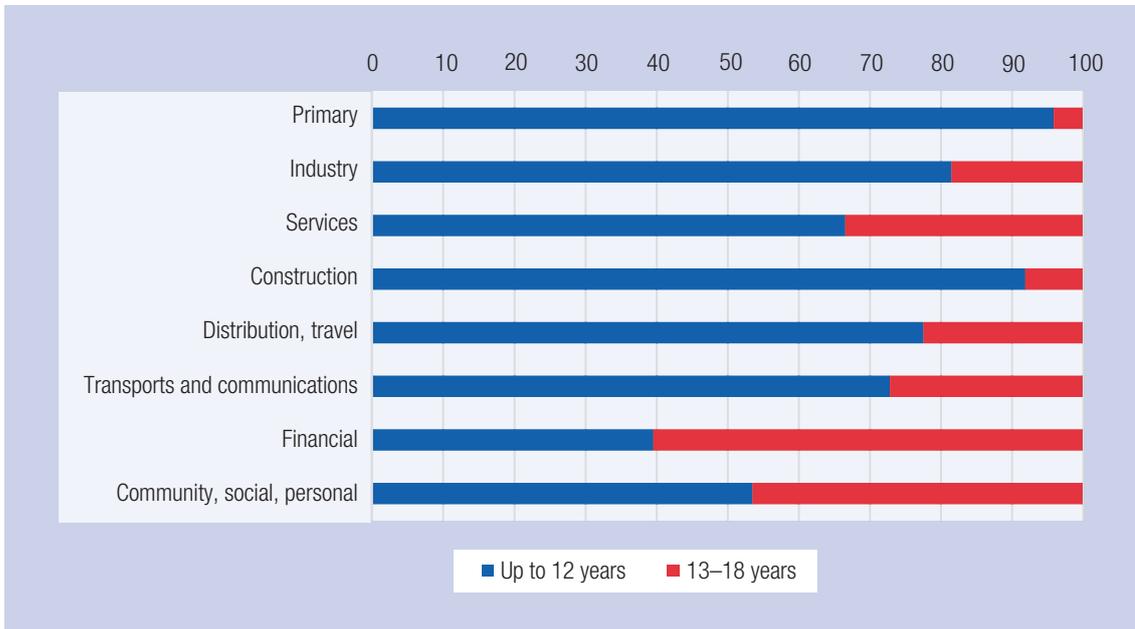
The services sector is also important for women's employment, as shown by the 45.0 per cent share of women in services workers in 2017, higher than 29.6 and 28.3 per cent for the primary sector and industry, respectively. Without diminishing this importance, it would also be important for women's inclusiveness to develop strategies to increase their participation in other categories with higher productivity. The categories displaying higher participation of women workers are of low productivity (community, social, and personal services with 65.5 per cent of women workers in 2017) or rely on workers with less years of education (distribution services with 46.3 per cent) (figure 10). Economic and gender public policies need to consider inclusiveness strategies, to improve the empowerment of women and to benefit from it as a tool for development and growth, including for the achievement of SDG 5 on gender equality.

**Figure 8. Paraguay: Employment by economic activity, 2018 (percentage)**



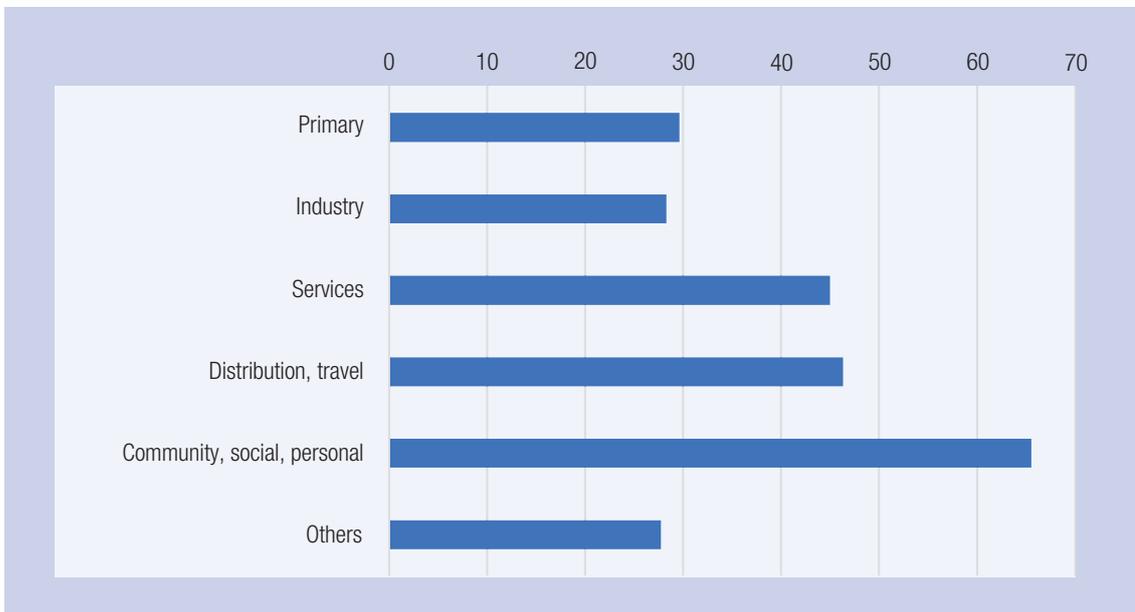
Source: General Directorate of Statistics and Census (DGEEC), accessed in November 2020. Available at: <https://www.dgeec.gov.py/>

**Figure 9. Paraguay: Employment by economic activity and years of study, 2018 (percentage)**



Source: DGEEC, accessed in November 2020. Available at: <https://www.dgeec.gov.py/>

**Figure 10. Paraguay: Women's share in employment by economic activity, 2017 (percentage)**



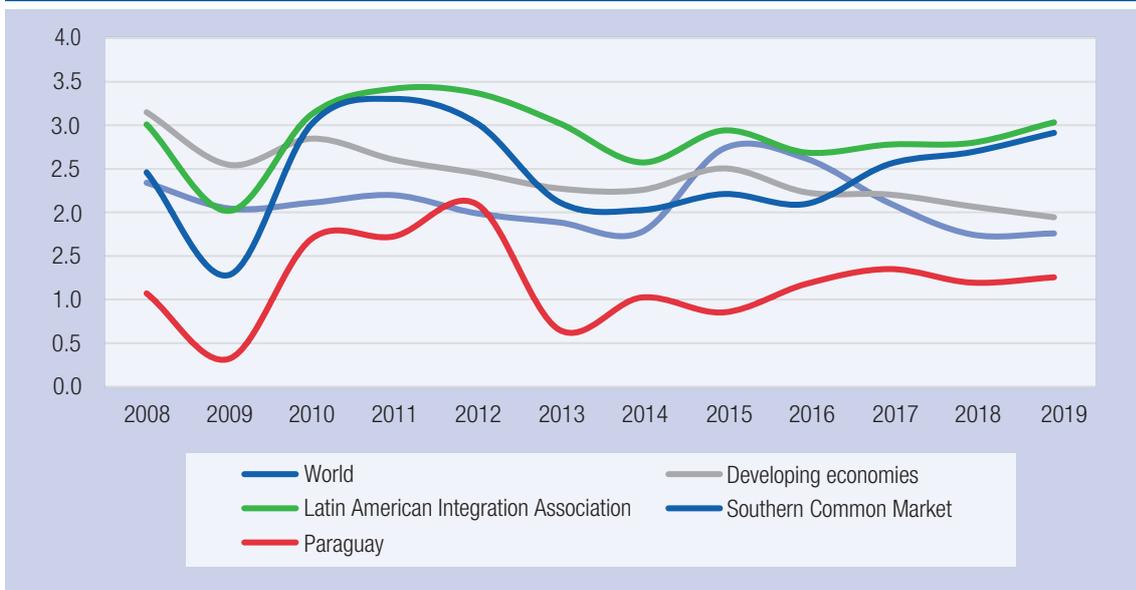
Source: DGEEC, accessed in November 2020. Available at: <https://www.dgeec.gov.py/>

Employment analyses need to consider the high informality in the economy, which reached 64.3 per cent of total occupation in 2018. Harvesting the high potential of the services sector requires addressing informality issues, has the tertiary sector had, in the same year, an even higher rate of informal workers: 64.9 per cent.<sup>6</sup>

## D. Investment

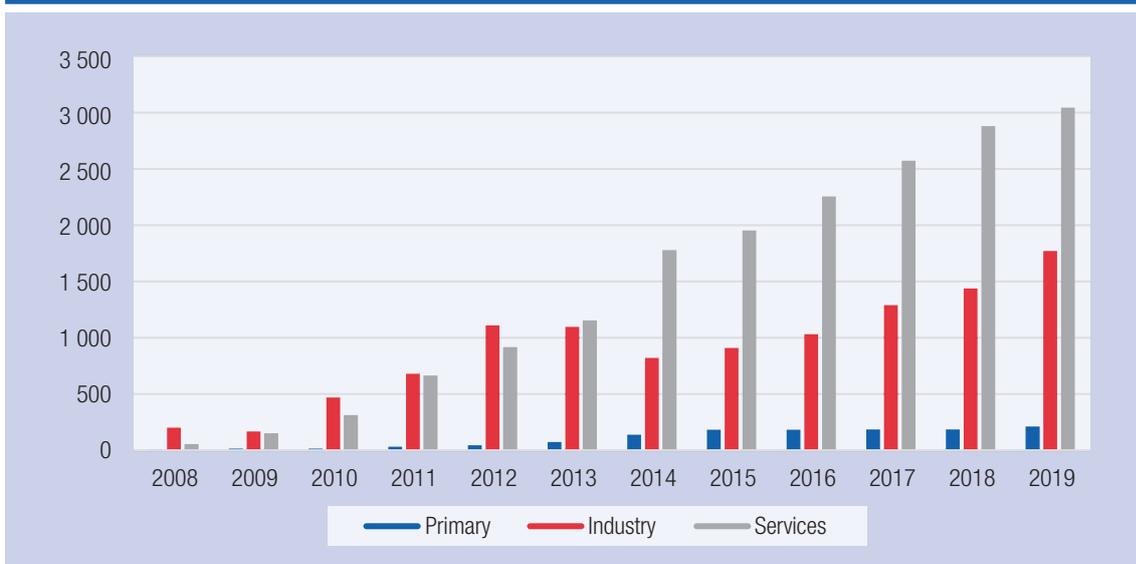
The inward FDI in Paraguay has been volatile between 2008 and 2013, stabilizing between 2014 and 2019 around 1 per cent of GDP (figure 11). This reveals a relative underperformance to global and regional averages. Services can play a role in FDI-related strategies in the country as it has attracted more investment between 2008 and 2019 than industry. The primary sector received the lowest flows of FDI. Moreover, services FDI has grown steadily in the same period, in opposition to more volatile industrial FDI inflows (figure 12).

**Figure 11. Foreign direct investment's share in gross domestic product, 2008–2019 (percentage)**



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

**Figure 12. Paraguay: Accumulated foreign direct investment by economic activity, 2008–2019 (millions of dollars)**



Source: BCP, accessed in November 2020. Available at: <https://www.bcp.gov.py/>

Note: Values for 2018 and 2019 are preliminary.

In the same period, the services' category that received more FDI was financial services, with an accumulated flow of US\$1.4 billion between 2008 and 2019. It was followed by distribution and other business services, with US\$0.8 billion and US\$0.5 billion respectively (figure 13). Depending on the policy and regulatory frameworks in place, FDI in a sector such as financial services – with high productivity and potentially relevant forward linkages – can represent an important opportunity for overall competitiveness. Although inflows in financial services and other business services have increased in respect to the period of 2003–2012, analysed in the first SPR of Paraguay, FDI inflows in communications have reduced. This needs to continue to be factored in investment promotion policies since communications has also high productivity and potentially relevant forward linkages.

**Figure 13. Paraguay: Accumulated foreign direct investment by commercial services' category, 2008–2019 (millions of dollars)**



Source: BCP, accessed in November 2020. Available at: <https://www.bcp.gov.py/>

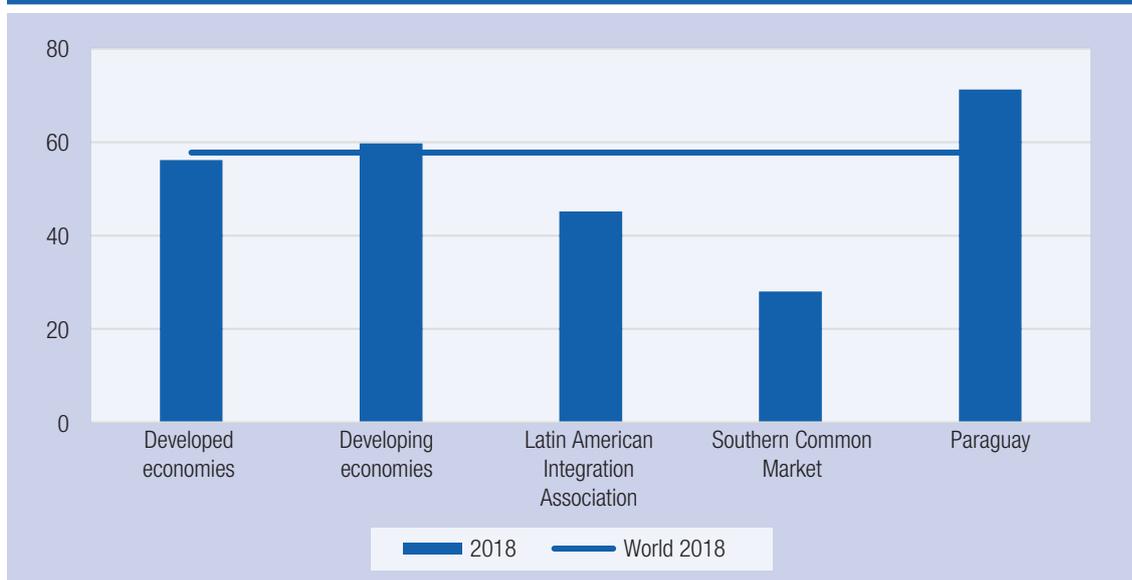
Note: Values for 2018 and 2019 are preliminary.

## E. Trade – Balance of payments approach

Following the global economic and financial crisis of 2008, trade recovered and then diminished before recovering again after 2015. Trade in the country was also affected by the drought-related agricultural plunge in 2012.<sup>7</sup> International trade remains very important for Paraguay. The sum of imports and exports of goods and services was 71 per cent of GDP in 2018, above global and regional averages (figure 14).

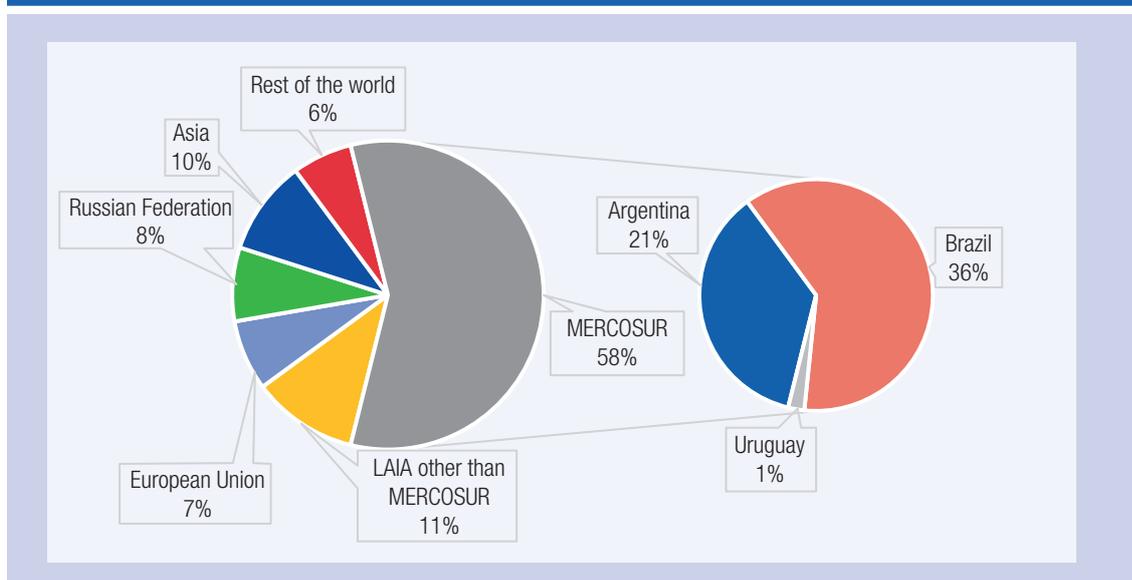
Exports of merchandise from Paraguay remain concentrated in MERCOSUR, which received 58 per cent of these exports in 2019. Brazil and Argentina are the main exports markets, receiving 36 and 21 per cent respectively of global merchandise exports from Paraguay (figure 15). Although goods exports from Paraguay to MERCOSUR countries declined from 75 per cent of global goods exported in 2004 to just over 40 per cent in 2013 (UNCTAD, 2015) (when the first SPR was undertaken), the country reveals more concentration in terms of destination markets. This calls for a higher focus on diversification strategies.

**Figure 14. Sum of imports and exports of goods and services as a share of gross domestic product, 2018 (percentage)**



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

**Figure 15. Paraguay: exports of goods by destination market, 2019 (percentage)**



Source: BCP, accessed in November 2020. Available at: <https://www.bcp.gov.py/>

Note: Values are preliminary.

The main contributor to goods exports in Paraguay was electric energy produced by the two dams at Itaipú and Yacyreta, which represented about 25 per cent of the country's merchandise exports by value in 2019: US\$1.9 billion.<sup>8</sup> The significance of Paraguay's hydroelectric power capacity is illustrated by the fact that in 2016 it was able to export 48.4 TWh of electricity, around 70 per cent of its production, amounting to US\$2 billion and 7.7 per cent of GDP.<sup>9</sup> Oil seeds are the second contributor to goods exports in Paraguay, representing about 24 per cent of its exports by value: US\$1.8 billion (table 1).

**Table 1. Paraguay: total and top goods exports, 2019 (percentage and billions of dollars)**

Product	Share of total goods exports	Value
Total	100.0	7.6
Electric current	25.0	1.9
Oil seeds and oleaginous fruits	23.6	1.8
Meat and meat preparations	13.9	1.1
Cereals and cereal preparations	8.2	0.6
Feedstuff for animals (excluding unmilled cereals)	7.9	0.6

Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

Exports of soybeans explain most of the export performance of oil seeds in Paraguay (box 1). It is estimated that half of the world's production of soybeans is in the region of the Paraguay-Paraná inland waterway system.<sup>10</sup> In 2017, the country produced 9.4 million of the 348.4 million tons estimated global production of soybeans<sup>11</sup> and is one of the main global exporters of soybeans, a ranking headed by Brazil. The main growing regions of soybeans in Brazil, such as Mato Grosso, Mato Grosso do Sul, and Paraná, are close to the Paraguayan border. Almost half of soybeans exports from Brazil went through the port of Santos.<sup>12</sup> In any case, exports of soybeans are closely linked to the performance of transport services through the inland waterway system, one of the services sectors under review in this document.

### Box 1. Soybeans

Soybeans or soya beans – in American or British English – are a type of vegetable originally from Asia which are most commonly refined to make soybean meal, which is the primary source of high-protein feed for livestock. The soybean meal can have a protein content of 44 to 47 per cent.<sup>13</sup> Soybeans were first introduced into Paraguay in 1920 and since then cross breeding has created its own hybrid variant: “soya Paraguaya” (Shurtleff and Aoyagi, 2016).

Demand for soybeans is closely related to the livestock, poultry and aquacultural industries. Due to a growing world population, the demand for soybeans as a high-protein feed for livestock is expected to grow. Soybeans is just one of several commodities high in protein and health enhancing nutrients that can be used as animal feed, such as omega-3 acids, rapeseed, corn, and gluten as well as the more traditional fishmeal and other marine-based substitutes such as crustaceans, krill and algae (Tacon and Metian, 2008). The production process of soybean meal and fishmeal are quite similar. Fishmeal has been used for centuries as primary food source to feed livestock with its high protein content of more than 66 per cent.<sup>14</sup> With a higher protein content, fishmeal is the preferred choice of many live-stockist feeders. However, supplemented with additives soybeans have proven to be a very competitive alternative.

To receive the maximum return on soybean exports, it is important to add value through local crushing and processing. This would also allow to feed cattle in Paraguay with the domestically produced soybean meal, reducing demand for imported fishmeal and adding value to meat exports. This could be of particular relevance to Paraguay because “meat and meat preparations” is one of the main goods exports, accounting for US\$1.1 billion in 2019, 13.9 per cent of the country's goods exports (table 1).

In 2013, the country's largest soybean crushing plant – Complejo Agroindustrial Angostura S.A. (CAIASA) – was completed. It is located at Villeta, along the banks of the Río Paraguay, approximately 40 km southeast of the capital, Asuncion. There are around 200 direct employees at the plant, and it is estimated

**Box 1. Soybeans** *(cont.)*

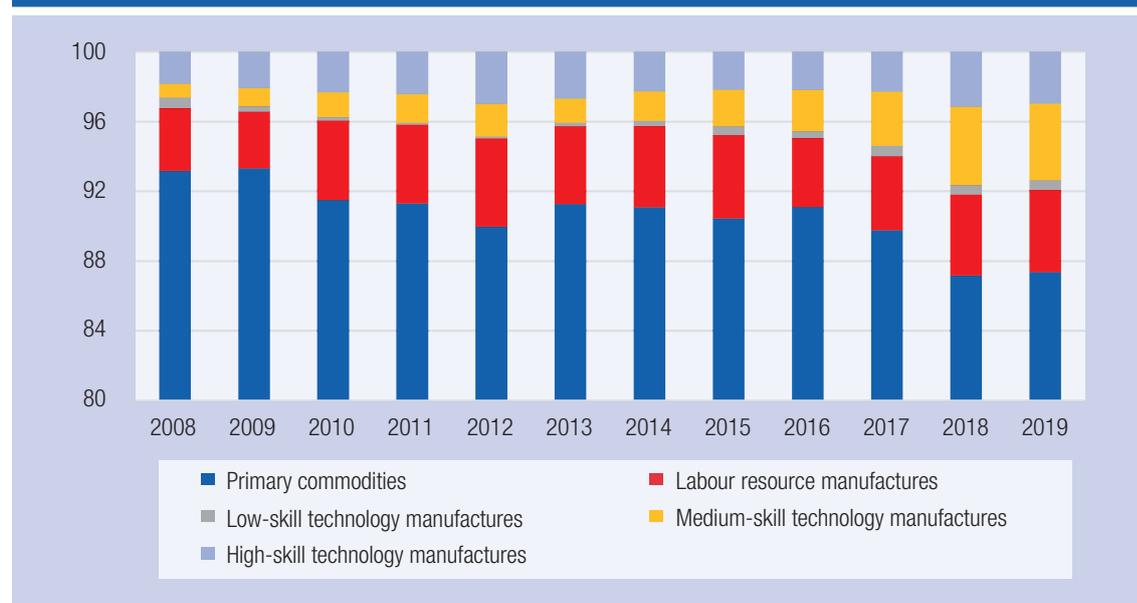
that it creates 2,500 indirect jobs, mainly in transport and maintenance services. The processing at the plant means that around 72 per cent of the soybeans are turned into soymeal, 20 per cent into oil, and 5.5 per cent into soybean meal pellets to feed livestock.<sup>15</sup>

The raw soybean is collected from local farmers and transported via road from the main soybean fields, located about 250 km away. During the harvest season – January and February – up to 500 trucks arrive per day.<sup>16</sup> The soybeans are then processed at the plant to a maximum capacity crush of 4,000 tons per day. Export of both soybean meal and oil to international markets is mainly via barges.

Goods exports were therefore highly focused on primary commodities, which represented 87 per cent of global merchandise exports from Paraguay in 2019 (figure 16). As underlined in the first SPR, this presents a risk in terms of lack of diversification and high vulnerability to price volatility and uncertainty of commodity markets, as well as to natural and climate shocks. The country had the experience of a drought in the end of 2011 and beginning of 2012, which had a strong impact on output and trade performance, including a 10 per cent decrease in global exports of primary commodities. In 2019, when Paraguay experienced another drought, these exports plummeted 15 per cent from the previous year.<sup>17</sup> This export profile also denotes the need for more upgrading strategies. In addition to the extreme reliance on primary commodities, labour-intensive and resource-intensive manufactures had the highest contribution to manufacture global exports in the same year: 37 per cent (figure 16). Services can provide inputs that contribute to change this export profile by promoting diversification and upgrading of merchandise exports, strengthening the importance of services-focused public policies.

Although services exports represented only around 8.7 per cent of total exports from Paraguay in 2019, they have shown much more dynamism than goods exports. Between 2008 and 2019, services exports from Paraguay grew 8.3 per cent annually, as opposed to 2.1 per cent annual

**Figure 16. Paraguay: global exports of goods by technology intensiveness, 2008–2019 (percentage)**

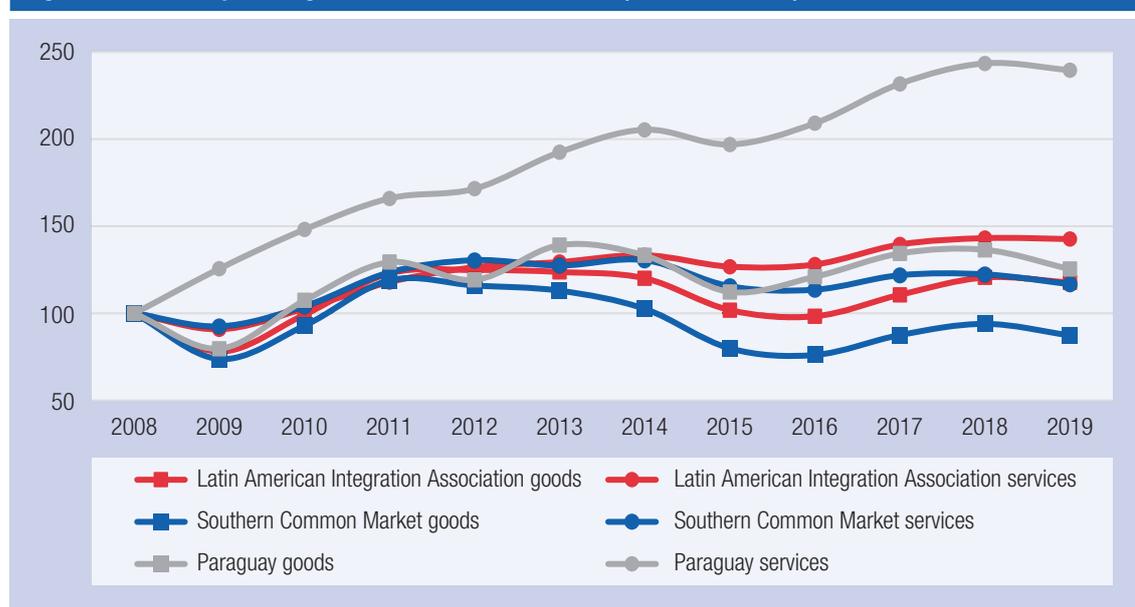


Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

growth in goods exports.<sup>18</sup> This trend is also identifiable in MERCOSUR, LAIA and in all development levels globally where, for the same period, services trade grew faster than trade in goods. Most notably, the trade in services growth in Paraguay has been higher than in MERCOSUR and LAIA, where between 2008 and 2019 it grew 1.4 and 3.3 per cent, respectively (figure 17).

Moreover, as it was noticeable in the analysis of output, trade in services is more resilient than trade in goods. In 2009, where effects of the global economic and financial crisis of the last decade were most immediately felt, services trade continued to grow while merchandise trade dropped 20 per cent from the previous year. In the national economic crisis of 2012, services trade also persisted in growing whilst goods trade fell 8 per cent. In the global trade downturn in 2015, services declined 4 per cent while goods decreased almost 16 per cent. In the economic shock the country had in 2019, services declined less than 2 per cent, less than merchandise trade which dropped 8 per cent (figure 17).

Figure 17. Global exports of goods and services, 2008–2019 (index: 2008=100)



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

Services trade is important for development, not only because services exports grew more than goods trade, and grew more in developing economies than in developed economies, but also because they have contributed more to inclusive integration in world trade than trade in goods and proved to be more resilient (United Nations, 2019). Exports of goods have declined in countries with low export revenue thereby increasing their economic gap with other countries. In services, although exports have grown less in countries with smaller export revenue, growth has nonetheless been mostly positive since 2005. Moreover, services exports grew more in countries with medium export revenue, pointing to some reduction of the gap with large services exporters (figure 18).

This inclusiveness potential is very important since trade is still very asymmetric, with primarily developed economies occupying the top positions in the ranking of main global services exporters and importers (table 2). The main 10 exporters of services, which are also the 10 main importers, accounted for more than 54 per cent of global services exports and of global services imports in 2019. Paraguay was responsible for 0.02 per cent of global services exports in the same year, ranking the country in the 120<sup>th</sup> position globally.<sup>19</sup>

**Figure 18. Global exports value growth by deciles of export revenue, 2005–2019 (percentage)**

Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

Note: Paraguay is on decile seven for goods exports and decile four for services exports.

**Table 2. Selected economies: share of global services exports and imports and relative position, 2019 (percentage and number)**

Exporters	Position	Share	Importers	Position	Share
United States of America	1	14.3	United States of America	1	10.1
United Kingdom	2	6.8	China	2	8.6
Germany	3	5.6	Germany	3	6.3
France	4	4.7	Ireland	4	5.5
China	5	4.6	United Kingdom	5	4.9
Netherlands	6	4.3	France	6	4.5
Ireland	7	3.9	Netherlands	7	4.2
India	8	3.5	Japan	8	3.5
Japan	9	3.3	Singapore	9	3.4
Singapore	10	3.3	India	10	3.1
Brazil	37	0.6	Brazil	25	1.2
Argentina	54	0.2	Argentina	48	0.3
Uruguay	86	0.1	Uruguay	83	0.1
Paraguay	120	0.02	Paraguay	121	0.02

Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

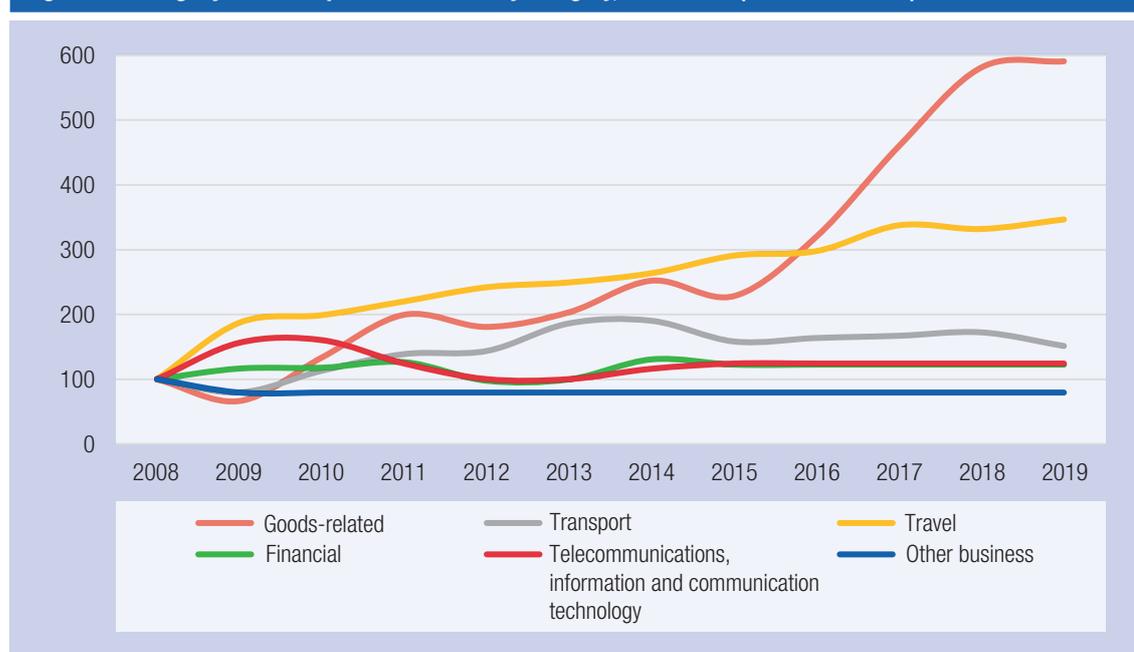
The analysis of services exports by services category confirms the asymmetric export profiles of developed and developing economies. While developed economies rely more on financial, telecommunications and information and communications technology (ICT) services, sectors with high productivity and relevant forward linkages, developing economies have a higher focus on transport and travel services. In Paraguay, in 2019, these sectors explained more than 75 per cent of total services exports, more than the average of developing economies, the MERCOSUR and in the LAIA (table 3), but in line with the average of landlocked developing economies.<sup>20</sup>

**Table 3. Share of total services exports, 2019 (percentage)**

Category	World	Developed	Developing	LAIA	MERCOSUR	Paraguay
Goods-related	3.7	3.5	3.9	0.6	1.4	19.2
Transport	17.5	15.5	20.9	19.0	16.0	36.5
Travel	24.4	20.8	33.0	42.4	25.9	39.4
Construction	1.9	1.3	3.1	0.0	0.0	0.0
Financial	11.4	13.6	6.9	6.7	3.1	3.0
Intellectual property	6.9	9.2	1.8	0.9	1.9	0.0
Telecom, ICT	9.9	10.2	9.3	4.6	8.9	1.6
Other business	22.9	24.2	20.2	22.6	41.3	0.3
Personal, cultural, recreational	1.4	1.7	0.8	3.1	1.5	0.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

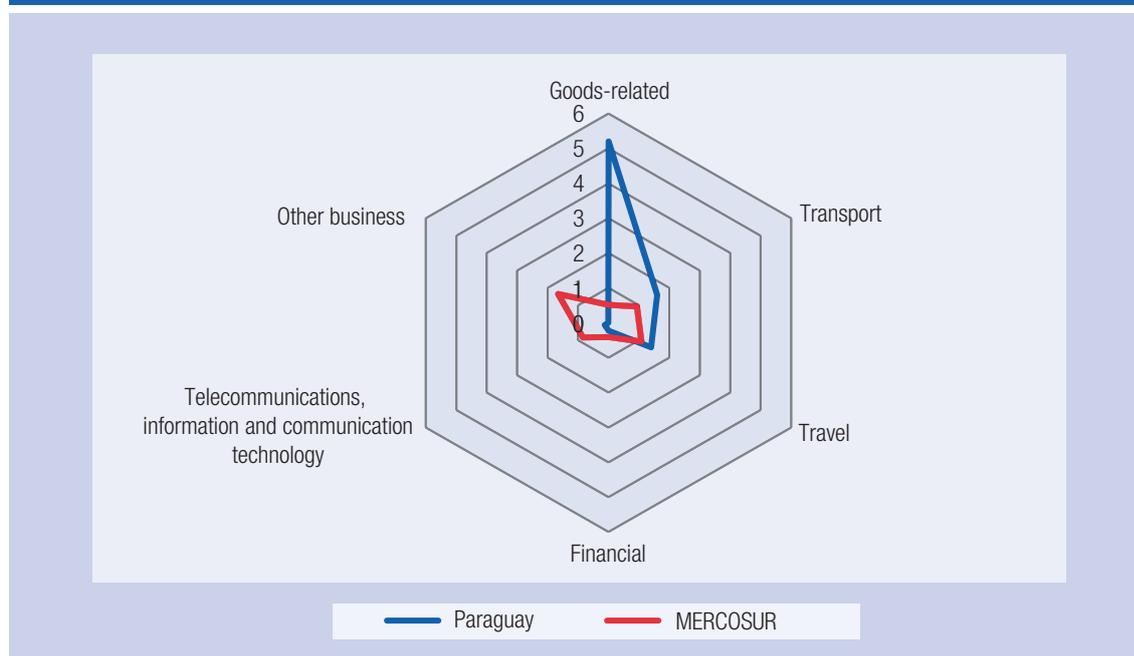
Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

In Paraguay, between 2008 and 2019, exports were more dynamic in goods-related services, travel and, to a lower extent, transport services (figure 19). This accentuates the focus of the country's export profile in these categories. Conversely, in the same period, the growth of financial, telecommunications and ICT services was timid. The analysis of revealed comparative advantages (RCAs) confirms this specialization.<sup>21</sup> In 2019, Paraguay had RCAs in goods-related services, travel and transport services. Similarly to the analysis of GDP, this analysis of exports points to the partially untapped upgrading potential in the country. This also shows a difference between the export profiles of Paraguay and of MERCOSUR, as in the same year the block had RCAs in other business services, travel, and personal, cultural and recreational services (figure 20).

**Figure 19. Paraguay: Global exports of services by category, 2008–2017 (index: 2008=100)**

Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

Figure 20. Revealed comparative advantages of services by category, 2017 (index:  $RCA \geq 1$ )



Source: UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>

## F. Trade – Input-output approach

These balance of payments-related trends do not reflect the full importance of services trade by not considering adequately all modes of supplying services. Commercial presence, mode 3, remains the major mode of supply as it can be intuited by the growing trend on sales by foreign affiliates – US\$31.3 trillion in 2019, a 2 and 5 per cent increase from 2018 and 2017, respectively (UNCTAD, 2020). In addition, 52 per cent of foreign affiliates of primary and manufacturing multinationals are actually performing services activities (UNCTAD, 2017a). In 2017, mode 3 accounted for 61 per cent of the European Union exports of services.<sup>22</sup>

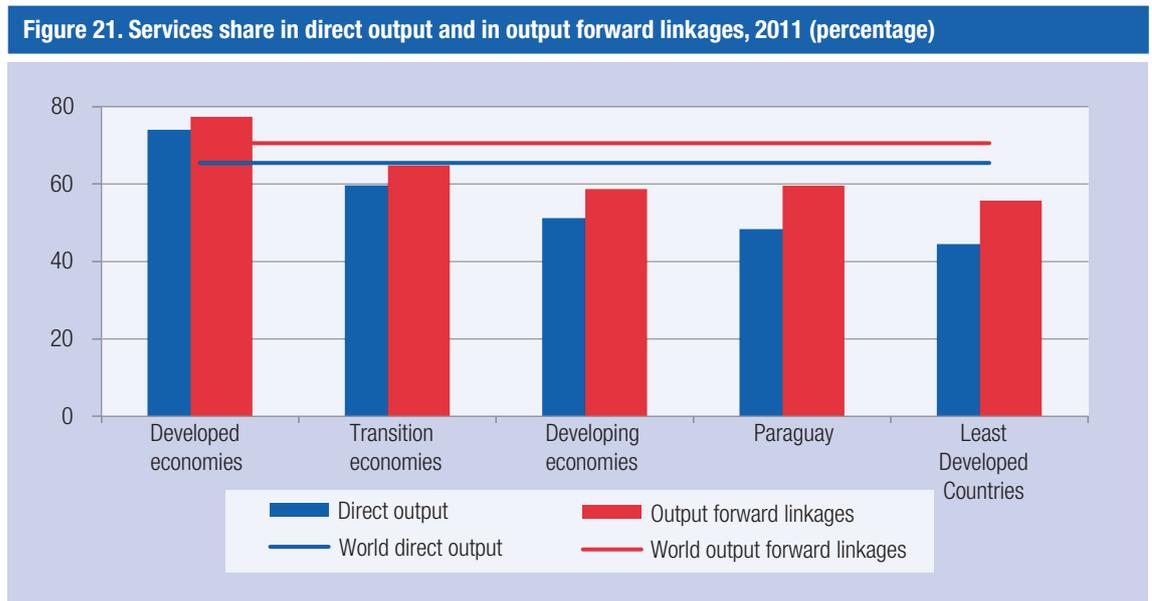
The temporary movement of people supplying services, mode 4, is also relevant for developing economies, particularly for exports of professional and business services, in line with significant amounts of remittances channelled for such economies. In 2019, therefore before the COVID-19 pandemic, global remittance flows were US\$714 billion, of which US\$554 billion went to developing countries (World Bank, 2020). The relevance of migration for the services sector is further underscored by the fact that around 71 per cent of migrant workers are concentrated on services. Migrant workers accounted for 150 million of the 232 million migrants in 2013 (ILO, 2015).

Furthermore, balance of payments data does not capture the substantial value-added of services incorporated in goods output and exports, from services intermediate inputs and from services bundled with goods, for example distribution services provided by manufacturing companies. Although value-added data is not available in standard balance-of-payment statistics, it is possible to have an indication of the importance of this value-added element of services in the economy and trade by looking at data from 2011, to which input-output analyses were developed in a way that allows for aggregations by development level and comparative analysis.

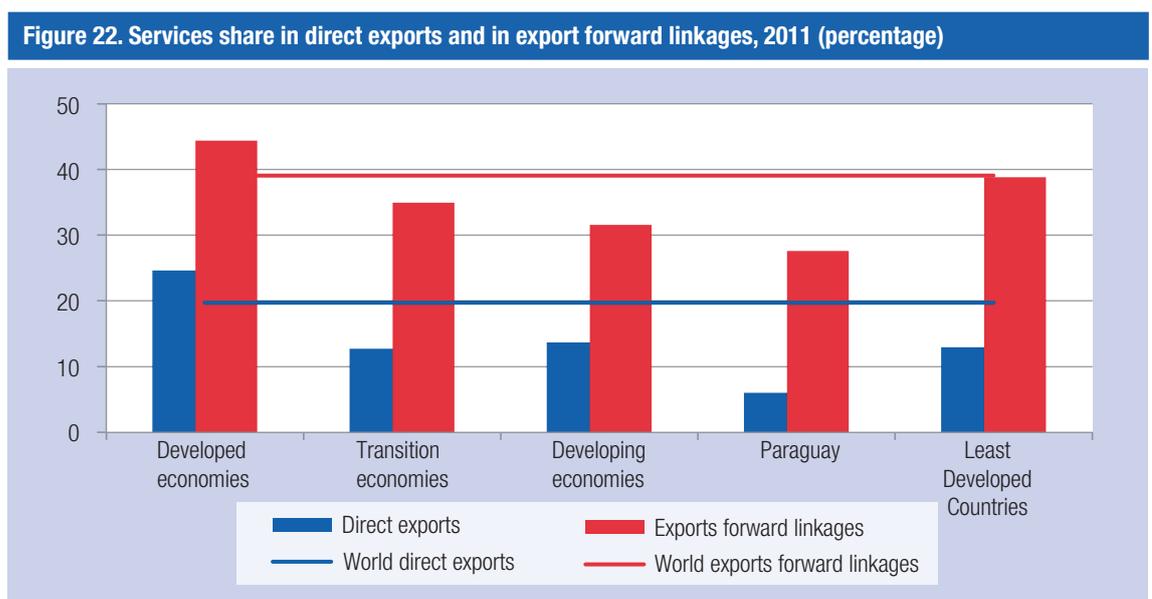
While in 2011 services direct output accounted for 74 per cent of total output in developed economies and 51 per cent in developing economies, services represented 77 per cent of the value-added in total output in developed economies and 59 per cent in developing economies. In Paraguay, this

difference was even higher, confirming the importance that services value-added has for its economy. In the country, services direct output represented 48 per cent of total output, but services accounted for 60 per cent of value-added in total output (figure 21). This value-added in total output represents the forward linkages of services in output and the servicification of economies in all income levels.

While services direct exports in 2011 accounted for 25 and 14 per cent of total exports in developed and developing economies respectively, services represented much higher shares of 44 and 32 per cent of the value-added in total exports in developed and developing economies, respectively. This difference was substantial in Paraguay, confirming the critical importance that services value-added had for its exports. In the country, in the same year, services direct exports represented only 6 per cent of total exports but accounted for 28 per cent of value-added in total exports (figure 22).



Source: UNCTAD calculations based on the World Bank's export value added database (EVAD).



Source: UNCTAD calculations based on EVAD.

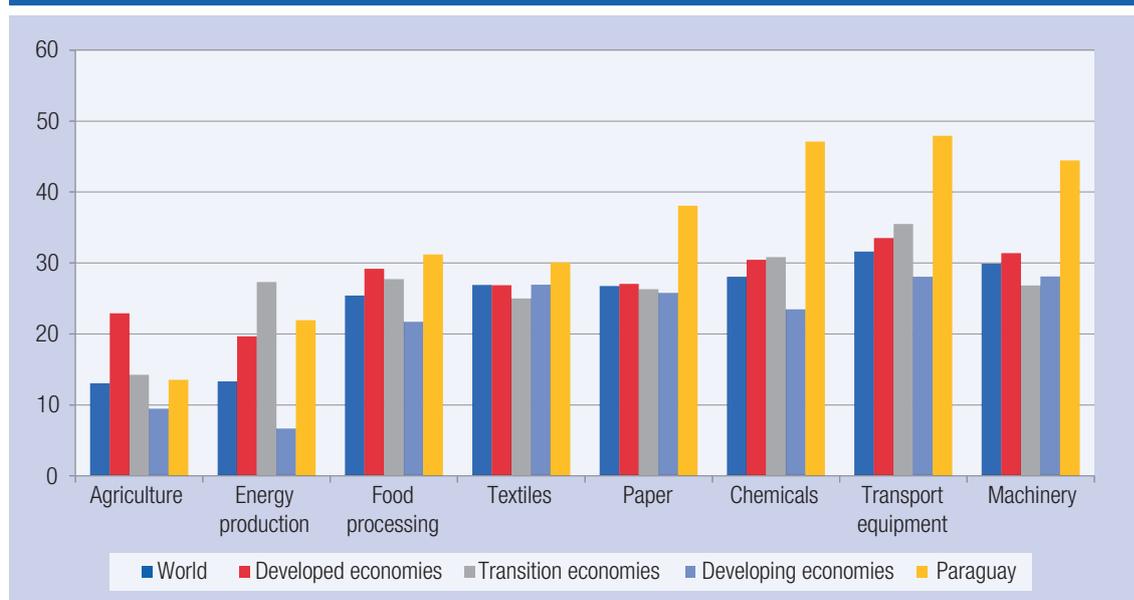
In addition, while directly exported value-added has increased in recent years, close to two-thirds of the growth of services value-added in exports is due to an increase in services embodied in exports of other sectors (UNCTAD, 2017b). These important differences reveal the increased tradability of services, especially when they can be bundled with intrinsically tradable products (Low, 2017). The export of this services' value-added within products of all economic sectors, sometimes referred to as the mode 5 of services trade, is the reflection of servicification in international trade. Global GDP gains from the multilateral liberalization of mode 5 of services trade could reach €300 billion by 2025 and global trade could increase by over €500 billion (Antimiani and Cernat, 2017).

Moreover, there are important services activities within manufacturing firms which are not captured by cross-border services trade data or by analyses of value added in gross exports. For a set of selected economies, when considering services activities within manufacturing firms, the contribution of services to overall exports was close to two-thirds (Miroudot and Cadestin, 2017). This confirms that services are a major contributor of value added to trade, in line with the significant contributions of the sector to output, jobs, and investment.

The reduction of productive and trade barriers and costs can contribute to more productivity and increased productive and export capacity. Opportunities may appear for economic agents to join value chains supporting exports, including in some cases for micro, small and medium sized enterprises (MSMEs). This creates services-led changes in the economic structure, where some sectors become more important by building on support from the services sector. Services-related effects can promote upgrading in all economic sectors to which they contribute and the diversification of products in the economy and in trade, thereby also promoting the diversification of destination markets for exports.

In 2011 services' value-added represented 23 per cent of agricultural output in developed economies, 9 per cent in developing economies and 14 per cent in Paraguay, as measured by the sector's backward linkages. This was even more meaningful in several manufacturing sectors. In textiles, for example, services' value-added accounted in the same year for 27 per cent of sectoral output in both developed and developing economies and 30 per cent in Paraguay (figure 23). Developing

**Figure 23. Services share in output backward linkages by selected sectors, 2011 (percentage)**



Source: UNCTAD calculations based on EVAD.

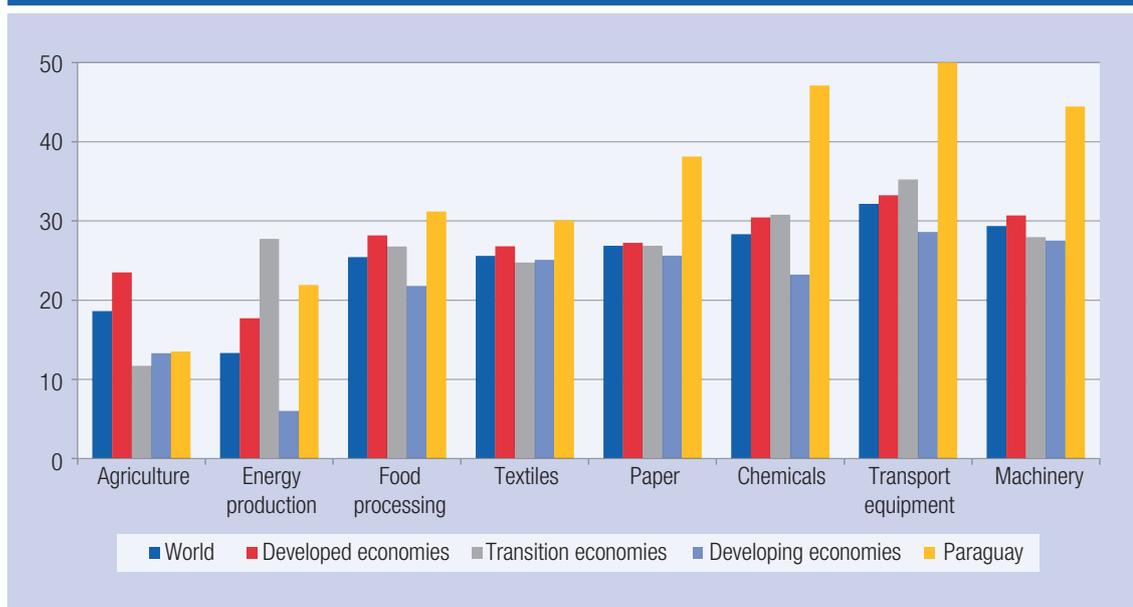
countries incorporate less services' value-added than developed countries in many sectors and are lagging in using the potential of services, particularly in agriculture and energy production. In the same year, Paraguay used more value-added of services in output, confirming its importance for the economy.

A similar scenario can be identified in exports. In 2011, services' value-added represented 24 per cent of agricultural exports in developed economies, 13 per cent in developing economies and 14 per cent in Paraguay. In textiles, services' value-added accounted for 27 per cent of sectoral exports in developed economies, 25 per cent in developing economies, and 30 per cent in Paraguay (figure 24). In the same year, Paraguay also used more value-added of services in exports, re-confirming the importance that services value-added has for its exports.

The services sectors that contributed more in 2011 to the global total export value-added were distribution – 7 per cent –, transport – 7 per cent –, financial and insurance services – 5 per cent – and ICT services – 13 per cent. While transition and developing economies tended to incorporate more value-added of distribution and transport services in total exports, developed economies used more value-added of financial and insurance services and much more value-added of ICT services. Developed economies embedded 18 per cent of ICT services value-added in total exports, while transition and developing economies only incorporated 6 and 7 per cent, respectively. Paraguay incorporated 12 per cent of added value of distribution services and only 2 per cent of added value of ICT services (figure 25). This is consistent with the analyses of direct exports (table 3) and points to the partially untapped upgrading potential in Paraguay and, more broadly, the heterogeneity between developed and developing economies in using this potential. It also confirms the importance of ICT services and of the digital economy powered by these ICT services to enable trade.

Developed economies go much further in using ICT services value-added in agriculture and manufacturing exports than transition and developing economies. In 2011, agricultural exports incorporated 10 per cent of ICT services' value-added in developed economies, while only 2 per cent in both transition and developing economies and 0.5 per cent in Paraguay. As an example in manufacturing, in the same year exports of transport equipment incorporated 15 per cent of

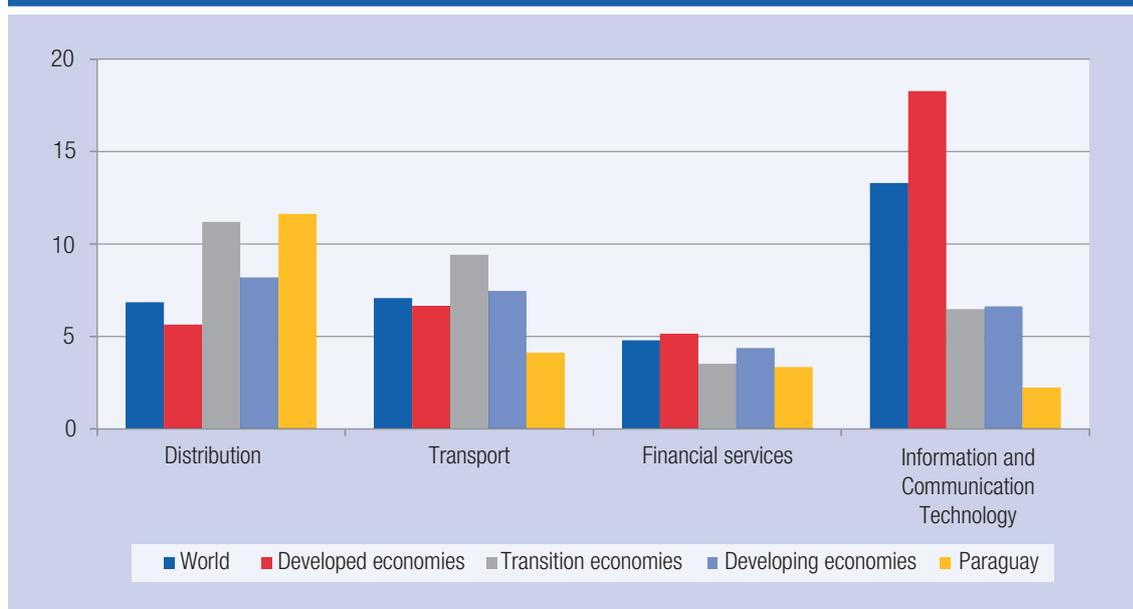
Figure 24. Services share in export backward linkages by selected sectors, 2011 (percentage)



Source: UNCTAD calculations based on EVAD.

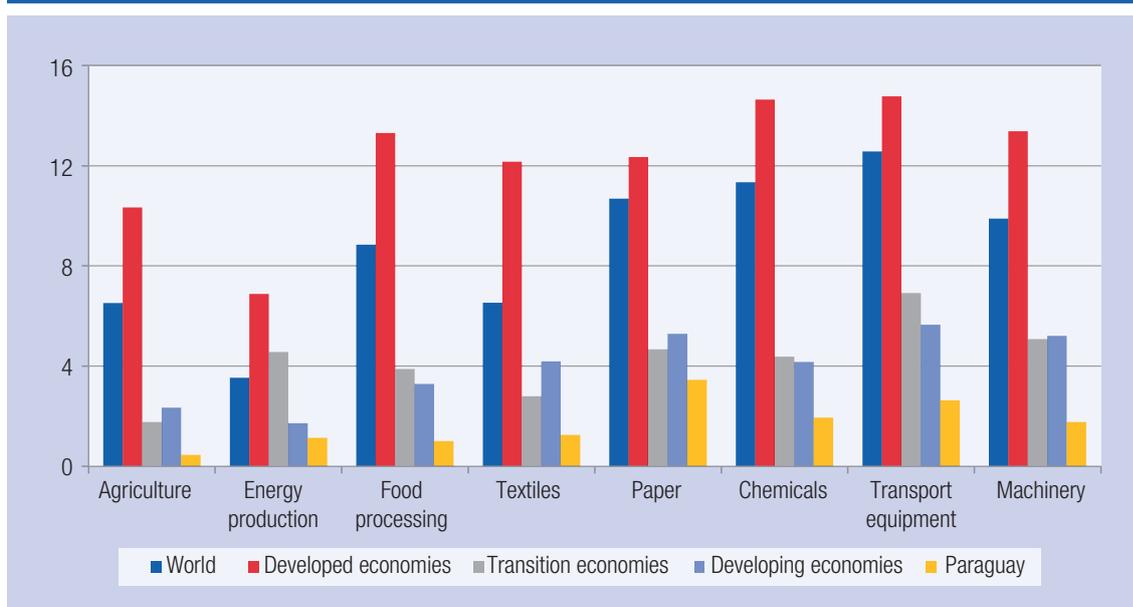
ICT services' value-added in developed economies, 7 per cent in transition economies, 6 per cent in developing economies and 3 per cent in Paraguay (figure 26). ICT services are also relevant to increase the performance of services activities. ICT diffusion, among other factors, is especially associated with higher productivity of wholesale, retail, and business services (Buiatti *et al*, 2017).

**Figure 25. Services categories' share in export forward linkages, 2011 (percentage)**



Source: UNCTAD calculations based on EVAD.

**Figure 26. Information and communication technology services share in export backward linkages by selected sectors, 2011 (percentage)**



Source: UNCTAD calculations based on EVAD.

## G. COMPETITIVENESS

Paraguay has improved its ranking in the GCI from the WEF.<sup>23</sup> In 2019, the country ranked 97 out of 141, an improvement from the position in 2013, when the first SPR was undertaken – 119 out of 148 (WEF, 2019; WEF, 2013). Nevertheless, the country is still in a low position overall and when compared with other countries in the region (figure 27).

The pillars where Paraguay had the worse position in 2019 were institutions, ICT adoption, skills, business dynamism, and innovation capability. Improving the performance in these pillars is central to an upgrading strategy which, as it was pointed out by data presented so far, is an essential way forward for the country to keep its path of growth and development. Other than its market size, the main pillars where Paraguay is underperforming regarding the region are ICT adoption, skills, and innovation capability (figure 28).

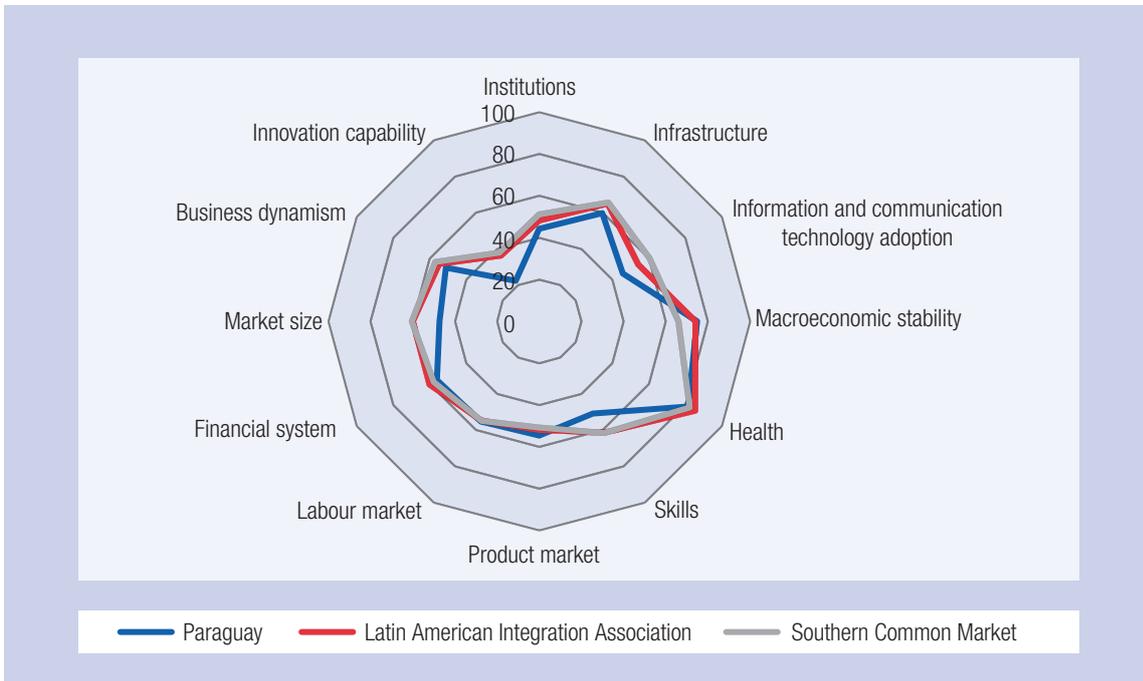
The performance of Paraguay on the GCI regarding institutional frameworks is mainly affected by a low score on judicial independence, the efficiency of the legal framework on settling disputes and on shareholder governance. Infrastructure is mainly affected by the level of quality of the roads and on the efficiency of train services.<sup>24</sup> The adoption of ICT is hampered by insufficient broadband, measured both by fixed and mobile subscriptions. The evaluation of skills in the country is lower because of the difficulty in finding skilled employees, of the skillset of graduates, and by the lack of quality of vocational training and of digital skills among the population. Business dynamism is undermined by the cost and time to start a business, by the insufficient willingness to delegate authority, and by companies not embracing disruptive ideas enough. Innovation capability in the country is underperforming according to the GCI because of low multi-stakeholder collaboration and cluster development, and insufficient patent application and participation in international inventions (WEF, 2019).

Figure 27. Global competitiveness index, 2019 (score)



Source: UNCTAD, based on data from the WEF. Available at: <http://reports.weforum.org/global-competitiveness-report-2019/>

Figure 28. Global competitiveness index by pillar, 2018 (score)



Source: UNCTAD, based on data from the WEF. Available at: <http://reports.weforum.org/global-competitiveness-report-2019/>



# Government priorities for the services sector

## A. Paraguay's national development plan 2030

Paraguay's current National Development Plan 2030 (NDP 2030) is closely linked to the SDGs. As the global goals, the NDP 2030 touches on social betterments such as the eradication of poverty, the decrease on economic and gender inequality, environment friendly demands, improvement of public infrastructure, of international commerce and relations, of health, and of education.

The NDP 2030 has three strategic pillars: 1) poverty reduction and social development; 2) inclusive economic growth; and 3) making Paraguay more engaged and integrated in the world. It also has four cross-cutting objectives: i) equality of opportunity; ii) transparent and efficient public management; iii) land development and management; and iv) environmental sustainability. Together, these three pillars and four objectives comprise 12 strategies for public sector projects and programmes. The relevance of the services sector for development can be found in each pillar.

### Pillar 1 – Poverty reduction and social development

The country is characterized by a volatile agricultural sector and by an extremely elevated income inequality between rural and urban areas. Poverty is concentrated in rural areas, which is compounded by inequality in land ownership (Paraguay Government, 2014). In 2008, more than 70 per cent of the productive land is owned by 1 per cent of the largest establishments, placing Paraguay as the country with the highest level of land inequality at that time (World Bank, 2018). This inequality was also revealed by the country's Gini coefficient in the same year of 0.5.<sup>25</sup>

The relevance of the contribution of the services sector to employment, together with the lower volatility of services output (figure 3), mean that services can be key to achieving several development goals, including SDG 1 on poverty reduction, SDG 8 on decent employment, and SDG 10 on reducing inequalities. The services sector is also important for women's employment (figure 10), both in urban and rural areas, thus with potential effects on the achievement of SDG 5 on gender equality.

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This pillar also has the objective of reducing chronic child malnutrition by 90 per cent, achieving secondary education coverage of 95 per cent, securing the quality of education, eradicating precarious human settlements through planning and urban improvement, and universalizing access to water and sanitation services. These objectives are in line with SDG 2 on ending hunger and achieving food security, SDG 4 on ensuring quality education, SDG 6 on ensuring water and sanitation services, and SDG 11 on sustainable communities.

### **Pillar 2 – Inclusive economic growth**

The services sector can lead to increased employment, which may decrease poverty and inequality as well as generate inclusive economic growth. As such, services can support a main objective of the second pillar of achieving an average growth rate of GDP of 6.8 per cent between 2014 and 2030. This is in line with pursuing SDG 8 on economic growth.

This second pillar aims to achieve 80 per cent coverage of broadband Internet. This aims for SDG 9 on industry, innovation, and technology, and can also apply to a broad spectrum of direct effects on quality education. This pillar also aims for an efficient multimodal transport network, brought about by targeted investment and trade openness centred around the river transportation. This supports the focus on analysing this sector in this SPR.

### **Pillar 3 – Global integration**

The integration in the global economy will be pursued through international agreements. The growth of the services sector and its linkage with international trade will support this pillar and the achievement of SDG 17 on global partnerships. The goal of increasing investment in river transportation services, a key element on Paraguay's trade performance, also connects the services sector with the achievement of this pillar of the NDP 2030. Paraguay has developed national plans for the transport and ICT services sectors. The transport master plan assesses demand for road, river, and rail transport, and has projects for the coming 20 years. Investment in river transportation services will be pursued also through public private partnerships.

Public private partnerships were legally established in Paraguay, through a law in 2013 and its implementing regulation in 2014, to undertake specific projects that build infrastructure to enhance inclusive economic growth and development. Since the implementation of this regime until June 2017, 11 public projects and 22 private initiatives were presented. These were mainly in transport infrastructure, but also in energy and construction of prisons, roads, water sanitation services, among others. The preliminary amount agreed and disclosed for this set of projects was around US\$1,216 million (Paraguay Government, 2019).

This pillar also contributes to the achievement of SDG 9 on infrastructure, mainly through construction and transport services, and of SDG 12 on responsible consumption and production. The main objective of this pillar is to open the country's trade and integrate Paraguay in international trade.

The government is implementing new policies and strategies regarding the NDP 2030, established during the previous government. For instance, the first two fora for a national system on MSMES were held in November 2018 and November 2019 with the objective of launching a national plan to support MSMEs in different areas, such as financing, technical assistance, creative economy, exports, agribusiness, among others. In addition, building on previous efforts in the area of trade in services, the MIC, held an international seminar on services in November 2018 to discuss about a National Plan on Trade in Services. This seminar had the participation of UNCTAD and of other experts in trade in services. Both events show a focus on public policies that could enhance an enabling environment for the services sector.

## B. National Services Forum

The National Services Forum (NSF) was established by presidential decree 4201 in 2010. Its objective is to provide political support to the work of public and private institutions that have responsibilities in the area of trade and services, with a shared approach. The NSF Executive Committee coordinates the work and actions taken by this body. The NSF is chaired by the MIC and the ministry's General Directorate on Trade in Services acts as the NSF Technical Secretariat.

Representatives from the public and private sectors, academia, and civil society can join the NSF. By the end of 2018, 27 professional associations from different sectors had joined the NSF. These associations are invited and attend formal meetings and receive information from the NSF Secretariat. Any organization active in the services sector can request to be part of the forum. The decision on the acceptance of the request is taken by the Executive Committee. The multi-stakeholder approach proposed by the NSF aims at addressing different interests and perspectives, from various sectors, and at defining general and concrete priorities that all participants should review and adjust accordingly.

The general objectives of the NSF are:

- Contribute to the definition of national policies on trade in services, through the preparation of proposals for national and sectoral plans for the development of service activities;
- Disseminate international agreements and negotiations on trade in services and cooperate in the creation of coordination channels with economic agents to make better use of market access conditions;
- Guide the development of national and sectoral plans for the development of service activities and suggest actions for international integration and for promoting international trade within the framework of bilateral, regional, and multilateral agreements;
- Suggest actions regarding trade in services and economic integration within the framework of international agreements;
- Prepare proposals for the regulation of different service activities;
- Maintain permanent links with organizations and institutions in the area of trade in services to promote actions aimed at achieving common objectives;
- Articulate the technical cooperation necessary to strengthen the forum and to achieve its objectives.

During 2018, the NSF held various meetings to reassess its priorities and the formulation of the national plan on trade in services. Specific initiatives were carried out by the Working Committees on Rules and Professional Services, of relevance also for the construction sector analysed in this SPR. These subsidiary bodies of the NSF are evaluating a preliminary draft decree to establish mandatory provision of statistical data and nomenclature of the trade in services sector and are implementing measures for enhanced records of construction professionals in different institutions.

## C. National Plan on Trade in Services

One of the concrete proposals by the NSF refers to the adoption of the National Plan on Trade in Services, with the objective of issuing a ministerial resolution. This is a priority given the performance and potential of the sector. Paraguay's National Plan on Trade in Services aims to strengthen the national services sector by implementing public policy instruments that allow for the promotion and consolidation of the sector, improving institutional management, obtaining a better quantification of the sector, and improving overall sectoral competitiveness.

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This plan is based on two strategic pillars: i) general enhancement of the services sector and ii) market access. The first pillar deals with the promotion of trade in services, strengthening of institutions, development of regulations, formalization of trade in services, and improving services statistics. The second pillar aims at expanding services market access for national suppliers in external markets.

The two strategic pillars will complement each other to ensure coherence in the plan. The first will focus more on the services sector at the national level, with the objective of providing inputs for sound trade policies. These policies should take advantage of market opportunities for national services providers, generated in negotiations of trade agreements. Another area of interaction between the two pillars, that would add coherence to the plan, is the opportunity to work on country positions in ongoing negotiations to reflect concrete needs from stakeholders and to increase services exports.

The NSF worked on a draft National Plan on Trade in Services, reflecting the perspectives of different stakeholders. The draft was shared with all members of the NSF and the final result was presented publicly in the international seminar on services in November 2018, organized jointly with UNCTAD. This was followed by reviews and the plan was officially launched in February 2019. Specific activities, deadlines and responsible institutions were mentioned in a separate working document to support the implementation.

### **Pillar 1 – General enhancement of the services sector**

Given the importance of services in Paraguay's economy, their strengthening is key to advance economic strategies and towards the achievement of developmental objectives. At the same time, emphasis is put on universal access to housing, sanitation, water, health, education, and energy services. Transport, telecommunications, and access to finance services<sup>26</sup> are also of fundamental importance for improving Paraguay's global competitiveness.

#### ***Promotion of trade in services***

The promotion of trade in services is necessary and represents a means to identify and expand potential markets for national services providers. It is important to coordinate promotion of trade in services opportunities and market intelligence, to avoid the risk of having public and private institution working only on its own area of interest.

An important way to reach the target audience of MSMEs and entrepreneurs in services sectors is through digital marketing through social media, electronic commerce platforms, and smartphone applications.

#### ***Formalization of trade in services***

The formalization of the economy in general, and of the services sector in particular, is one of the priorities framed within the national plan. The importance of this priority is compounded by the importance of services to the economy. As mentioned in chapter I, services had, in 2018, a 64.9 per cent rate of informal workers. Women and people living in rural areas were more affected by informality.

Through a more formal market, services providers will have greater opportunities to project confidence, reflect social responsibility image, have access to credit, and participate in public tenders as a provider of services to the State.

A Registry of Services Providers (REPSE) for individuals and legal persons was created by Presidential decree 6866 in 2011. The main objective of REPSE is the formalization and promotion of activities carried out in the services sector. Since the implementation of REPSE in October 2013 and until October 2018, a total of 14,916 services providers were registered. Of these, 11,569 were physical persons and 3,347 were other legal entities. The MIC keeps a list of the providers registered. The existing regulation allows the MIC to undertake *in situ* verifications and apply sanctions in case service providers do not abide by the law or are not registered. No sanctions have yet been applied within the framework of the REPSE.

In practice, REPSE had some difficulties in its implementation, as well as in relation to its sanctions. This could be explained by the existence of more relevant registries in the supply of services, such as the in the National Directorate of Government Procurement or in the Ministry of Public Works and Communication (MOPC).

### ***Creation of a system on services statistics***

To support credible inputs for many of the initiatives mentioned above, it would be useful to create a dedicated unit responsible for the collection and management of services sector data, and to produce consistent statistics that allow for the design of real policy proposals for each sector. Considering there is no coordinated or institutional collection of data in the trade in services sectors, the creation of a system on services statistics should be a first-step to try to address this problem.

For the purposes of compiling trade statistics, it is essential to have computer connectivity and availability of administrative records related to services among the relevant institutions. Institutional cooperation is also important and is observed, to a certain degree, in the provision of firm data by the Taxation Secretariat to the Central Bank of Paraguay and to the MIC.

The need for Paraguay to progress in this area demand the country to have the computer tools, supplies, trained personnel, and – more urgently – a standard of compulsory connectivity for the management and administration of the statistics and nomenclature of the sector. Considering all of the above, it is highly recommended to go towards collaboration mechanisms, with joint computer platforms that allow exchange of information in real time, optimizing the use of human resources and infrastructure within the government.

### **Pillar 2 – Market access**

Considering the various trade negotiations in which Paraguay is participating, there is potential to have access to new markets and, therefore, higher trade flows. In general, the MIC has identified that the commitments agreed by developed countries in terms of market access have been broader than those adopted by developing countries. The level of barriers to trade in services changes according to sector and mode of supply, but it is greater in the case of services that require the temporary movement of individuals from one country to another to supply services: mode 4 (table 4). This is a problem of special importance for exports from developing countries but less for developed countries which tend to specialise in knowledge intensive services such as telecommunications and financial services (table 3).

**Table 4. Modes of supply of services according to the General Agreement on Trade in Services**

Mode	Description
Mode 1 – Cross border trade	Supply of a service from the territory of one Member into the territory of any other Member. Includes, for example, banking services transmitted via telecommunications.
Mode 2 – Consumption abroad	Supply of a service in the territory of one Member to the service consumer of any other Member. Includes, for example, a tourist consuming touristic services outside of his/her country.
Mode 3 – Commercial presence	Supply of a service by a service supplier of one Member, through commercial presence in the territory of any other Member. Includes, for example, the provision of insurance services by domestic subsidiaries of foreign insurance companies.
Mode 4 – Presence of natural persons	Supply of a service by a service supplier of one Member, through presence of natural persons of a Member in the territory of any other Member. Includes, for example, services provided by accountants, doctors and teachers that are temporarily in another country.

Source: WTO website (<https://www.wto.org/>) and WTO, 1995, *General Agreement on Trade in Services*.

A coherent approach to development that seeks to open markets for services providers requires sound and coherent trade policies that generate market opportunities for the country and for its development policies. Improving the possibilities to take advantage of new trade opportunities calls for policies that strengthen export capacity and for policies that contribute to timely access to markets within a framework of multilateral trade negotiations.

#### **Follow up of the plan**

The MIC is the body in charge of regulating the consumption and distribution of goods and services of national and foreign origin, that are not regulated by special laws; and promote domestic and international trade. The MIC will therefore be responsible for the follow up of the strategies, projects and public actions discussed and implemented in the National Plan on Trade in Services.

The implementation will be monitored in coordination with the NSF. The forum will monitor the execution of the actions and the measurement of progress in accordance with the goals framed with the other national agencies, services suppliers, and civil society. To this end, the NSF will establish a definition of monitoring priorities and a quarterly evaluation agenda. The monitoring and evaluation will be based on information from the statistical system and from the MIC, which will inform on the progress in achieving the goals.

This mechanism will also support governmental agencies in improving their statistical and administrative records. This will be promoted by the preparation of technical guides and assistance. Improved administrative records will be necessary to evaluate, during the implementation of the plan, the adherence to the legality of the actions carried out by the government and the services providers.

#### **D. Other initiatives in the area of services**

Further to the National Plan on Trade in Services, other initiatives relevant for the services sector deserve attention.

Regarding the REPSE, there are some efforts to enhance its implementation by verifying constructions where registered architects and other personnel should be working. Lack of verified compliance should be followed by sanctions.

As part of the efforts to create a system on services statistics, the NSF is pushing for the adoption of a Presidential decree on the mandatory connectivity of administrative records regarding services providers, including national and foreign, firms and individuals. Another element of this decree would be to appoint the General Directorate on Trade in Services, in the MIC, as the main entity to collect, compile and manage the data, in collaboration with other institutions and departmental administrations. This will contribute to improved statistics that will be useful for policymakers adopting domestic regulations or defining country positions for better market access.

Currently, the method to collect and compile data is limited and time consuming since it is based on surveys and information is shared only at institutional meetings and other types of collaboration. Also, this would be an opportunity to focus on specific mode of supply, as well as on Foreign Affiliates Trade in Services (FATS) data which is not collect at the moment.

### **E. Trade negotiations in services**

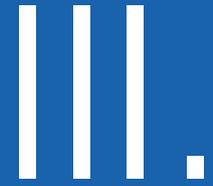
Paraguay has taken commitments at the World Trade Organization (WTO) in financial and tourism sectors. As for the other countries in MERCOSUR, Brazil undertook commitments in seven sectors while Argentina and Uruguay made commitments in six. Many sectors and subsectors in Paraguay remain unregulated, making difficult to negotiate and agree on deeper obligations.

Paraguay has followed the positive list approach in trade in services negotiations. While the positive list approach includes the details of the commitments made, the negative list approach includes the details of the exclusions made. The WTO General Agreement on Trade in Services (GATS) lists commitments as per the positive list approach, while many regional trade agreements (RTAs) have been following the negative list approach. The negative approach requires thorough knowledge of all measures in place in all sectors and detailed scheduling of existing non-conforming measures that limit market access or national treatment, since any measures not scheduled could result in inadvertent liberalization. In the case of Paraguay, trade in services negotiations have followed the positive list approach.

After the publication of the UNCTAD's first SPR of Paraguay, the main developments regarding trade negotiations are in the context of the MERCOSUR. These developments have received an important push by the other countries in this trade bloc – Argentina, Brazil, and Uruguay – which have been active in international trade.<sup>27</sup> For instance, the negotiations between the MERCOSUR and the European Union have reached an agreement in principle in June 2019, which is subject to final transcription and to the respective market access offers. The agreement in principle contains provisions on the movement of professionals and disciplines regarding several services sectors such as postal and courier services, telecommunications, financial services, electronic commerce, and maritime services.<sup>28</sup>

The MERCOSUR and the European Free Trade Association (EFTA) countries, composed by Iceland, Liechtenstein, Norway, and Switzerland, concluded, in August 2019, in substance the negotiations on a comprehensive free trade agreement (FTA), including the chapter on trade in services. This chapter follows the GATS approach and has specific disciplines, for example, on the movement of natural persons supplying services, telecommunication services, and financial services.<sup>29</sup>





# Assessment of transport services, focus on river transport services

## A. Brief overview of Paraguay's geography in relation to transport needs

Paraguay has a total land surface of approximately 406,752 km<sup>2</sup>. Both Paraguay and its northerly neighbour, the Plurinational State of Bolivia – which is almost 3 times its size with 1.1 million km<sup>2</sup>, are the only two landlocked countries in South America. In a report by the United Nations Office of the High Representative for Least Developed Countries, Landlocked Developing Countries, and Small Island Developing States (UN-OHRLLS), the cost of being landlocked for the Plurinational State of Bolivia was estimated to be 16 per cent “less developed” than what it could have been if it were not landlocked. For Paraguay, this figure was 11 per cent (UN-OHRLLS, 2016).

The river Paraguay, which flows southwards from the Plurinational State of Bolivia through Paraguay, neatly dissects the country's total area into two distinct regions: the western Chaco region with about 60 per cent of the country's total landmass; and the eastern Oriental region with the remainder. About 95 per cent of Paraguay's approximately 6.7 million people are concentrated in the smaller eastern Oriental region. This region ranges from lowlands to mountains, with the highest elevations occurring in its far eastern parts near the border with Brazil. The western Chaco region consists of vast low plains which are susceptible to alternate periods of drought and floods. This is an important factor to consider in both transport infrastructure planning and in general when constructing buildings.

Together with river Paraguay, which runs through the centre of the country, the other main waterway is the river Paraná, which runs along the border with Argentina and Brazil in the East. Both rivers confluence in the far South of Paraguay, just North of the Argentinian city of Corrientes. From this point on, the river continues through Argentina, opening up into the river plate, Uruguay, and the Atlantic ocean. The waterway system of the rivers Paraguay–Paraná is commonly referred to as the Hidrovía Paraguay–Paraná (HPP), or simply hidrovía (figure 29). Today, this is governed by the Hidrovía Intergovernmental Committee (CIH).

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Figure 29. Map of the hidrovía inland waterway



Source: <http://www.visionmaritima.com.uy/noticias/vias-navegables-noticias/bolivia-Hidrovía-genera-ahorro-de-hasta-30-respecto-a-arica/>

The hidrovía is around 2,700 km in length and borders Argentina, the Plurinational State of Bolivia, Brazil, Paraguay, and Uruguay. It can be divided into three parts. The most southern part stretches for 500 km from the mouth of the river system. With a draft of 10 metres, this part is capable of servicing inland water transport (IWT) vessels – *i.e.* small craft and barges – as well as maritime vessels – *i.e.* coastal or oceangoing crafts. The central part, along the Paraguay River, extends through Paraguay northwards into the Plurinational State of Bolivia and bordering with Brazil. It has a depth of around 7.5 metres until Santa Fe and then decreases to around 3 metres for much of the remainder. The eastern part, along the Paraná River, extends along Paraguay's border with Argentina and Brazil and has a similar depth than the central part.

The largest town in the northern part of the river Paraguay is Cáceres, in Brazil, near the border with the Plurinational State of Bolivia. However, this part of the river, being the furthest from the river's mouth, has some of the shallowest depths, narrowest widths, and is subject to the greatest seasonal variations. All of these features limit its economic use. Lower water levels deriving from seasonality compound existing natural restrictions such as shallow waters and tight bends. This means convoys of barges must be smaller, which in turn makes them less economically efficient. In addition, local pilots are needed to guide vessels avoiding known perils, and signals need to be put in place to guide traffic. Unlike in Europe, the classification of inland waterways into grades according to vessel size and navigability does not exist in the region. This could be instrumental for achieving greater and better use of inland navigation (ECLAC, 2016). Improved signalization along the route has allowed for navigation by night and has thus helped to reduce transit times for cargo from the port in Cáceres, Brazil, to Nueva Palmira port, Uruguay, from 19 to just 7 days.<sup>30</sup>

Low water levels brought about by seasonal variations and increased drainage to farm crops exacerbate the need for dredging, to allow bigger vessels with greater draft, and thus more cargo carrying capacity, and better access. Mutual agreement is needed for these works in some parts of the river. In addition, there are competing water resource usages as well as environmental concerns which make dredging challenging. The low water levels also require land transport linkages, *i.e.* bridges, to be higher than further down the river. Otherwise, roads and railway tracks, albeit virtually non-existent, need to be longer to connect communities on opposite shores of the riverbank.

The river Paraná source is fed by the flat plain of the Brazilian Mato Grosso do Sul region, which is a sizable area of 357,000 km<sup>2</sup>. This is equivalent to around 85 per cent of the landmass of Paraguay but only equal to around 4 per cent of Brazil's landmass. The Paraná river is mainly characterized by the presence of two dams producing hydroelectric power. In the upper part there is the Itaipú dam, opened in 1984 and shared with Brazil. The lower-down Yacyretá dam opened in 1994 and is shared with Argentina. Both dams were constructed with a lock system to allow for IWT and marine life to transit. However, lock width restrictions mean that barge convoys need to be split and reassembled, adding both to time and costs in getting goods to market.

The Yacyretá dam is owned jointly by the governments of Argentina and Paraguay. In 2014, Paraguay consumed almost 5 per cent of its share of Yacyretá's energy production, exporting the rest to Argentina.<sup>31</sup> It is instrumental in meeting 18 and 22 per cent of the energy needs of Argentina and Paraguay, respectively (United States Department of State Bureau of Western Hemisphere Affairs, 2016). The Itaipú dam, owned jointly by the governments of Brazil and Paraguay, includes a river system of 170 km in length with a total flooded area of 1,350 km<sup>2</sup>. It is instrumental in meeting 17 and 78 per cent of the energy needs of Brazil and Paraguay, respectively.<sup>32</sup>

The annual energy generating capacity of the Itaipú dam is about 14,000 MW whereas the Three Gorges dam in China is about 22,000 MW.<sup>33</sup> To put this in perspective, the average nuclear power plant with a single reactor has the capacity to generate around 1,000 MW of electricity. In 2016, the Itaipú dam ranked as the world's highest generating power station producing over 100 TWh.

Despite being smaller in capacity than the Three Gorges dam in China, which produced 93.5 TWh, Itaipú dam produces more electricity largely because of the relatively constant waterflow from the river Paraná, the second-longest river in South America. The Yangtze river, in comparison, is prone to flooding and drought which leads to fluctuations in water volume and power generation.<sup>34</sup> The Yacyretá dam, located further downstream on the Paraná river, generated around one-fifth of the Itaipú dam energy output in 2016: 21.6 TWh.<sup>35</sup>

While the dams on the Paraná river provide a source of much needed renewable energy, they also present a logistical challenge for the movement of goods. The construction of a deviation channel with four locks at the Itaipú dam will partially address this challenge by permitting improved navigability along the Paraná river. The main benefits sought are efficiency in fuel consumption and economies of scale.<sup>36</sup> This development has the potential to increase revenue from greater traffic to fund other development programmes.

In 2023, the debt associated with the Itaipú dam's original construction will be amortized. Presently, some two-thirds of the power station's US\$4 billion gross annual revenue is spent on repaying the original construction debt.<sup>37</sup> The Paraguayan share of this revenue, an estimated US\$1.3 billion, will thus present an opportunity for the country to invest in other projects. Paraguay's services sector could be a beneficiary.

## B. Road transport

Paraguay has an estimated road network of just over 62,200 km, of which 70 per cent are rural roads. In a report by the Multilateral Development Banks (MDBs) Working Group on Sustainable Transport,<sup>38</sup> the vast majority – 97 per cent – of these are classified as gravel roads that lack adequate drainage facilities, limiting their all-year-round usage. This study cites that more than 65 per cent of rural roads in Paraguay are in a poor condition and, as such, become unavailable for 40-90 days per year on average (MDB Working Group on Sustainable Transport, 2015). The road network is unevenly split between the Western Chaco region, with approximately 17 per cent, and the Eastern Oriental with 83 per cent. Only 18 per cent of the roads in the Western Chaco region is passable throughout the year, while the corresponding figure for the Eastern Oriental region is 28 per cent (ECLAC, 2014).

Roads are rapidly deteriorating in the country, due to insufficient maintenance: while in 2011 close to 68 per cent of paved roads were in good condition, by 2015 that figure had dropped to 59 per cent. In addition, annually around 1,200 people die and approximately 40,000 are seriously injured due to traffic incidents. The economic cost of traffic incidents varies between 2 and 4 per cent of Paraguay's GDP.<sup>39</sup>

In recent years, a series of infrastructure loans have been granted by the MDBs to help improve the road network. For instance, in 2014, the Development Bank of Latin America (CAF) granted a US\$50 million loan to help, *inter alia*, to renovate 350 km of road and replace 191 wooden bridges with concrete bridges. In 2015, the CAF advanced a further US\$200 million for road improvements in another 459 km.<sup>40</sup> In 2016, the World Bank also approved a US\$100 million loan to improve the country's road network.

In 2017, the government of Paraguay announced its intention to expand and upgrade the country's busiest roads – route 2 and route 7. These two-lane highways connect Asuncion with Paraguay's next largest city, Ciudad del Este, and onwards towards Brazil. The roads' condition is currently so congested and poor that it can take more than six hours to make the 322 km trip with an average speed of 53 km/h.

## C. Rail transport

Rail transportation is often divided into passenger and freight transport. Paraguayan freight transport is negligible with a length of 2.2 km (WTO, 2017b). A 2013 report by the International Union of Railways (UIC) cited that “*some countries (such as Venezuela) have started developing railways. Others (such as Paraguay) have allowed them to disappear almost entirely*” (UIC, 2013).

Currently, the rail system in Paraguay consists primarily of a 376 km main line of standard gauge (1,435 mm) between the capital Asunción, located near the centre of the country, and Encarnación, in the South-East of the country. It includes a connection to Posadas in Argentina providing passenger transport.<sup>41</sup> In 2018, congress passed a bill on the reinstatement of a rail line between Asunción and Ypacaraí, a distance of 44 km. Trains on an electric railway would depart every 5 minutes during rush hours, carrying up to 280 passengers.<sup>42</sup> Previous plans to electrify the national railways in the 1990s failed to come to fruition. The Paraguayan locomotive fleet on the central line, run by Ferrocarril del Paraguay S. A. (FEPASA), used to be popular with tourists for being one of the last fully steam railways in the world, but closed in 2009 (Andrew Nickson, 2015). Frequent flooding and a corresponding soil erosion around bridge abutments contributed to its closure.

Plans to unite the railway network to neighbouring Brazil never materialized, following the bankruptcy of the Farquhar Syndicate in 1913 (Brown, 1979). On the Brazilian side of the border, at the border town of Ponta Porã (in the North-East of Paraguay), works began in 1937 on the creation of a railway network to reach São Paulo (Brazil) and the port city of Santos (Brazil) via Campo Grande (Brazil). However, this never materialized and eventually the railway tracks entering into Ponta Porã city centre were removed in 2004.<sup>43</sup> Since the privatization of the Brazilian railways, trains west of Bauru (Brazil) have been dedicated to freight transport only. Presently, Rumo is the Brazilian rail operator with the concession to operate the rail network within the regions of the country that border Paraguay.

More recent news focus upon a revival of the Latin American railway network. This aims to connect the Atlantic and the Pacific Oceans via a 3,700 km line extending from Port of Santos (Brazil), through the Plurinational State of Bolivia, and ending in Ilo (Peru). While the bi-oceanic railway corridor is mainly being pushed by Paraguay’s northern neighbour, the Plurinational State of Bolivia, both the Plurinational State of Bolivia and Paraguay signed a memorandum of understanding (MOU) in Asunción, in 2017, committing both countries to undertake a joint plan to carry out studies aimed at integrating Paraguayan territory into the bi-oceanic train network. The MOU is expected to lead to a connection from Puerto Carmelo Peralta (on the Paraguay–Brazil fluvial border) northwards to Roboré (the Plurinational State of Bolivia).<sup>44</sup>

## D. Fluvial transport

### 1. Introduction

In 1990, approximately 2 million tons of cargo were carried by inland navigation along the HPP. This figure only reflects freight moved by barges and disregards the relatively marginal flows moved by self-propelled vessels. By 2008, this figure had grown to 15 million (World Bank, 2010). In 2013, the Paraguayan fleet alone carried approximately 26.6 million tons of cargo, 8.5 million tons of grain and sub-products, 12.5 million tons of minerals, 3 million tons of fuel, 1 million ton of containerized cargo, 1 million ton of cabotage grains, 500,000 tons of oils and 550,000 tons of clinker.<sup>45</sup> In terms of Paraguayan trade, the IWT accounted for 32 per cent of the country’s imports and 70 per cent of exports (ECLAC, 2014).

Paraguay's most important ports are concentrated in Asunción, Encarnación, San Antonio, and Villeta. Virtually all the cargo that leaves Paraguayan ports is trans-shipped to bigger vessels in Argentinian, Uruguayan and – to a lesser extent – Brazilian ports, and from there transported across the oceans to their final destination. This double handling of cargo adds to the transports costs but is still significantly cheaper than transporting the cargo via road. One estimate put IWT at seven times cheaper than road transport, and fuel consumption at four times less the level of CO<sub>2</sub> emissions of road transport (Touax, 2014).

The HPP serves as the central corridor for internal transportation, as well as an import and export conduit. In the upper extreme, landlocked the Plurinational State of Bolivia exports bulk commodities along the Paraguay River. Brazil uses the HPP as a North-South alternative route for ore (iron and manganese) and oilseed exports. Argentina uses the river for several purposes: (i) to move domestic dry bulk from the northern regions to the transfer area; (ii) to receive freight (soy and iron ore) from upstream countries for processing in its manufacturing plants; (iii) to transfer freight to oceangoing vessels; and (iv) to facilitate Paraguayan and Bolivian imports (fuel and wheat). Uruguay receives freight (dry bulk and containers) from upstream countries and transfers it to oceangoing vessels in its ports, and vice versa (Touax, 2014).

The management of the navigable route can occur in different ways, but a substantial premise should be emphasized. Where rivers run through different countries with sovereign and shared stretches, all physical and legal intervention must adapt to a coordinated regional policy that allows the efficient flow of the loads and the maintenance of the navigable road in the optimal conditions for its use during the 365 days of the year. This often requires control and management of the operations to achieve successfully results.

Paraguay has been developing its fluvial transport fleet, which is now the largest in South American and the third largest worldwide. This generates training and jobs in the merchant and naval fleets, as well as port and shipyards activities, and third-party industries providing accompanying technology and services.

The HPP was born as a programme within the framework of the La Plata basin system to identify the necessary actions to improve navigation in the successive sections of the Paraguay and Paraná rivers. This initiative, from Argentina, the Plurinational State of Bolivia, Brazil, Paraguay, and Uruguay, aims at the physical integration of an important production area to generate new exportable items for intra- and extra-regional trade. As a physical integration programme, it is undoubtedly one of the most important instruments of the MERCOSUR, which seeks to develop a better complement to other means of transport, especially international, based on the more efficient management of river transport.

The La Plata basin, with an area of approximately 2.7 million km<sup>2</sup>, is one of the largest in the world. The Paraguay and Paraná rivers, which receive the waters of this immense basin, constitute a successive section that connects the interior of South America with the deep-water ports located in the lower section of the Río de la Plata. As a natural navigable waterway, these rivers have been navigated since historical times, first by the aboriginal riverside communities and then by the conquistadors, who used them for the colonization of a large interior region of the continent.

The HPP is the fluvial system formed by the Paraguay and Paraná rivers. The total route is of approximately 3,400 km and crosses the territories of the MERCOSUR countries and the Plurinational State of Bolivia. The total area of the direct influence area of the waterway is approximately 1.75 million km<sup>2</sup>, with a population of around 17 million inhabitants.

This immense territory includes an area with great potential for the integral development of the region, where soybean and its derivatives are produced, mainly, cotton, sunflower, wheat, flax, iron ore, manganese, and other industrial and agro-industrial products. Due to its own morphology, the rivers that form the hidrovía constitute a natural navigable waterway which, unlike most of the great valleys in the world, follow one another with a minimum inclination that does not require the construction of locks systems to make river transportation possible.

In general terms, the objective of the programme can be summarized as optimizing a natural river transportation corridor, where cheaper costs and safety in navigation are decisive factors for the integration of the countries of the waterway, in a context of balanced and sustainable development of the economies in the region.

In this sense, advantages of fluvial transport can be pointed out: The waterway is important to address the so-called “phenomenon of urban hyper-development”, an issue with global reach that has special gravitation regionally due to the serious social and environmental damage that it causes. This phenomenon means that more than 50 per cent of the world’s population live less than 70 km from maritime coasts and implies, especially in Latin America, a worrying situation of abandonment of rural areas.

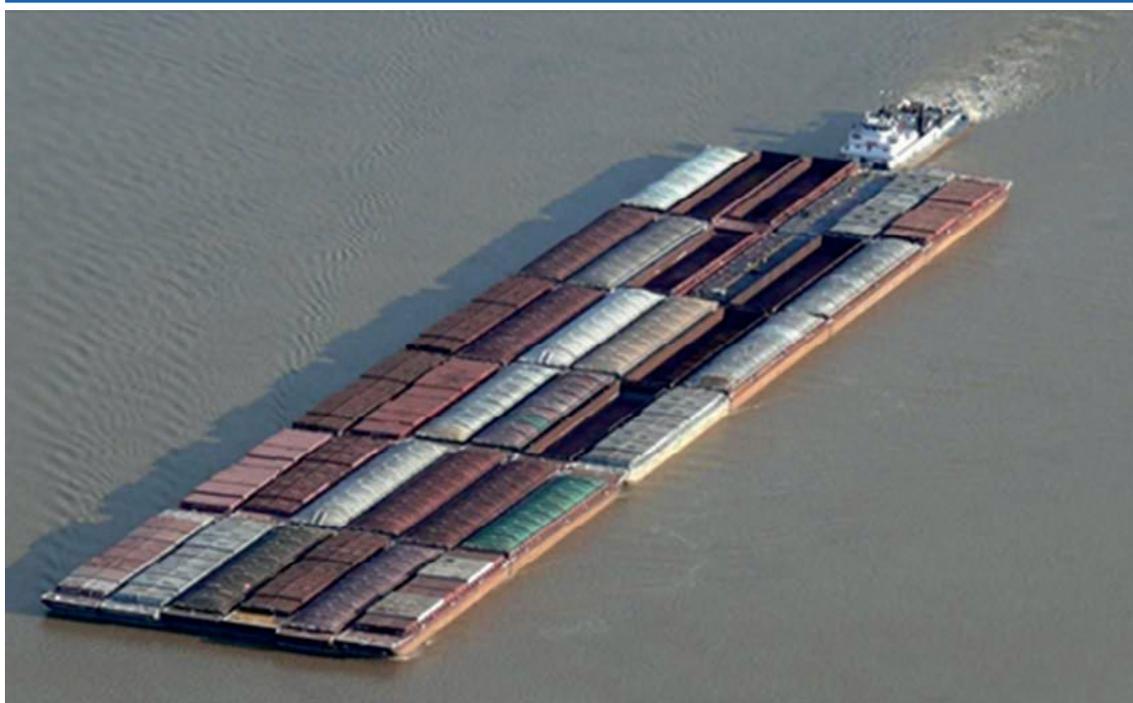
Faced with this problem, the HPP programme proposes an action strategy that enables a balanced and sustainable development of the regional economies, laying the foundations for the generation of employment around export processing industries. This is through the improvement of the river transport corridor.

The typical vessels of the hidrovía, called “convoys” or “push trains”, are shallow barge formations propelled by a push tugboat. Each of the barges measures approximately 12x48 meters and has a load capacity of 1,500 ton. Currently, the vessels that sail on the waterway generally reach a maximum of approximately 20 barges. They are formations of the so-called “4x5 convoy” that can transport up to 30,000 tons and measure approximately 300 meters in length and 48 meters in width (figure 30 and figure 31).

**Figure 30. Example 1 of a typical 6x5 barge convoy**



Source: UNCTAD.

**Figure 31. Example 2 of a typical 6x5 barge convoy**

Source: UNCTAD.

The HPP programme has achieved unprecedented development on these rivers. Between 1988 and 2010, the transport of merchandise multiplied, going from 700 thousand to almost 17.4 million tons per year, reaching a maximum record of movement in 2013 with 23.6 million tons. However, the IWT system is not utilized to its full capacity and, for this reason, the countries continue to promote its development. This implies coordination to take advantage of the shared resources, including through the harmonization of legislation, to reduce regulatory divergence obstacles, and the realization of various improvement in the safety in navigation and in equipment.

In 1965, the National Administration of Navigation and Ports (ANNP) was created by law No. 1066/1965. It is exclusively responsible for the operation of all the official ports of the country, the dredging and maintenance of waterways and of established dry ports in the main borders with Argentina (Clorinda – Puerto Falcón) and with Brazil (Ciudad del Este – Foz de Yguazú, Saltos del Guairá – Guairá, and Pedro Juan Caballero – Ponta Porá). All of these ports are converted today into centres of integrated border controls, under the Recife Agreement within the framework of the MERCOSUR.

With the boom in the exploitation of soybeans in the early 1980s, a significant number of ports and private loading areas were established. This occurred both on the Paraná River and on the Paraguay River which were, at the time, enabled and supervised by the ANNP. In 1994, under the newly adopted constitution which prohibits monopolies, law 419/1994 was enacted authorizing the operation of private ports. These became dependent on the General Directorate of Merchant Navy (DGMM), under the MOPC. Currently, in addition to the 35 ports and berths of soy, there are three ports on the Paraguay River that handle container traffic, in addition to the official ports of Asunción and Villeta.

The ports of Buenos Aires and Montevideo compete formally for the transit cargo to and from Paraguay in terms of containers. Traffic is shared at 70 per cent and 30 per cent, respectively. However, in bulk (as in the case of soybean and derivatives), the port of Nueva Palmira in Uruguay had a *de facto* exclusivity of the Paraguayan transit for many years. This was due to the lack of regulation of the Argentine customs regarding the tolerances on the weight, which forced the payment of fines. In 2006, the decree authorizing a margin of 4 per cent of reduction/increase on weight was approved, making the Argentine ports of the Rosario and San Lorenzo more attractive to bulk cargo.

The interoceanic highway, also known as the trans-oceanic highway, is a transcontinental highway linking the Pacific Ocean coast of Peru with the Atlantic coast of Brazil. The East-West passageway spans 2,600 km. In principle, Paraguay is not part of the interoceanic corridors project as administered by the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA). However, it is possible to create an axis through Campo Grande (Mato Grosso do Sul) – Puerto Murtinho – Carmelo Peralta – Mariscal Estigarribia – Infante Rivarola (in Paraguay) and Villamontes (the Plurinational State of Bolivia), towards Arica and Antofagasta in Chile, in addition to the HPP.

Both the Plurinational State of Bolivia and Paraguay have had an important role in the framework of the United Nations landlocked developing countries programme of action. This role has focused especially on avoiding bureaucratic and tax obstacles to the free transit of their merchandise, both of exports and imports. The reality of international trade is highly influenced by logistics costs and the geographical situation. Countries such as the Plurinational State of Bolivia and Paraguay are exporters of primary products, where costs are inversely proportional to the value of exports, and where producers require the ability to source globally at competitive prices. Creative solutions are therefore needed.

## 2. Study of loads and movements

The evolution of the loads mobilized in the Paraguay River, in the sections Confluencia – Asunción and Asunción – Apa, is analyzed as follows. To show this evolution, it is necessary to identify the ports under analysis for each of the sections (table 5) and, through international trade statistics, quantify the exports and imports of selected products. Finally, source – destination tables are shown, both for exports and for imports of the selected products.

Ports	Route
Pilar	Confluencia – Asunción
Villeta	Confluencia – Asunción
Terport	Confluencia – Asunción
Capital	Asunción – Río Apa
Caacupé-mi	Asunción – Río Apa
Fénix	Asunción – Río Apa
Empedril	Asunción – Río Apa
Puerto Seguro Fluvial	Asunción – Río Apa
Concepción	Asunción – Río Apa

Source: UNCTAD.

Note: The table does not include the ports of Itá Enramada, Paksa and Villa Rosario that, although located in the sections under review, do not register movements in the period under analysis.

The products under analysis are: Soybeans and derivatives; other grains; iron ore; fuels; vegetable oils; various loads (grouped, containerized loads, differentiating those that are in a dry and refrigerated container). The analysis is only in regard to merchandise mobilized in the port terminals by fluvial means. There is merchandise that is exported and imported by terrestrial means, in which some of the terminals analysed appear as customs of exit or entry, but this is not included in the analysis and it represents a very low volume.

The overall figures of export volumes in tons show a general decline in volume of -8 per cent in 2015, -10 per cent in 2016, a small 5 per cent recovery in 2017, and a new -5 per cent decline in 2018. Within these figures there are some significant variation by port. For instance, exports from port of Pilar, located between the confluence of Rio Paraguay/Rio Parana and Asuncion, grew in 2015 by 128 per cent, followed by two years of decline, of -36 per cent and -19 per cent, before rising by 62 per cent in 2018. The port of Puerto Seguro Fluvial, just south of the capital Asuncion, was the one with the most consistent growth in throughput, which more than doubled during the period 2014–2018 (table 6).

**Table 6. Export volumes at selected ports (tons)**

Port	2014	2015	2016	2017	2018	Grand total
Caacupemi	362 006	325 841	272 381	274 316	271 891	<b>1 506 435</b>
Terport	232 978	213 679	184 814	171 472	145 231	<b>948 173</b>
Puerto Seguro Fluvial	63 780	83 480	126 745	146 611	137 552	<b>558 169</b>
Puertos y Estibajes	140 857	70 170	49 499	69 105	62 660	<b>392 290</b>
Pilar	18 315	41 736	26 762	21 698	35 186	<b>143 697</b>
Empedril S.A.	18 708	32 006	30 846	36 166	24 891	<b>142 616</b>
Terport – Villeta					11 663	<b>11 663</b>
Algesa S – Juan Itapua				3 905		<b>3 905</b>
Villeta		11	15	25		<b>52</b>
Campestre S.A.	8	11				<b>19</b>
<b>Total</b>	<b>836 652</b>	<b>766 933</b>	<b>691 062</b>	<b>723 297</b>	<b>689 074</b>	<b>3 707 019</b>

Source: UNCTAD.

The exports in volume (gross tons) made by the port terminals under analysis are identified for selected products. Only data from 2012 are included because prior to that year the customs records did not have the exit customs data. In all cases, the data for 2014 correspond to the data accumulated up to September of that year.

Soybean is the main export product of Paraguay and has registered a very important growth in 2013 – 60 per cent – and a somewhat smaller volume is expected in 2014, with respect to the previous year. The ports with the highest export volume of soybean and its derivatives are those located on the Confluencia – Asunción section of the Paraguay River (table 7).

**Table 7. Evolution of exports of soybeans and their derivatives (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2012	1 465 124	1 315 590	<b>2 780 714</b>
2013	2 768 878	1 659 710	<b>4 428 588</b>
2014	2 647 877	1 257 011	<b>3 904 889</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

The category of other grains includes wheat, corn, rice, sorghum, buckwheat and seeds, and oleaginous fruits. The volume of exports of this subset has been decreasing over time. Unlike soy and its derivatives, the majority of exports of these grains are made through the ports located on the Asunción – Apa river section (table 8).

**Table 8. Evolution of exports of other grains (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2012	870 625	1 106 373	<b>1 976 998</b>
2013	553 362	1 303 926	<b>1 857 289</b>
2014	248 230	597 643	<b>845 873</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

Exports of vegetable oils show a marked growth, explained mainly by soybean oil. These exports are made almost exclusively through ports located in the Confluencia – Asunción section of the Paraguay River (table 9).

**Table 9. Evolution of exports of vegetable oils (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2012	45 577	18 170	<b>63 747</b>
2013	359 562	5 727	<b>365 289</b>
2014	380 171	8 176	<b>388 346</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

The merchandise exported in dry containers does not represent, in volume, a significant proportion in comparison with the bulks (table 10). The main exports in dry containers are tanned hides and skins – 38 per cent of the total volume exported in 2013 – and bran and sharps – 26 per cent. According to the Centre of Fluvial and Maritime Shipowners (CAFYM), 9,757 tons of soybeans were exported from Paraguay in dry containers in 2013. This represented 0.2 per cent of the total fluvial exports of this product and 0.5 per cent of exports through the Asunción – Apa river section.

**Table 10. Evolution of exports in dry containers (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2012	40 879	77 857	<b>95 032</b>
2013	73 837	91 489	<b>140 562</b>
2014	81 199	62 106	<b>110 061</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

Exports in refrigerated containers represent, in comparison with dry containers, a greater volume of trade. Frozen beef is prominently highlighted within this category with 68 per cent of the total volume exported in 2013. These exports are made mostly through ports located on the Asunción – Apa river section (table 11).

**Table 11. Evolution of exports in refrigerated containers (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2012	57 997	132 320	<b>190 317</b>
2013	72 178	184 541	<b>256 719</b>
2014	63 096	151 666	<b>214 763</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

The evolution of the annual volume imported by the terminals under analysis, and according to the corresponding section, is presented from 2010 until September 2014.

Iron ore imports have declined significantly over time and are made only through the ports located on the Asunción – Apa River section of the Paraguay River (table 12). These have been destined almost exclusively to steelmaker Aceros del Paraguay S.A. According to Paraguayan media, this industry shows a noticeable decline due in part to the fall in the price of steel. The break-even price estimated for iron ore exports was US\$62.20 per tonnes was needed at New Jersey, US\$64.60 per tonnes at Rotterdam, and US\$69.80 per tonnes at Qingdao (de Wet *et al*, 2017). The costs were made up of US\$12.75 for mining, US\$29.50 for barge shipping, US\$8 for transshipping in Rosario, and between US\$9.10 and US\$14.70 for long ocean freight including the floating transshipment. In the second half of 2018, the average price of iron ore was around \$69 per tonne, meaning that Paraguay iron ore export remains profitable, although there is a risk associated to price fluctuations.

**Table 12. Evolution of imports of iron ore (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2010	---	70 237	<b>70 237</b>
2011	---	40 448	<b>40 448</b>
2012	---	12 467	<b>12 467</b>
2013	---	16 278	<b>16 278</b>
2014	---	7 221	<b>7 221</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

The importation of vegetable oils presents a small volume, with an outlier in 2013 corresponding to the importation of soybean oil, typical product of Paraguayan exports (table 13). The volume imported in the remaining years is explained almost exclusively by the importation of olive oil.

**Table 13. Evolution of imports of vegetable oils (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2010	28	150	178
2011	108	265	372
2012	119	157	276
2013	1 708	350	2 058
2014	95	183	278

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

Imports of fuels in the selected ports present stable values over the years. Petróleos Paraguayos is the main importer with 53 per cent of the total volume imported in 2013. The vast majority of fuels enter through the ports located in the Confluencia – Asunción section on the Paraguay River (table 14).

**Table 14. Evolution of imports of fuels (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2010	1 190 712	110 844	1 301 556
2011	1 319 212	27 608	1 346 820
2012	1 353 884	69 439	1 423 323
2013	1 222 849	65 666	1 288 515
2014	892 124	71 339	963 463

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

Wheat is a product that until 2012 was exported by Paraguay. However, it became an imported product since 2013. The main importer is Cargill Agropecuaria with 62 per cent of the total volume in 2013. Imports of this product are all through the ports located in the Confluencia – Asunción section of the Paraguay River (table 15).

**Table 15. Evolution of imports of wheat (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2010	---	9	9
2011	---	1	1
2012	---	---	---
2013	21 389	---	21 389
2014	20 089	---	20 089

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

The containerized dry cargo has presented oscillations in recent years, around 500 thousand tons. Some of the main products imported by dry containers in 2013 were tires, beer, polyacetals, polyethers, polyesters and epoxy resins, ethylene polymers, glass, and air conditioning equipment. Together, these products represented 36 per cent of the total volume imported. These imports mostly enter through the ports of the Asunción – Apa river section, although the proportion of the Confluencia – Asunción section is not negligible (table 16).

**Table 16. Evolution of imports in dry containers (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2010	146 083	274 194	<b>420 278</b>
2011	190 363	336 240	<b>526 603</b>
2012	203 093	270 744	<b>473 836</b>
2013	144 716	395 486	<b>540 202</b>
2014	95 714	295 886	<b>391 600</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

The year 2013 presents an atypical value of imports of refrigerated products. This is due to the importation of frozen beef that did not occur in previous years. In 2012, the main refrigerated imported product was fish preparations and preserves, with 48 per cent of the total volume. Up to and including 2012, most refrigerated containerized products entered through ports located on the Asunción – Apa river section, but as of 2013 a similar movement is registered in both river sections (table 17).

**Table 17. Evolution of imports in refrigerated containers (tons)**

Year	Confluencia – Asunción	Asunción – Rio Apa	Total
2010	434	2 650	<b>3 084</b>
2011	899	1 579	<b>2 477</b>
2012	1 170	1 989	<b>3 160</b>
2013	3 360	4 552	<b>7 912</b>
2014	1 809	1 461	<b>3 270</b>

Source: UNCTAD.

Note: Data for 2014 includes accumulated value until September.

### 3. Description, performance, and supply characteristics of the sector

The total number of self-propelled vessels registered under the Paraguay flag number is 77. These have a carrying capacity of 73,900 deadweight tonnage (dwt) comprising of general cargo vessels (37,700 dwt), oil tankers (12,600 dwt), container ships (11,700 dwt) and others.<sup>46</sup> As per the merchant navy of Paraguay, including the whole fleet, the number of vessels is 3,937 registered vessels. Of these, 2,294 are licensed for navigation and 3,082 have Paraguayan flag. The national fleet grew by 1.4 per cent in 2016. Automatic identification system (AIS) data on vessel movements made available to UNCTAD show that, at the port of Asuncion (Paraguay), there were 448 port calls by vessels with a carrying capacity of 981,000 dwt in 2016.<sup>47</sup>

The number of vessels authorized by the Merchant Shipping Authority of Paraguay to operate in its waters is 2012, out of which 1741 are barges. From the total fleet, 90 per cent of the vessels and 80 per cent of the barges have Paraguayan flags. The rest of the ships operating in Paraguay are registered under Argentinian, Bolivian, Brazilian and Uruguayan flags.<sup>48</sup>

Paraguay has the world's third largest fluvial fleet by the number of floating units.<sup>49</sup> Some international funding from the MDB has been used to purchase vessels for the carriage of particular cargoes. For instance, in 2012 a loan by CAF of US\$33 million went towards the finance of two barges to transport iron ore on the Paraná River. Despite the size of the Paraguayan fleet, the training of seafarers does not seem to be sufficiently supported by the Nautical School of the Navy, as it was created by decree of the Executive Power No. 11075/2007 without an assigned budget. The private sector has a training/school ship to train deck personnel on equipment use and navigation.

The incorporation, registration, and flagging of ships in Paraguay is regulated by decrees No. 1994/2014 and No. 2115/2014, and by the resolution No. 1791/2014 of the MOPC. These regulations stipulate all the requirements for incorporating newbuilds and second-hand ships, registering bareboat charters, and incorporating ships under lease. By decree No. 4787/2016, the government restricted the incorporation of ships under lease to a maximum of six years. The operational life of a fluvial vessel can easily be three to five decades (Touax, 2017). A revision of these regulations, including an extension of time for leases, could help to boost investment. One of the largest fluvial transport leasing companies operating in the hidrovía region is the French company Touax, with a South American fleet of around 50 vessels.

Delimitation of the pilotage areas to the North and South of Asuncion is established by decree No. 14490/1952. However, due to the increased number of Paraguayan flag vessels, vessels use a larger region bordering the city of Asuncion as a base for the logistics movement for the entire fleet that serve the North zone of the South America central region.

The transport capacity available for river loading can be measured by the net tonnage (TRN) of the vessels. This is a unit of volume that expresses the volume available in the hold of the vessels dedicated to the transport of cargo (1 TRN = 100 cubic feet). Consequently, to estimate the offer currently available, it is necessary to know the overall net tonnage of the fluvial fleet currently in operation. The cargo transport capacity obtained as the sum of the TRN, or as the sum of the tons of cargo per vessel, represents the static capacity of the fleet.

This value has a certain validity as a reference value in relation to the size of the fleet. However, it is not very indicative in terms of the dynamic capacity of fluvial transport, since it omits the consideration that the fleet uses repeated times that transport capacity. Consequently, to evaluate the possibility of a fleet to attend a determined level of demand – usually expressed in tons per year –, it is necessary to determine the dynamic capacity of the fleet. This is the value that measures the combined effect of the “static capacity” and the “annual trips” of the fleet.

The calculated round-trip time is the sum of the time of navigation and an estimate of the time in the port. This depends on the distances between ports (table 18). This allows to calculate the trips per year and per vessel. The number of trips per year was calculated for each port of origin and each port of destination (table 19). In turn, this allows to estimate the dynamic capacity of the boats, reaching a value of fluvial transport offer expressed in tons per year.

**Table 18. Distances to the Port of Buenos Aires (km)**

Port/Terminal	Distance
Puerto Suárez	2 790
Puerto de Corumbá	2 770
Puerto de Concepción	1 940
Puerto Fénix	1 642
Puerto Empedril	1 641
Puerto Caacupé-mi	1 640
Puerto de Asunción	1 630
Puerto Villeta	1 593
Zona Portuaria de Pilar	1 329
Zona del Puerto de Rosario	420
Puerto de Nueva Palmira	50
Puerto de Buenos Aires	0
Puerto de Montevideo	200

Source: Maritime Consult.

Note: Value for Puerto de Nueva Palmira is through Paraná Bravo. Values for Puerto de Montevideo is to East Buenos Aires.

For at least one third of the year, the river allows to navigate only with little cargo in the hold of the boats. For this reason, when calculating the dynamic capacity (tons in boats x trips / year = tons / year), the value obtained must be affected by a coefficient of the order of 80 per cent.

In the case of grain exports and imports of fertilizers, averaging distances between Paraguayan ports and overseas ports, it could be assumed that the average number of trips per year would be 12. This already considers the load factor due to the dry season. Applying the same calculation to exports of iron ore and grains from Brazil and the Plurinational State of Bolivia, the number of trips per year would be eight.

**Table 19. Time for round-trip and number of trips per year (days and number)**

		Round-trip time	Trips per year
Puerto Suárez	Zona del Puerto de Rosario	32.7	10.1
	Puerto de Nueva Palmira	36.8	9.0
Puerto de Corumbá	Zona del Puerto de Rosario	32.4	10.2
	Puerto de Nueva Palmira	36.6	9.0
Puerto de Concepción	Zona del Puerto de Rosario	23.1	14.3
	Puerto de Nueva Palmira	27.3	12.1
Puerto Fénix	Zona del Puerto de Rosario	19.7	16.7
	Puerto de Nueva Palmira	23.9	13.8
	Puerto de Buenos Aires	21.8	15.1
	Puerto de Montevideo	22.6	14.6
Puerto Empedril	Zona del Puerto de Rosario	19.7	16.7
	Puerto de Nueva Palmira	23.9	13.8
	Puerto de Buenos Aires	21.8	15.1
	Puerto de Montevideo	22.6	14.6
Puerto Caacupé-mi	Zona del Puerto de Rosario	19.7	16.7
	Puerto de Nueva Palmira	23.9	13.8
	Puerto de Buenos Aires	21.8	15.1
	Puerto de Montevideo	22.6	14.6
Puerto de Asunción	Zona del Puerto de Rosario	19.6	16.8
	Puerto de Nueva Palmira	23.8	13.9
	Puerto de Buenos Aires	21.7	15.2
	Puerto de Montevideo	22.5	14.7
Puerto Villeta	Zona del Puerto de Rosario	19.2	17.2
	Puerto de Nueva Palmira	23.4	14.1
	Puerto de Buenos Aires	21.4	15.4
	Puerto de Montevideo	22.1	14.9
Zona Portuaria de Pilar	Zona del Puerto de Rosario	16.2	20.3
	Puerto de Nueva Palmira	20.4	16.2
	Puerto de Buenos Aires	18.8	17.5
	Puerto de Montevideo	19.8	16.7

Source: UNCTAD.

The bulk movement by ports of the Plurinational State of Bolivia, Brazil and Paraguay generates an average of annual trips of 11. Since the static capacity of the bulk barges is at least of 3,700,000 tons, the dynamic capacity would be of 40,000,000 tons/year. Regarding the tank barges, the static capacity is 500,000 tons and the average number of annual trips is 11. As such, the dynamic capacity would be 5,500,000 tons / year.

In terms of barges and self-propelled vessels with containers, the average annual trips would be 13 and the static capacity would be 11,000 TEUs. In this case, the boats have a traffic of containers of ascent and descent on the river. For this type of cargo, it is frequent that the occupation of warehouses is less than 100 per cent. Considering the traffics in both directions, a factor of 1.5 is applied to the static capacity. In short, the dynamic capacity for containers would be of the order of 200,000 TEUs. Table 20 shows the possible dynamic capacities of the fleet based on static capacity and annual trips, affected by the low water level.

**Table 20. Possible dynamic capacities of the fleet based on static capacity and annual trips (tons/year)**

Static capacity (tons)	Number of trips per year								
	8	9	10	11	12	13	14	15	16
100 000	800 000	900 000	1 000 000	1 100 000	1 200 000	1 300 000	1 400 000	1 500 000	1 600 000
125 000	1 000 000	1 125 000	1 250 000	1 375 000	1 500 000	1 625 000	1 750 000	1 875 000	2 000 000
200 000	1 600 000	1 800 000	2 000 000	2 200 000	2 400 000	2 600 000	2 800 000	3 000 000	3 200 000
250 000	2 000 000	2 250 000	2 500 000	2 750 000	3 000 000	3 250 000	3 500 000	3 750 000	4 000 000
500 000	4 000 000	4 500 000	5 000 000	5 500 000	6 000 000	6 500 000	7 000 000	7 500 000	8 000 000
1 000 000	8 000 000	9 000 000	10 000 000	11 000 000	12 000 000	13 000 000	14 000 000	15 000 000	16 000 000
1 500 000	12 000 000	13 500 000	15 000 000	16 500 000	18 000 000	19 500 000	21 000 000	22 500 000	24 000 000
2 000 000	16 000 000	18 000 000	20 000 000	22 000 000	24 000 000	26 000 000	28 000 000	30 000 000	32 000 000
2 500 000	20 000 000	22 500 000	25 000 000	27 500 000	30 000 000	32 500 000	35 000 000	37 500 000	40 000 000
3 000 000	24 000 000	27 000 000	30 000 000	33 000 000	36 000 000	39 000 000	42 000 000	45 000 000	48 000 000
3 500 000	28 000 000	31 500 000	35 000 000	38 500 000	42 000 000	45 500 000	49 000 000	52 500 000	56 000 000
4 000 000	32 000 000	36 000 000	40 000 000	44 000 000	48 000 000	52 000 000	56 000 000	60 000 000	64 000 000
4 500 000	36 000 000	40 500 000	45 000 000	49 500 000	54 000 000	58 500 000	63 000 000	67 500 000	72 000 000
5 000 000	40 000 000	45 000 000	50 000 000	55 000 000	60 000 000	65 000 000	70 000 000	75 000 000	80 000 000
5 500 000	44 000 000	49 500 000	55 000 000	60 500 000	66 000 000	71 500 000	77 000 000	82 500 000	88 000 000
6 000 000	48 000 000	54 000 000	60 000 000	66 000 000	72 000 000	78 000 000	84 000 000	90 000 000	96 000 000
6 500 000	52 000 000	58 500 000	65 000 000	71 500 000	78 000 000	84 500 000	91 000 000	97 500 000	104 000 000
7 000 000	56 000 000	63 000 000	70 000 000	77 000 000	84 000 000	91 000 000	98 000 000	105 000 000	112 000 000
7 500 000	60 000 000	67 500 000	75 000 000	82 500 000	90 000 000	97 500 000	105 000 000	112 500 000	120 000 000
8 000 000	64 000 000	72 000 000	80 000 000	88 000 000	96 000 000	104 000 000	112 000 000	120 000 000	128 000 000

Source: UNCTAD.

#### 4. Policy, regulatory and institutional frameworks

The existence of diverse national regulations generates significant asymmetries, for example regarding labour, taxes, and safety rules. The investment costs of addressing regulatory divergence in the HPP would be relatively low in comparison to any other roadway or railway project as the main problems seem to lie in the institutional framework. These difficulties appear in two areas: International coordination and the internal institutional weaknesses of each country. In this respect, in 1989, Argentina, the Plurinational State of Bolivia, Brazil, Paraguay, and Uruguay created the Hidrovía Intergovernmental Committee (CIH), with the aim of identifying and prioritizing specific projects and developing a unified body of navigation regulations. The success of the CIH needs to be compared with other similar supranational organizations such as the Mekong River Commission in South East Asia, and the Rhine and Danube Navigation Commissions.

The institutions involved in the transportation sector of the country are, *inter alia*, the MOPC, through the Vice Ministry of Transport in charge of land and river transport planning; the National Transport Directorate (DINATRAN); the Ministry of Transport; Ministry of National Defence; Ministry of Foreign Affairs; environmental and energy authorities. The DGMM, under the MOPC, regulates and controls the port and fluvial sector. The National Directorate of Civil Aeronautics (DINAC), under the Ministry of National Defence, is the institution responsible for planning, regulation, control, and operation of the air sector. Other institutions related to the transport sector are the ANNP, the General Naval Prefecture (PGN), and FEPASA.

#### 5. International transport conventions

In the hidrovía region, the Plurinational State of Bolivia has not signed any international transport convention. Paraguay signed the 1949 Convention on Road Traffic and Brazil signed later the 1968 amended version of the same convention. Argentina signed the same 1949 Convention on Road Traffic (but not the 1968 protocol), the 1954 Convention concerning Customs Facilities for Tourism, and its additional Protocol related to the importation of tourist publicity documents and material. Uruguay signed the 1968 Convention on Road Traffic, the 1975 Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention), and the 1954 Convention concerning Customs Facilities for Tourism.

Paraguay has signed, among others, the following bilateral agreements in the area of fluvial transport:

- Argentina Convention on the Port of Rosario (1979);
  - Bolivian Agreement for the use of the port of Villeta (1990);
  - Brazil Convention on the Port of Paranaguá (1956). Regulation for the Ports of Paranaguá and Santos (1961);
  - Chile Deposit Agreement Franco Antofagasta (1968, 2004);
  - Spain Bilateral Agreement granting Paraguay facilities in the port of Villeta;
  - Uruguay Paraguayan-Uruguayan Agreement on the Port of Nueva Palmira (1976–1979).
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## 6. Strengths, weaknesses, opportunities, and threats of fluvial transport

Table 21 lists the main strengths, weaknesses, opportunities, and threats (SWOT) of the fluvial transport sector.

**Table 21. Strengths, weaknesses, opportunities, and threats of fluvial transport**

<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Low environmental impact of IWT compared to other means of transport;</li> <li>• Low cost of labour, materials, and services in Paraguay;</li> <li>• Simplified and automated management system for authorizations of fluvial transport and port logistics through the single export window (VUE);</li> <li>• Existence of a national logistics plan (NLP);</li> <li>• Usage of advanced technology on the HPP.</li> <li>• Quality of personnel trained according to International Maritime Organization (IMO) standards;</li> <li>• Large number of private terminals.</li> </ul>	<p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• Inadequate port equipment, limited dredging to access and navigation channels, and insufficient beacons on Paraná and Paraguay rivers, which prevent navigation 24/7;</li> <li>• Lack of harmonization of customs documents;</li> <li>• Limited statistical information available on trade and river transport in Paraguay;</li> <li>• Inconsistent and incomplete statistics;</li> <li>• No estimates of the informal sector operations;</li> <li>• Lack of harmonization and alignment between functions, duties, and rights of the GDMM and the PGN;</li> <li>• Outdated legislation, affecting the collection of fees charged to agents.</li> </ul>
<p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• The existence of IWT;</li> <li>• The existence of series of commercial concessions granted by border countries as a member of MERCOSUR and LAIA;</li> <li>• Support from the government through the NDP 2030;</li> <li>• A growing national economy, which favours an increase in foreign investment;</li> <li>• The Paraguayan fleet has no regional competitors;</li> <li>• Possible accessions to new agreements and markets at an international level.</li> </ul>	<p><b>Threats:</b></p> <ul style="list-style-type: none"> <li>• Informality in the sector;</li> <li>• External policies and regulations of neighbouring countries;</li> <li>• Regulations and bureaucratic factors due to the dependence in other countries due to the situation as landlocked country;</li> <li>• Volatility in the price of commodities that could affect regional exports;</li> <li>• Increase in demands for logistics performance and technological changes;</li> <li>• Climate phenomena such as droughts that could affect navigation and demand. This could be compounded due to deforestation in the area.</li> </ul>

# IV.

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## Assessment of professional services associated with the construction

### A. Introduction

The professional services associated with the construction sector encompass an ensemble of heterogeneous activities which present diverse characteristics. Currently, those services constitute a main aspect of the new worldwide economy based on knowledge. These knowledge intensive services (KIS) – are instrumental in the pro-development effects of the services sector. They create formal, qualified, and high-quality jobs, can have a good export performance, and have an intermediation role in the diversification and upgrading of productive and export capacity.

The developments in ICT, which have reduced the generation, transmission, and information storing costs, just as the costs and needed time to coordinate long-distance activities, have increased the potential to export KIS. For example, certain KIS, which used to require in-person contact between provider and user, can now be supplied from afar. This includes the recourse to electronic platforms that are already established channels to connect providers and users of professional services. Such platforms can also play a role in generating the necessary enabling environment to trade, including providing promotion, information exchange, payment, and delivery services as appropriate.

Architecture and engineering services are professional services associated with the construction sector which fall under KIS. This implies that the related industrial and trade policies need to consider the knowledge-intensive features of these activities but also the construction industry characteristics. For instance, demand for these services is closely linked to business cycles that affect construction and industrial investment in domestic and foreign markets, while the offer is related to a great extent to education and trade strategies.

Another challenge of policy formulation for professional services associated with the construction sector, affecting not only Paraguay but also many developing economies, is the insufficient availability of disaggregated and updated data. Furthermore, it would be preferable to have a coherent classification of these activities in several frameworks, including: the central product classification

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(CPC) (United Nations, 2015) – where these services are included in the group 83 of “professional, technical and business services (except research, development, legal and accounting services)”–; the WTO services sectoral classification list (WTO, 1991) – where these services are included in group 1 of “business services” and group 3 of “construction services and related engineering services”–; and other frameworks.

## B. Characterization of the sector

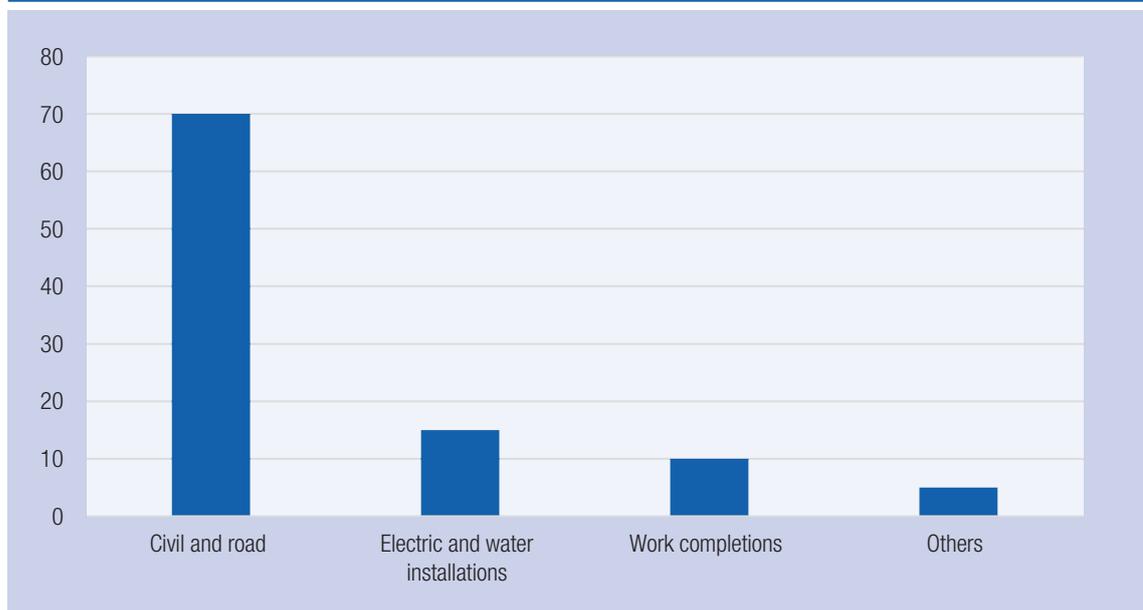
The construction sector is associated *inter alia* with the development of infrastructure, road networks, ground, air, and river transportation, ports, waterways, and public services. The sector is also linked to multiple productive activities such as mining, oil and petrochemicals, electricity generation, manufacturing, water and sanitation, telecommunications, and public health. Most importantly, the sector also relies on the real estate market, where access to housing is linked to public policies determined by the Ministry of Urbanism, Housing and Habitat (MUVH).

It is an intensive sector, regarding capital and labour, especially semi-skilled and technicians. The market structure is fragmented with a few large companies, some dominant, and many small and medium sized enterprises (SMEs). Companies organize their work in multiple sites, thereby with territorial dispersion. Sub-hiring is a very present feature, as well as flexible schemes for personnel recruitment. Informality is also perceived as being high, especially in low-skilled workers. In addition to the negative fiscal and social security implications, informality implies that builders with no formal qualifications can work without the support of architects and engineers. This is more relevant in real estate related construction, one of the most important categories, thus affecting demand for formal professional services linked to construction. Addressing informality requires enhanced oversight and enforcement and coordination among different institutions related for example to professional registration, taxation, and justice.

Services associated with the construction sector had a considerable increase as a result of the positive economic growth in the country (figure 1) and most notably in the construction sector (figure 7). The level of FDI in the construction sector amounted to US\$146 million between 2008 and 2019 (figure 13), with an important part focusing on the real estate market, especially on horizontal property. This has a relevant effect in promoting demand for professional services associated with the construction sector. It is expected that the works undertaken by the government, the venture in hotel developments, and the projects of ‘my first home’, will continue to stimulate the economy and increase the demand for architectural and engineering services and professional services associated with construction.

The importance of the real estate market causes that the segment with the greatest economic movement of labour and growth within the construction sector is civil and road construction, followed at a distance by electrical, electromechanical, and hydro-sanitary installations. These, in turn, are followed by everything that implies works completions and other related aspects (figure 32).

The performance of the real estate market is linked to the availability of credit with low interest rates. This credit exists in the context of the law 5638/2016 on “housing and urban development” (Paraguay Congress, 2016), which allows for long term loans at low interest rates through the Paraguayan Financial Agency for Development (AFD). Certain loans with AFD funds can cover 100 per cent of the value of the project up to 20 or 30 years. This credit can be requested through private financial institutions, which are increasingly participating in this market and providing loans at more accessible rates. This has risen demand, particularly from the middle-class, and attracted investors and developers, both local and foreign. Some real estate-related work can be more inclusive, allowing for a bigger participation of SMEs than larger public works.

**Figure 32. Paraguay: Activities in the construction sector, 2010 (percentage)**

Source: DGEEC, 2010. Available at: <https://www.dgeec.gov.py/>

Despite the positive and perhaps inclusive generation of demand, this context may point to the possibility of an economic bubble in the sector, with price levels which are not sustainable and with over-extension of credit. This calls for active assessment and intervention of public policies and, within the construction sector, for diversification strategies regarding activities and markets. An increased focus on foreign markets, promoted as a medium-term strategy, is relevant to diversify the cyclical risks and emphasizes the relevant role that international trade may have in promoting demand.

For the same reason, the diversification of construction activities beyond the real estate market can also be important. This is in line with the government commitment to develop infrastructure works, as it was prioritized in the law 5074/2013 on public works (Paraguay Congress, 2013). The foreseen investment projects can produce a relevant impact on the development of the sector and on its diversification. The existence of public infrastructure studies and projects, and of master plans in housing, transport and logistics can contribute positively to the development of the construction sector and of the related professional services in different areas. Strengthening a national territorial and urban planning policy, combined with technical assistance to municipalities, could make a similar positive contribution.

The formal offer for professional services linked to the construction sector is given by the number of graduates from domestic and foreign universities, with duly certified degrees. All of them must be registered in the MOPC. The universities must also be registered in the Ministry of Education and Sciences (MEC), enabled by the National Council of Higher Education, and accredited by the National Agency for Evaluation and Accreditation of Higher Education.

Ten universities in Paraguay produce on average 116 architecture graduates per year. There are two public universities providing architectural degrees. While the National University of Villarrica del Espíritu Santo (UNVES) has not yet produced any graduates, the National University of Asunción (UNA) produces on average 52 graduates per year. The set of private universities produces on average 64 graduates per year. Five universities in the country produce on average 77 civil engineering

graduates per year. There are two public universities providing civil engineering degrees: the UNA and the National University of Itapúa (UNI), which produce on average 56 graduates per year. The set of private universities produces on average 21 graduates per year.<sup>50</sup>

An in-depth analysis should be developed to estimate the number of professionals from foreign universities working in Paraguay to then fully evaluate how the supply relates to demand. There is a perceived shortage of skilled personnel. According to the Paraguayan Centre of Engineers, there is demand for one thousand engineers per year in all areas, much above national offer of graduates per year. As it was identified in the first SPR of Paraguay, a poll conducted by Investor in 2012 revealed that 60 per cent of construction companies perceived difficulties satisfying their demand in supervision and professional staff (UNCTAD, 2015). Project managers can also be providers of professional services that coordinate all the activities inherent in a project, meet deadlines, and achieve the required quality. There is also a perception of shortage of project managers.<sup>51</sup> This increases the importance of education-related policies and of international trade in professional services.

### C. Policy, regulatory and institutional frameworks

The following lists includes several regulations pertinent to architecture and engineering careers.

Architecture:

- General education law 1264/1998;
- Law 136/1993, law 2529/2006 and law 3973/2010 regarding universities;
- Law 979/1964 which regulates the practice of engineer, architect, and surveyor or topographer, including the mandatory professional registration in the MOPC;
- Law 1012/1983 of the architectural fees schedule;
- Decree 6866/2011 on the mandatory registration of services providers in the MIC, at the REPSE.

Engineering:

- General education law 1264/1998;
- Law 136/1993, law 2529/2006 and law 3973/2010 regarding universities;
- Law 979/1964 which regulates the practice of engineer, architect, and surveyor or topographer, including the mandatory professional registration in the MOPC;
- Law 2051/2003 on public procurement;
- Law 3439/2007 that modifies the law on public procurement and creates the National Directorate of Public Procurement;
- Decree 1434/2009 that regulates article 7 of the public procurement law;
- Law 2148/2003 that creates the road infrastructure system of Paraguay;
- Law 1618/2000 on concessions of public works and services;
- Law 5074/2013 that establishes public works modalities and law 5102/2013 on public private partnerships;
- Law 4727/2012, which grants preferences to national providers.

The law 5074/2013 that establishes public works modalities provides options to improve access to financing and provides guarantees of sovereign bonds that reduce the risk associated with investments in infrastructure related to public works. Law 5102/2013 complements the policy strategy through the promotion of investment in public infrastructure and expansion and improvement of goods and services under the State's jurisdiction through public private partnerships. It contemplates the participation of private companies in the improvement of public infrastructure and the provision of services that are currently under the responsibility of public entities. The regulation seeks investment from the private sector in works or services, share risks and increase employment. Predictability of public investments facilitates businesses investment decisions.

The regulatory framework needs to address the fundamental issue on how to interpret free competition in the context of international integration and trade. While some laws, including 2051/2003 establish the objective of upholding free competition, other laws establish a discriminatory preferential regime, such as the 4727/2012 granting preferences to national providers. This calls for an assessment of what are the public policies priorities and to mainstream them in a coherent way throughout the regulatory framework.

Harvesting the benefits of international trade – including access to bigger and diversified markets, access to foreign inputs, possible reduced costs, and possible higher quality of inputs – requires ensuring free competition. It also requires that the policy and regulatory framework be in line with liberalization objectives and commitments, eliminating unjustifiable discriminations. This points to the need to develop coherent regulations (box 2) and does not preclude the critical need to keep policy space to face current and future issues related to liberalization.

#### Box 2. Coherent regulatory frameworks

Policies for promoting regulatory coherence start with ensuring an enabling institutional framework. The bodies participating or impacting the regulatory process need to be independent from political influence. This does not necessarily imply a complete separation from governmental structures, as regulatory coherence may benefit from a close dialogue with them. Regulatory bodies also need to be accountable, including on criteria related to the coherence, clarity, and consistency of their decisions. In particular, when decisions are accompanied by a clear explanation of the rationale, it will reduce arbitrariness, facilitate compliance, and promote a consistent and predictable approach to regulation (World Bank, 2006).

Regulatory institutions should also work towards international, national, and sub-national cooperation on regulatory issues, increasing accountability and transparency, and identifying ways to promote coherence through ideally coordinated solutions in respect of regulatory design, implementation, and evaluation. The cooperation at international level is of the utmost importance to address regulatory divergence, especially in a context of the major role of international trade and the increased importance of participating in international value chains. In a multi-level regulatory framework, the cooperation at the sub-national level is also very important as the high-quality regulation at one level of government can be adversely impacted by poor regulation in other levels. Different mechanisms can be used to pursue this collaborative coherence, including a standing coordination mechanism – that can *inter alia* promote multi stakeholder consultations towards accountability and mutual learning, performance benchmarking to share or promote best regulatory practices, or reliance on reports of good practices and lessons learned (OECD, 2015).

Regulatory design is also a major component of ensuring coherence. As much as possible, regulations should consider international standards and the establishment of bridges with other regulatory frameworks through either harmonization or mutual recognition. Regulations should be performance based instead of prescriptive to reduce rigidity, promote innovation and allow for lower compliance costs. More broadly, the regulatory framework should avoid unnecessary economic burdens, including by promoting a trade-friendly environment. It should also stem from the identification of cross-cutting regulatory issues to avoid

**Box 2. Coherent regulatory frameworks (cont.)**

duplication or conflict of regulations. Implementation and enforcement mechanisms should be transparent, equitable and envisaging stability (APEC, n.d.).

Evaluation through regulatory impact assessments or other tools will provide evidence to enable the revision of the regulatory framework and is therefore an opportunity to ensure coherence. In this context, the assessment should not focus on individual regulations but rather on capturing the overall coherence within the regulatory framework. Furthermore, it can also contribute to a broader policy coherence by providing information on trade-offs inherent in regulations, including on the allocation of risks and burdens, on the risks of regulating unnecessarily or failing to regulate. Evaluation efforts should also focus on reviewing the performance of regulatory bodies, including on the coherence, clarity, and consistency of their decisions.

Applying these principles requires not only a high-level political commitment but also resources, thus implying that the specific challenges of developing countries should be addressed with a view to strengthening capabilities of promoting regulatory coherence along the regulatory cycle.

*Source:* UNCTAD, based on UNCTAD Services Policy Reviews; Strategic Framework for Regulatory Coherence in APEC, APEC; Regulatory Policy Outlook 2015, OECD; Recommendation of the Council on Regulatory Policy and Governance, OECD; Handbook for Evaluating Infrastructure Regulatory Systems, The World Bank.

Striking a balance between the benefits and risks of international trade requires a two-fold strategy. The pace, content, and sequence of liberalization needs to be in line with the development of national capacity. Opening too soon or too much can have important risks, but there are also costs in opening too late or too little. This requires strengthening services sectors in preparation for foreign competition, rather than protecting them indefinitely from international trade as that would have a cost for the whole population. While keeping policy space, engagement in international trade can thus create an opportunity to induce positive regulatory reforms and capacity-building in the services sector. Therefore, there is a case for striving towards smart and best-fit regulations to minimize their inadvertent trade-restrictive effect and introduce effective, efficient, and equitable regulatory practices (UNCTAD, 2016). This includes an enforced competition framework that ensures a level playing field.

In the example of law 4727/2012, this may mean to consider an alternative design of preferences, for example linked to local development objectives and not to the origin of the services providers. As the law still needs to be regulated, there could be an opportunity to address this issue and ensure equal opportunities.

Some of the elements of the regulatory framework, while having represented a breakthrough when issued, need to be revised to face new challenges linked to the technological and market evolution, and to address the issues related to international cooperation, integration and trade. For example, updating law 979/1964 to have a revised law of professional practice with strengthened capacity to qualify, enable, and control professional services linked to the construction sector, attending to the new issues, could contribute to the modernization of the regulatory framework.

The MOPC exercises the role of regulatory entity, as mentioned, for construction professionals: architects and engineers must be registered in the ministry's professional registration scheme. All degrees achieved by professional architects and engineers must be registered and approved in the MEC, including from national and foreign universities. Likewise, professionals must be registered in the REPSE and – to be a supplier of the State – in the register of State providers.

There may be inconsistencies in the registration schemes of these institutions and of others, as intuited by the disparity in the number of records (table 22). Depending on a detailed assessment of the underlying reasons for these differences, this may reinforce the recommendation for improved harmonized classification and data policies regarding professional services. This is supported by the high number of registered professionals in the Under Secretariat of State for Taxation (SET) under the category “others” (table 23).

**Table 22. Paraguay: Registration of professionals in the construction sector (number)**

Institution	Period	Architecture	Civil engineering
MOPC	July 2018	2 582	1 394
MEC	2012/2018	346	279
SET	2018	2 723	2 140
Paraguayan Centre of Engineers	July 2016	--	1 929
REPSE	2011/2018	165	301

Source: Information collected with each institution.

**Table 23. Paraguay: Registration of professionals in professional, scientific, and technical activities at the Under Secretariat of State for Taxation (number)**

Main economic activity	Number
Architectural services	2723
Landscape design services	5
Engineering services	2140
Other architectural and engineering services	6029
Technical tests and analyses	38

Source: SET, note 452 of 6 August 2018.

The differences in numbers may also call for a strengthened inter-institutional coordination, which would contribute greatly for a coherent and harmonized policy and regulatory outcome. This coordination requires a mandate issued at a higher level and a whole-of-government approach to address these and other issues than can strengthen services activities and contribute to their monitoring and compliance. This is especially relevant considering that several institutions intervene in different aspects that affect these professional services, namely the MEC, MIC, MOPC and the MUVH. The strengthening of these professional services activities would also improve the preparedness for more liberalized markets, in particular by adopting harmonized standards and procedures for *inter alia* the recognition of degrees, setting of professional responsibilities, and control of professional practice.

Such coordination efforts should go beyond the government and adopt a multi-stakeholder approach, involving the private sector – particularly SMEs, professional and business associations –, academia, and civil society – related for example to consumer protection. These efforts should include, among others, the National Chamber of Commerce and Services, the Paraguayan Chamber of Construction (CAPACO), the Chamber of Paraguayan Road Construction (CAVIALPA), the Paraguayan Chamber of Housing and Infrastructure (CAPAVI) and the Chamber of Paraguayan Consultants in the construction

sector. Professional associations such as the Paraguayan Centre of Engineers and the Paraguayan Association of Architects (APAR) should also participate in this coordination.

These efforts are also a key element of other important strategies for the sector, for instance, the strengthening of relevant education policies. Notwithstanding the positive experience that many professionals have gained in public works, including in large hydroelectric works, the private sector, professional and business associations should come together with the academia and other educational institutions, and with the government to define a more structured and long-term approach to education policies.

Multi-stakeholder dialogues are needed on how to bring the education closer to market demand, how to design quality educational curricula to meet current and future needs, how to bring education programmes closer to international standards, and how to develop soft skills that prepare professionals for life-long learning. An increasingly higher focus on science, technology, engineering, and mathematics (STEM) disciplines throughout the school path would enable more students to be prepared and interested in pursuing higher education related to professional services linked to construction. Mentorship programmes, linking current students to alumni professionals, can contribute to motivate students and give a stronger practical perspective from the onset. Establishing partnerships with foreign education and training institutions, including exchange programmes or protocols to unilaterally accept students and trainees from Paraguay, is important to allow these professionals and future professionals to be exposed to more advanced education and training programmes.

These strategies can be applied not only to professionals but extended as appropriate to other workers in construction services and to vocational training, for example, in project management, middle management and masonry. Thus, continuous education and training, including refresher courses, need to be designed in complement to background education. The training in safety for the private and public construction works is a good example that needs to be followed in other areas of training. For instance, trainings to disseminate requirements and procedures in the regulatory work should be offered to all stakeholders, including professionals and civil servants. Such dissemination should occur when there are regulatory updates and regularly as refresher courses. This will not only strengthen the performance of professional services linked to the construction sector, but also facilitate the recognition of qualifications and improve the trade capacity in these activities. The institutionalization of this coordination should be included in updated versions of the educational legal and regulatory frameworks.

The reduction of education costs can benefit from economies of scale. This makes a case for the coordination of professionals and businesses, which can be catalysed by the corresponding professional and business associations. For example, if a large number of professionals or of businesses come together to participate in education or training activities, the costs can be reduced. In addition, this promotes the exchange of views and experiences between professionals, and the strengthening of networks, which can positively contribute to better performance of these professional services. This can be promoted by professional and business associations, for instance by organizing conferences, talks and seminars, and other network-building initiatives.

Economies of scale deriving from the coordination of professionals and of businesses can also be pursued in other areas relevant for the competitiveness of these professional services. These include reduced costs in acquiring inputs such as supplies, software licenses, office space, and others. Another area where coordination improves supply capacity is shared research efforts in architecture and engineering, within the academic context and in research centres focused on business results. These could include a focus on using recent or more efficient technology, such as highway lighting

with solar energy, or on using standard-conforming materials. In both cases, research needs to rely on the participation in international research networks.

Relevant areas can also include improved business prospects or access to markets by participating in a coordinated way in international tenders or in trade promotion and market intelligence initiatives. In this regard, the concerted efforts of professionals and businesses in establishing electronic platforms to promote and provide professional services linked to construction may have an impact in the domestic, but mainly international performance of these services. As mentioned, this coordination can be enhanced by an active role of professional and business associations. Moreover, the government should create the conditions for this coordination within the private sector, adapting the legal framework as appropriate to create an enabling environment.

An important strategy to improve performance of professional services linked to construction is to pursue the possibilities of the digital economy and e-government. The technological modernization is a central tool to address bureaucracy, gain time and cost efficiencies on administrative and technical processes, including evaluation and approval of plans. It would facilitate monitoring processes and enforcing compliance with rules and deadlines, which would then promote transparency and trust and facilitate trade and investment. In any case, it is very important to endeavour further strengthening of government teams as appropriate to support the development of these professional services and, in general, to provide the government with reinforced capacity to manage, regulate, control and enforce policies related to professional services linked to construction. International regulatory cooperation and technical assistance can be considered.

#### **D. International trade negotiations**

Trade in service negotiations envisage commitments from trading partners towards the establishment of a predictable, transparent, and non-discriminatory business environment that facilitates international trade.

Paraguay has been involved in several negotiations on trade in services, including at multilateral level at the WTO, and at regional level in the MERCOSUR and with the European Union. Within the MERCOSUR, trade in services was negotiated in the Montevideo protocol. This instrument came into force in December 2005, when it was ratified by Argentina, Brazil, and Uruguay. Paraguay ratified the protocol in 2014, when compliance with the commitments became part of the national legal and regulatory framework.

Regarding professional services of architecture, engineering and others related, Paraguay has not made any market access or national treatment commitments in MERCOSUR. In construction services and related engineering services, for both market access and national treatment, while liberalizing mode 2, Paraguay has not made any commitments in mode 1 – by lack of technical feasibility –, mode 3 and 4. Conversely, Argentina, Brazil, and Uruguay have opened these categories. On professional services of architecture, engineering, and others, for both market access and national treatment, the other MERCOSUR countries have no restrictions for all modes, subject to horizontal commitments in mode 4. For construction services and related engineering services, Argentina, Brazil, and Uruguay have not made any commitments in mode 1 – by lack of technical feasibility, but have opened modes 2, 3, and 4, subject to horizontal commitments in mode 4 (table 24).

**Table 24. Southern Common Market: Restrictions within the seventh round of negotiations on selected professional services and selected construction and related engineering services**

Sector and mode	Argentina	Brazil	Paraguay	Uruguay
Professional services – mode 1	None	None	Unbound	None
Professional services – mode 2	None	None	Unbound	None
Professional services – mode 3	None	None	Unbound	None
Professional services – mode 4	Unbound, subject to horizontal commitments	Unbound, subject to horizontal commitments and assisted by a Brazilian	Unbound	Unbound, subject to horizontal commitments, recognition of qualifications and professional regulations
Construction – mode 1	Unbound by lack of technical feasibility	Unbound by lack of technical feasibility	Unbound by lack of technical feasibility	Unbound by lack of technical feasibility
Construction – mode 2	None	None	None	None
Construction – mode 3	None	None	Unbound	None
Construction – mode 4	Unbound, subject to horizontal commitments	Unbound, subject to horizontal commitments and assisted by a Brazilian	Unbound	Unbound, subject to horizontal commitments

Source: MERCOSUR, 2010, *Seventh round of negotiations of services specific commitments*.

Allowing and facilitating the temporary presence of natural persons is a main point in the liberalization of professional services. This should include *inter alia* larger durations of stay, more categories of natural persons, reduction of visa fees and barriers, reduction of divergence in legal requirements – for example on the responsibility of companies –, and portability of benefits. Defining and implementing the mechanisms to allow and facilitate the temporary presence of natural persons should be a parallel effort to the definition of community regulations for the mutual recognition of licenses, certifications, professional degrees, and accreditations. Furthermore, flexibilities in terms of the provision of copies, possibility of using on-line systems, and of prior publication, among others, could be envisaged. The Commission for the Integration of Surveying, Agronomy, Architecture, Geology and Engineering for MERCOSUR (CIAM) is the working group recognized under decree 25/2003 to focus on making professional legislation compatible.

Through its decision 25/2003, MERCOSUR has approved guidelines for the celebration of mutual recognition agreements among professional entities and the for the disciplines granting of temporary licenses. Still, the guidelines required that the national professional entities would be legally responsible for the granting of licenses for professional practice and for their control in their respective jurisdiction. This implies that Paraguay is currently impeded of accessing the regional market through mutual recognition as the mandatory registration schemes in the country are not with the professional associations.

This also reinforces the pertinence of assessing how to update law 979/1964 to have a revised law of professional practice with strengthened capacity to qualify, enable and control professional services linked to the construction sector by both domestic and foreign providers. Areas to be covered in the regulation of professional practice include the recognition of degrees; determination of professional responsibilities; control of professional practice; ensuring compliance with safety, quality of work, technical regulation of raw materials and responsibility issues; non-discriminatory market access and national treatment; and common standards on ethical performance and consumer protection. This should contribute to a level-playing field for domestic and foreign providers in Paraguay and in foreign markets. In addition, regulatory proportionality, implying that smaller and simpler works can be subject to less demanding requirements, could be pursued to facilitate a higher participation of SMEs without discriminating by their origin.

Furthermore, once the decision 25/2003 is transposed for the Paraguayan legal framework, as it occurred in the other MERCOSUR countries, a mutual recognition agreement could be established to facilitate the reciprocal temporary presence of persons in other country to provide professional services linked to the construction sector. This would create more opportunities for Paraguayan professionals and would attend to issues related to the shortage of specialized professionals in the country.

The implementation of a revised law of professional practice, in compliance with the regional requirements, could contribute where appropriate to reduce regulatory divergence in the region, thus facilitating regulatory cooperation, mutual trust, trade, and cooperation on monitoring and enforcing compliance of services providers, regardless of their nationality, in all countries in the region. More broadly, improving the transparency and predictability and strengthening the regulatory and institutional framework in Paraguay, in line with what was mentioned in the previous section, would leave the country better prepared to liberalize mode 3 and mode 4 in a similar manner to the other countries in the MERCOSUR. This would also be important to further attract investment in the sector.

Efforts to address regulatory divergence are particularly important due to different standards between countries in the region, for example regarding land use and environmental impact assessment, and also due to different practices within the different municipalities in Paraguay, especially in housing-related construction. Addressing the different practices in different municipalities should be without a cost to the current municipal autonomy in terms of land use. It should however be a part of a broader national policy of territorial planning encompassing technical assistance on professional services to address possible capacity shortcomings in some municipalities.

## E. Strengths, weaknesses, opportunities, and threats of professional services associated with construction

Also based on the above information, table 25 lists the main strengths, weaknesses, opportunities, and threats (SWOT) of professional services associated with construction.

**Table 25. Strengths, weaknesses, opportunities, and threats of professional services associated with construction**

<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Construction is important for GDP not only for its share but also for its dynamism;</li> <li>• Professional services, as KBS, rely on high-skills and can contribute to the diversification and upgrading of productive and export capacity;</li> <li>• Services have direct and indirect effects in the whole economy;</li> <li>• Experience gained by many professionals in public works, including in large hydroelectric works;</li> <li>• Investment in public works and social policies impacting real estate increase demand for these professional services;</li> <li>• Recent regulations providing a context for investments through public-private partnerships;</li> <li>• Existence of public infrastructure studies and projects, and of master plans in housing, transport and logistics can contribute positively to the development of the construction sector and of the related professional services in different areas.</li> </ul>	<p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• Construction is a sector that tends to be of medium productivity, relying more on people with less years of education;</li> <li>• There is insufficient disaggregated and updated data;</li> <li>• Different schemes present a different classification for these services;</li> <li>• Perceived shortage of skilled professionals, calling for education and trade-related policies;</li> <li>• Inconsistencies in numbers presented by different professional registration schemes.</li> </ul>
<p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• New ICT developments allow for the establishment of electronic platforms to connect providers of these professional services and domestic and international markets;</li> <li>• Consider data related to construction and to these professional activities as services-related data instead of goods-related data;</li> <li>• Investment in public works and increased international trade on construction contributes to diversify over-reliance on domestic real-estate markets;</li> <li>• Predictability of public investments facilitates businesses investment decisions;</li> <li>• Development financing and guarantees, public-private partnerships and international trade can increase investment in the sector, even more if there is transparency and legal certainty;</li> <li>• Liberalization with the adequate sequence, content and pace could allow to benefit from international trade while ensuring the necessary policy space to prepare and adapt regulatory frameworks;</li> </ul>	<p><b>Threats:</b></p> <ul style="list-style-type: none"> <li>• High informality of low-skilled builders affects demand for professional services;</li> <li>• Over-reliance in the real estate market increase exposure to a possible economic bubble, calling for diversification strategies regarding activities and markets;</li> <li>• Discriminatory measures in the regulatory framework limit harvesting the benefits from international trade and call for smart regulations, coherent with trade and development objectives, along the regulatory cycle;</li> <li>• Perceived shortcomings in the way that the current regulatory framework regulates, monitors, and enforces compliance in the performance in these professional services by domestic and foreign providers;</li> <li>• The current regulatory framework is not in line with the dispositions negotiated in MERCOSUR regarding mutual recognition;</li> </ul>

**Table 25. Strengths, weaknesses, opportunities, and threats of professional services associated with construction (cont.)**

<ul style="list-style-type: none"> <li>• Alternative designs of preferences, for example linked to local development objectives, and not to the origin of the services providers;</li> <li>• Inter-institutional coordination of public entities, in a whole-of-government approach, is relevant considering that several institutions intervene in processes that affect professional services;</li> <li>• Multi-stakeholder coordination involving public entities, private sector, professional and business associations, academia, and civil society;</li> <li>• Bring quality educational offer closer to market demand and international standards, with a higher focus on STEM disciplines and soft skills;</li> <li>• Strengthen continuous training, dissemination of updates on the regulatory framework and vocational training;</li> <li>• Increase partnerships between national and foreign universities and training institutes;</li> <li>• Pursue economies of scale from coordination of professionals and businesses in acquiring education and inputs, sharing research efforts, improving business prospects by joint participation in tenders and joint trade promotion;</li> <li>• Pursue development of professional communities and networks, with the key intervention of professional and business associations;</li> <li>• Benefit from the intervention of professional and business associations to pursue the mentioned economies of scale;</li> <li>• Update law 979/1964 to have a revised law of professional practice that allows for an effective regulation, monitoring and enforcement of compliance in the performance in these professional services by domestic and foreign providers and enables mutual recognition in MERCOSUR;</li> <li>• Regulatory proportionality when appropriate contributes to higher participation of SMEs;</li> <li>• Technological modernization addresses bureaucracy, gains time and cost efficiencies, facilitates monitoring processes and enforcing compliance, promotes transparency and facilitates trade and investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Delay in transposing the MERCOSUR decision 25/2003 on mutual recognition and temporary licenses to the national legal framework;</li> <li>• Regulatory divergence in MERCOSUR;</li> <li>• Different practices within the different municipalities in Paraguay. These need to be addressed without a cost to municipal autonomy in certain areas.</li> </ul>
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# V.

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## Cross-cutting and sectoral options to support public policy

### A. Cross-cutting options

To facilitate the provision of public policy instruments, this chapter will detail and compile the recommendations made throughout the study. This chapter aims to propose concrete areas of action, feasible and realistic for the reality of Paraguay, so it can inform strategies and actions taken by authorities, policy makers and stakeholders, among others.

A key action will be to progress in the implementation of the National Plan on Trade in Services. Although in practice some specific proposals identified early in the review process are already underway, such as the creation of statistics related to services, enhancement of REPSE, among others, the plan is a road map for future actions focused on trade in services. It will also validate collaboration initiatives taken by other institutions that would add value to trade in services programmes. In that sense, it would be relevant to strengthen and support public policies for the formalization of the economy, particularly for services providers.

The specific strategies in each pillar and sub pillars of the plan need to be designed to bring specificity and also guarantee coherence in all components. For instance, promoting services exports could be incorporated in international business trips and debates of country positions for trade negotiations. Consideration should be given to inputs originated from trade unions and associations, such as guides, information, and data on their respective sectors that could illustrate experiences in promoting and exporting services.

The implementation of the plan needs to be complemented by the follow-up by the NSF. The follow-up discussions will take place periodically, guide the debates, and give visibility to the achieved results. Specific proposals can be discussed at this stage, regarding new legislations and regulations in regulated areas or otherwise, based on concrete inputs made by stakeholders or authorities. The follow-up actions will also strengthen the position of the NSF as an important space for public-private dialogue. The National Plan for Micro, Small and Medium Sized Enterprises, could also provide

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opportunities for services since tax reform, registration, technical assistance to export, among others, are part of the topics covered.

The implementation and follow-up of the services plan requires evidence-based decisions. As such, it is important to implement the data connectivity plan, coordinated by the MIC, to allow for the collection, compilation, and organization of data on services providers in Paraguay. The presidential decree that is in the process of adoption will consist in ensuring the connectivity of administrative records on services providers, national and foreigners, individual and firms, in all public entities and governmental departments. This will be the basis to improve data to inform policymakers and negotiators about the concrete capacity of Paraguay services providers to export and compete in foreign markets. Another important feature that could be envisaged in this area is the compilation of specific data. For instance, FATS data should be sought, as well as specific information on modes of supply of trade in services, in coordination with other public entities.

It is necessary to keep moving forward with the enforcement of existing regulations, such as REPSE, quality control, and with the supervision of professional practice in the area of construction. Awareness raising remains important on this matter to formalize the economy its specific sectors.

Regarding the institutional framework, it will be key to strengthen resources in the General Directorate of Trade in Services, dependent from the MIC. With the implementation and follow-up of the plan, an important amount of work will have to be incorporated in their daily activities. Supporting the NSF is one of these tasks and, given the need to increase its weight at the political and institutional arena, human resources will be key on that matter.

Also, to develop new or implement existing procedures for denunciations regarding malpractice by services operators is also an area requiring more resources. Furthermore, as mentioned, sanctions provided by REPSE are not being implemented.

The NSF should also be the institutional space to discuss openly and constructively coordinated and evidence-based country positions that could be followed in trade negotiations, a trend that Paraguay is already following in the several ongoing talks involving services. While some aspects can be common in various negotiations, there will be a need to focus on specific areas of interest, including on whether to negotiate in positive or negative list approach, in which specific areas to focus, among other.

Building on these topics and on the previous chapters, the list of cross-cutting recommendations follows.

Strengthen a vision for the sector that has adequate priority and mainstreaming in other policy areas:

- Continue to recognise the importance of services as the highest direct contributor to output (figure 5), as the highest contributor of indirect value-added to output (figure 21); as a sector with fast and stable growth in output (figure 4); as providers of resilience to output (figure 3); and as an important contributor to the output of several sectors, even above the average contribution in developing economies, through its inputted value-added (figure 23);
  - Continue to recognise the importance of services as the highest contributor to employment (figure 8); as the employer of more people with higher education (figure 9); and as the highest and steadier receiver of FDI (figure 12);
  - Improve the formality of employment in services, since services have an above average rate of informal workers;
  - Build on services' performance in attracting FDI in financial services, and endeavour to improve FDI in communications (figure 13).
-

Develop a vision for the sector as a contributor to export performance that has adequate priority and mainstreaming in other policy areas:

- Further recognise the trade importance of services as growing more than trade in goods and more resiliently (figure 17); as having more potential for inclusive integration in global trade (figure 18); as an important contributor of indirect value-added to exports (figure 22); and as an important contributor to exports of several sectors, even above the average contribution in developing economies, through its inputted value-added (figure 24);
- Further recognise the importance of services inputs to the diversification of export markets for goods - now concentrated in MERCOSUR (figure 15)-; and to the upgrading of goods exports - now focused on primary commodities and, within manufacture exports, on labour-intensive and resource-intensive manufactures (figure 16);
- Further recognise the importance of the effects of services in other sectors to induce efficiency and effectiveness, reduce productive and trade barriers and costs, contribute to more productivity, increase productive and export capacity, integrate MSMEs in international value chains.

Pursue medium- and long-term strategies to increase services' reliance in categories that tend to have higher productivity and upgrading potential through its forward linkages, without detriment of immediate strategies to benefit from the current most important categories:

- Such increased reliance can occur either by upgrading the current most important services categories or by promoting a structural transformation towards activities that have higher productivity and upgrading potential;
- Develop and implement strategies to upgrade the most important categories in GDP – distribution and construction services –; to upgrade some of the fastest growing categories in GDP – construction services –; to upgrade the skills of some of the most important categories in employment – distribution and travel, and construction services – (figure 9); to upgrade the most important categories in trade in services, which have also been the most dynamic categories and where the country has RCAs – goods-related, transport and travel services – (table 3, figure 19, figure 20); to upgrade the most important categories that provide value-added to exports – distribution services – (figure 25);
- Develop and implement strategies to promote a structural transformation towards some of the fastest growing categories in GDP – financial and transport services; towards activities that rely on workers with higher education – financial services – (figure 9); towards trade in activities that have higher productivity and forward linkages – financial and telecommunications and ICT services – (table 3); towards the activities that have higher productivity and potential for forward linkages – telecommunications and ICT services – (figure 25, figure 26).

Build on the potential of the services sector for women's inclusiveness and empowerment:

- Continue to recognise the importance of services as the sector that employs more women (figure 10) considering services in needed inclusiveness strategies to improve the empowerment of women and to benefit from it as a tool for development and growth;
- Promote the participation of women in sectors with higher productivity and not only in sectors that tend to have low productivity such as community, social and personal services;
- Promote the participation of women in sectors which rely on workers with higher education, not only in sectors relying on workers with lower education such as distribution services.

Strengthen the services regulatory and institutional framework as the cornerstone for implementing trade in services strategies:

- Adoption and implementation of the National Plan on Trade in Services;
- Follow-up of the plan by the NSF, based on inputs and review from public-private stakeholders;
- Promote multi-stakeholder collaboration in the context of the NSF and in other initiatives;
- Continue efforts to enforce existing regulations, such as REPSE;
- Implement mechanisms to improve supervision and control for services providers;
- Strengthen institutional frameworks, particularly by improving the efficiency of the legal framework on settling disputes and on shareholder governance, key to enhance confidence and stability, attract investment and reduce costs;
- Strengthen capacity in the MIC to support the work of the NSF;
- Develop new or implement existing procedures for denunciations regarding services suppliers;
- Use the NSF as a space to initiate debate about country positions as inputs for trade negotiations.

Increase reliance of services-related strategies on an evidence-base:

- Adoption of data connectivity decree and plan to compile information about services providers;
- Develop data on FATS and information by mode of supply for trade in services;
- Pursue better data and capacity to develop value-added analyses, which confirm the real contributions to output and that services value-added in output is much higher than services direct output (figure 21);
- Pursue better data and capacity to develop value-added analyses, which confirm the real contributions to trade, that services value-added in trade is much higher than services direct exports (figure 22) and that, while directly exported value-added has increased in recent years, close to two-thirds of the growth of services value-added in exports is due to an increase in services embodied in exports of other sectors;
- Strengthen South-South partnerships, for example with Brazil where important developments have occurred in services-related data, to improve data and capacity for value-added analyses.

Develop and implement cross-cutting strategies to improve productive and export capacity:

- Improve infrastructure services, particularly road and train services which are key in the value chain approach to improve fluvial transport;
- Improve adoption of ICT services, particularly by improving fixed and mobile broadband;
- Improve digital skills in the population;
- Improve the quality of vocational training;
- Improve the match between skill demand and offer, including by improving searchability and the skillset of graduates;
- Reduce cost and time of starting a business;
- Evaluating cluster development in pertinent sectors.

## B. River transport options

### Normative and regulatory level

Despite the Transport Agreement for the HPP, in force since April 1992, the provision of river transport services takes place in a diverse regulatory environment. There seems to be an almost discretionary application of national provisions on Paraguay and Paraná Rivers, which hinders the effective and efficient provision of transport services. To reduce this regulatory divergence, the regulatory and normative framework needs to be strengthened, the IWT needs to be promoted at regional level, and the role of institutions such as the CIH needs to be supported.

In this context, as part of the effective management of river transport services, the following public policies supporting regulatory frameworks should be considered. This includes to conduct a review of all laws related to the national merchant navy and the law of the General Naval Prefecture, in particular those listed below in chronological order:

- Commercial code, book three “of the rights and obligations resulting from navigation”, approved by law of 5 October 1903; entered into force on 1 January 1904;
- Captaincy regulation, approved by law No. 928 of 7 September 1927;
- Law No. 429 of 15 July 1957, “creation of the Directorate General of the Merchant Navy - attributions”;
- Law No. 476, of 15 October 1957, “code of fluvial and maritime navigation”.

Conduct a review the following agreements and national decrees:

- The Fluvial Transport Agreement for the Hidrovía Paraguay Paraná, (1992) in all its scope of transit, from the Port of Cáceres in Brazil, to the Port of Nueva Palmira in Uruguay, to ensure its uniform application in the navigation facilitation criteria, documentary requirements, and free transit of merchant vessels for all signatories;
- The Free Navigation Treaty signed between the governments of Paraguay and Argentina, which recognizes titles and qualification of merchant personnel;
- Decrees No. 1994/2014 and 2115/2014, with the goal of avoiding duplication of inspections and certification by the Directorate General of the Merchant Navy and the General Naval Prefecture, including the issuance of certificates;
- Decree No. 1994/2014, (including articles 15 and 16 and subsection e) and its relation to the provisions of law 1295/1998 and article 14 of the Transportation Agreement for the Hidrovía Paraguay-Paraná, relating to the leasing system as a financial instrument for the renewal of vessels;
- Decree No. 14490/1952 as related to pilotage areas to the North and South of Asuncion;
- Decree of the Executive Power No. 11075/2007 which brought about the creation of the Navy Nautical School institution. Specific issues to be addressed include: the budget; the implementation of a management system of training and qualification of Merchant Navy personnel in accordance with the international standards; the use of the School Ship for the training of deck personnel and machines, with practical navigation exercises on board, by the Navy and the private sector;
- The Free Trade Area agreement between MERCOSUR and the European Union in relation to any cabotage arrangements.

### Infrastructure level

Consider the following options:

- Undertake a study of port services for container traffic, general cargo, bulk cargo, and the handling of liquid cargoes as well as fuels and their derivatives and vegetable oils. A comparison of vessel loading and unloading times at different ports will help identify areas for improvement;
- Conduct an assessment of access roads to and from ports located on the banks of the Paraguay and Alto Paraná Rivers, ensuring the flow of export cargoes and the receipt of imports goods. Ensuring that there is year-round access and no impediments, will greatly facilitate the movement of goods between transport modes;
- Implement an electronic vessel monitoring system based upon AIS for the PGN to better control vessel traffic;
- Conduct a comprehensive dredging plan on the Rio Apa - Rio Pilcomayo stretch including the 536 km that are in Paraguayan sovereignty and where the vast majority of difficult navigation steps are found;
- Conduct a comprehensive dredging plan on the Rio Pilcomayo-Confluencia with the Paraná River section, including the 390 km of shared sovereignty between Paraguay and Argentina, under the Regulatory Framework of the Bilateral Dredging and Maintenance Agreement the Navigable Way, November 1969;
- Conduct a comprehensive dredging review of the section Yacyreta Dam-Confluence with the Paraguay River of 223 km, a shared stretch between Paraguay and Argentina;
- Conduct a review of the signage and marking of the entire waterway of the Paraguay River from Puerto Caballo-Apa River (shared section of Paraguay with Brazil); Rio Apa-Rio Pilcomayo of sovereignty of Paraguay; and the Rio Pilcomayo section-Confluence with the Paraná River (section shared by Paraguay with Argentina);
- Conduct a review of the signage and beaconing of the Alto Paraná River, from Presidente Franco Port, to the Yacyreta Dam and from the Yacyreta Dam (under lock) to the Confluence with the Paraguay River (shared stretch between Paraguay and Argentina).

### Operational level

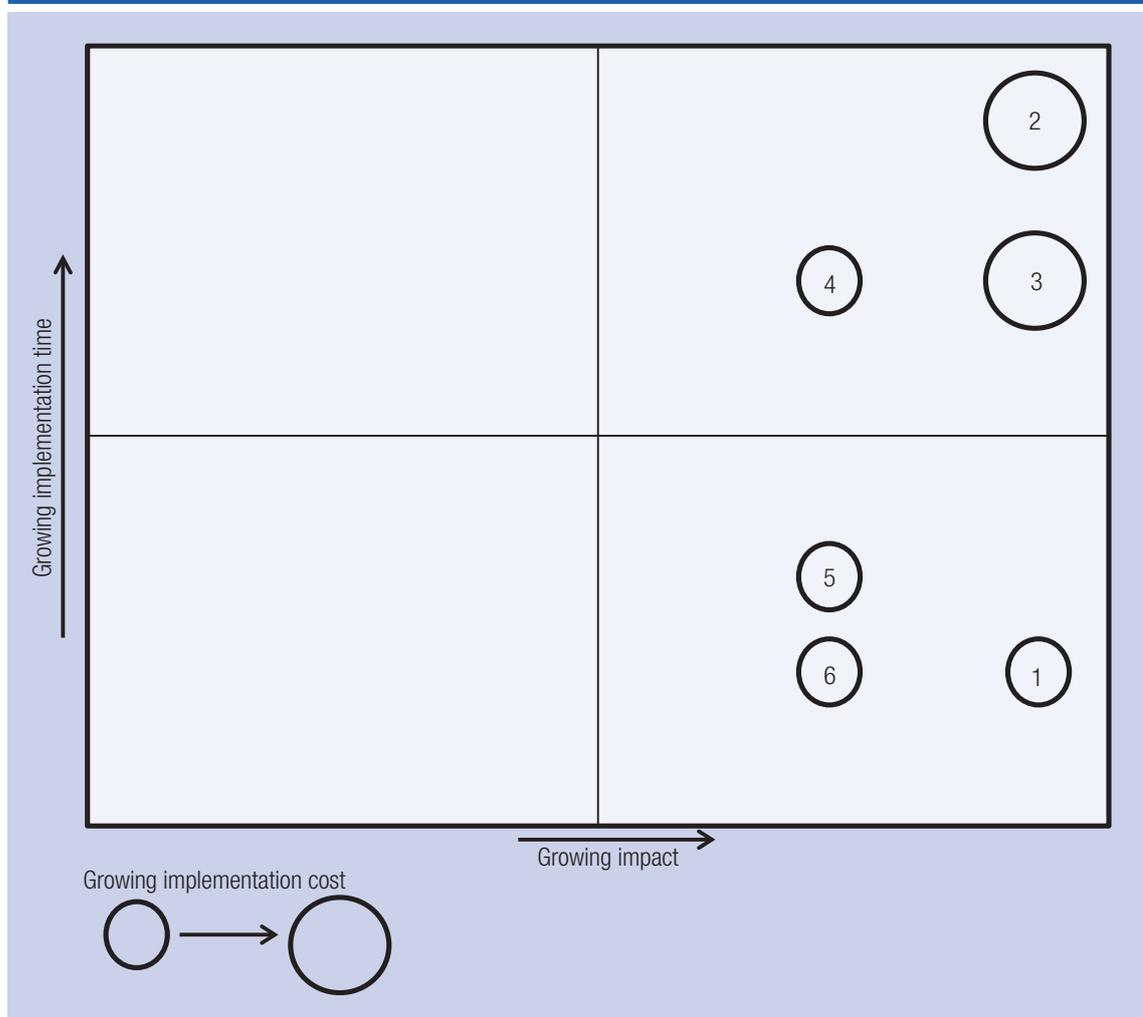
Consider the following options:

- Conduct a review to implement a computer system in the Naval Prefecture to expedite the procedures for the issuance of roles, presentation of manifests, permits for repairs and maintenance, registration of personnel on board, authorization to load fuels and supplies, management of vessel certificates, registration and certification of merchant personnel, and all aspects related to the role of the Prefectural Control Entities as Maritime Authority;
- Conduct a review of continuous service operation (24 hours a day, 365 days a year) of the PGN;
- Investigate the occurrence of vessels without proper registration and with irregular navigating personnel, who could carry out illegal acts in the river, such as theft of fuels and merchandise from vessels, as well as the unrestricted control of possible contaminations of dangerous substances (e.g. drugs);

- Implement the opening of public offices 24 hours a day, 365 days a year including the Customs and Port Administration, Naval Prefecture, Migrations, Ministry of Health, Ministry of Environment, and National Anti-drug Secretariat, etc., as detailed in the Transportation Agreement for the Paraguay-Paraná Waterway.

The definition and implementation of these options should take into account several criteria such as costs, time for implementation, and the potential impact in strengthening river transport services. For instance, investments in intermodal infrastructure (for example, roads to and from ports) may have a very important potential impact in the sector and it may require significant investment and time to implement. The digitalization of support systems (for example, the computer system for the Naval Prefecture) may have a lower potential impact and it may require less investment and time to implement. Figure 33 provides an illustration, while the assessment of the actual determinants requires specific analyses.

**Figure 33. Illustrative mapping of initiatives to strengthen river transport services in Paraguay**



Note: 1 – review of laws and agreements; 2 – intermodal investments; 3 – dredging; 4 – other investments (e.g. signage); 5 – digitalization of support systems; 6 – continuous operation models. The determination of the actual relative impacts, costs and implementation times requires specific analyses. This figure is presented as an illustration of a possible outcome and does not replace the need to conduct such analyses.

### C. Options on professional services associated with the construction

The following lists include policy options and recommendations for the strengthening of productive and supply capacity of professional services associated with the construction sector. They derive from the analyses in the correspondent chapter and from discussions held with stakeholders at both workshops organized in Paraguay.

Strengthen a coordinated vision for the sector:

- Continue to recognise the importance of professional services linked to the construction sector, based on their potential as KIS and on their contribution to the construction sector's performance in terms of share of GDP, growth of GDP, and contribution to FDI;
- Endeavour to further strengthen government teams as appropriate to pursue the implementation of the recommendations that may be adopted from these lists and, in any case, to provide the government with reinforced capacity to manage, regulate, control and enforce policies related to professional services linked to construction. International regulatory cooperation and technical assistance can be considered;
- Build on the existent coordination mechanisms and reinforce them with a high-level mandate to ensure an inter-institutional analysis, decision-making, implementation, monitoring, and enforcement of compliance of the main issues regarding these activities. This coordination should be based on a whole-of-government approach, to include the several institutions that intervene in relevant processes, for example the MEC, MIC, MOPC and MUVH;
- Extend the coordination efforts beyond the government to a multi-stakeholder approach involving the private sector - particularly SMEs, professional and business associations-, academia, and civil society - related for example to consumer protection;
- With the key involvement of professional and business associations, strengthen professional networks that contribute to the exchange of views and experiences, to the motivation for continuous training and development, and to the active participation in public and private efforts to develop the sector.

Explore benefits from economies of scale deriving from coordinated actions of professionals and businesses:

- Pursue economics of scale, enhanced effectiveness, and cost reduction in coordinated actions in education and training activities; acquiring inputs such as supplies, software licenses, office space, and others;
- Pursue improved supply capacity by sharing research efforts in architecture and engineering, within the academic context and in research centres focused on business results. These could include a focus on using recent or more efficient technology, such as highway lighting with solar energy, or on using standard-conforming materials. In both cases, research needs to rely on the participation in international research networks;
- Explore economies of scale in actions to improve business prospects or access to markets by participating in a coordinated way in international tenders or in trade promotion and market intelligence initiatives. This can be enhanced by an active role of professional and business associations.

Pursue coherence in different policy areas that can have backward and forward linkages to professional services linked to construction:

- Reduce informality in the construction sector with enhanced oversight and enforcement and coordination among different institutions related for example to professional registration, taxation, and justice. Informality is perceived as high, particularly in low-skilled workers, which affects professional services because it implies that builders with no formal qualifications work without the support of architects and engineers;
- Consider that social policies impacting real estate increase demand for these professional services but may contribute to an economic bubble in the sector with price levels which are not sustainable and with over-extension of credit. An increased focus on foreign markets, promoted as a medium-term strategy is relevant to diversify the cyclical risks and emphasizes the important role that international trade may have in promoting demand;
- Consider that investment in public works and increased international trade on construction contributes to diversify over-reliance on domestic real-estate markets. Predictability of public investments facilitates businesses investment decisions. The existence of public infrastructure studies and projects, and of master plans in housing, transport, and logistics, can contribute positively to the development of the construction sector and of the related professional services in different areas. Strengthening a national territorial and urban planning policy, combined with technical assistance to municipalities, could make a similar positive contribution;
- Development financing and guarantees, public-private partnerships, and international trade can increase investment in the sector, even more if there is transparency and legal certainty.

Ensure a strategy that allows development benefits from international trade and sound regulatory frameworks:

- Strengthening services sectors in preparation for foreign competition, rather than protecting them indefinitely from international trade, as that would have a cost for the whole population;
- Envisage liberalization with the pace, content, and sequence required to be in line with the development of national capacity and strengthened regulatory frameworks;
- Keep policy space to face current and future issues related to liberalization;
- Use the engagement in international trade to create an opportunity to induce positive regulatory reforms and capacity-building in the services sector;
- Mainstream this strategy through smart and best-fit regulations that minimize inadvertent trade-restrictive effects and introduce effective, efficient, and equitable regulatory practices, including an enforced competition framework that ensures a level playing field;
- Pursue an alternative design of preferences, such as the ones included in law 4727/2012, linking preferential treatment for example to local development objectives and not to the origin of the services provider.

Continuously improve a coherent and transparent regulatory framework, benefitting from the coordinated vision envisaged for the sector:

- Promote smart regulations, coherent with trade and development objectives, along the regulatory cycle: enabling institutional framework, increasing transparency and including international, national and sub-national cooperation; regulatory design, pursuing international standards while avoiding unnecessary economic burdens; evaluation through regulatory impact assessments; and implementation (box 2);
  - Update the regulatory framework to have a revised law of professional practice with strengthened capacity to qualify, enable and control professional services linked to the construction sector. This should contribute to a level playing field for both domestic and foreign providers in
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Paraguay and foreign markets. Areas to be covered in the regulation of professional practice include the recognition of degrees; determination of professional responsibilities; control of professional practice; ensuring compliance with safety, quality of work, technical regulation of raw materials and responsibility issues; non-discriminatory market access and national treatment; and common standards on ethical performance and consumer protection;

- Adapt the regulatory framework as appropriate with a view to reduce regulatory divergence between Paraguay and destination markets. This facilitates regulatory cooperation, mutual trust, trade, and cooperation on monitoring and enforcing compliance of services providers, regardless of their nationality, in Paraguay and in foreign markets;
- Adapt the regulatory framework as appropriate with a view to ensure common practices within the country, without a cost to the current municipal autonomy in terms of land use and including the provision of technical assistance to municipalities as needed;
- Apply regulatory proportionality, as appropriate, to allow for less demanding requirements in smaller and simpler works, to facilitate a higher participation of SMEs without discriminating by their origin;
- Assess the possibility and relevance of developing a general construction law, articulating dispersed regulation pertaining to construction rules;
- Disseminate information and train civil servants and the providers of professional services on the requirements and procedures stipulated by laws and regulations when there are updates and periodically as refresher courses.

Engage further in a pro-development international trade strategy:

- Further improve transparency and predictability in the adaptation of the regulatory framework, to better prepare the country to liberalize mode 3 and mode 4 in a similar way to the other countries in the MERCOSUR;
- Promote the transfer of foreign knowledge and technology at least through best endeavour language in mode 3 related instruments;
- Assess the introduction of the regulatory changes that will allow the country to benefit from compliance with the decision 25/2003 of MERCOSUR on mutual recognition and trade in services through mode 4. Transpose the decision 25/2003 of MERCOSUR to the Paraguayan legal framework to facilitate the reciprocal temporary presence of natural persons in another country to provide professional services linked to the construction sector. This would create more opportunities for Paraguayan professionals while attending to the shortage of specialized professionals in the country;
- Further strive for reciprocal facilitation of the temporary presence of natural persons. This should include *inter alia* larger durations of stay, more categories of natural persons, reduction of visa fees and barriers, reduction of divergence in legal requirements - for example on the responsibility of companies -, and portability of benefits;
- Engage in further reciprocal initiatives to explore community regulations for the mutual recognition of licenses, certifications, professional degrees, and accreditations. Furthermore, flexibilities in terms of the provision of copies, possibility of using on-line systems, and of prior publication, among others, could be envisaged.

Build on the digital economy and e-government tools:

- Digitalize administrative and technical processes to address bureaucracy, gain time and cost efficiencies, including evaluation, pre-feasibility analyses and approval of plans. This would

facilitate monitoring processes and enforcing compliance with rules and deadlines, which would then promote transparency and trust and facilitate trade and investment;

- Use electronic platforms to connect providers and users of professional services. Such platforms can also play a role in generating the necessary enabling environment to trade, including providing promotion, information exchange, payment, and delivery services as appropriate.

Build on education policies to enhance performance and facilitate recognition of qualifications:

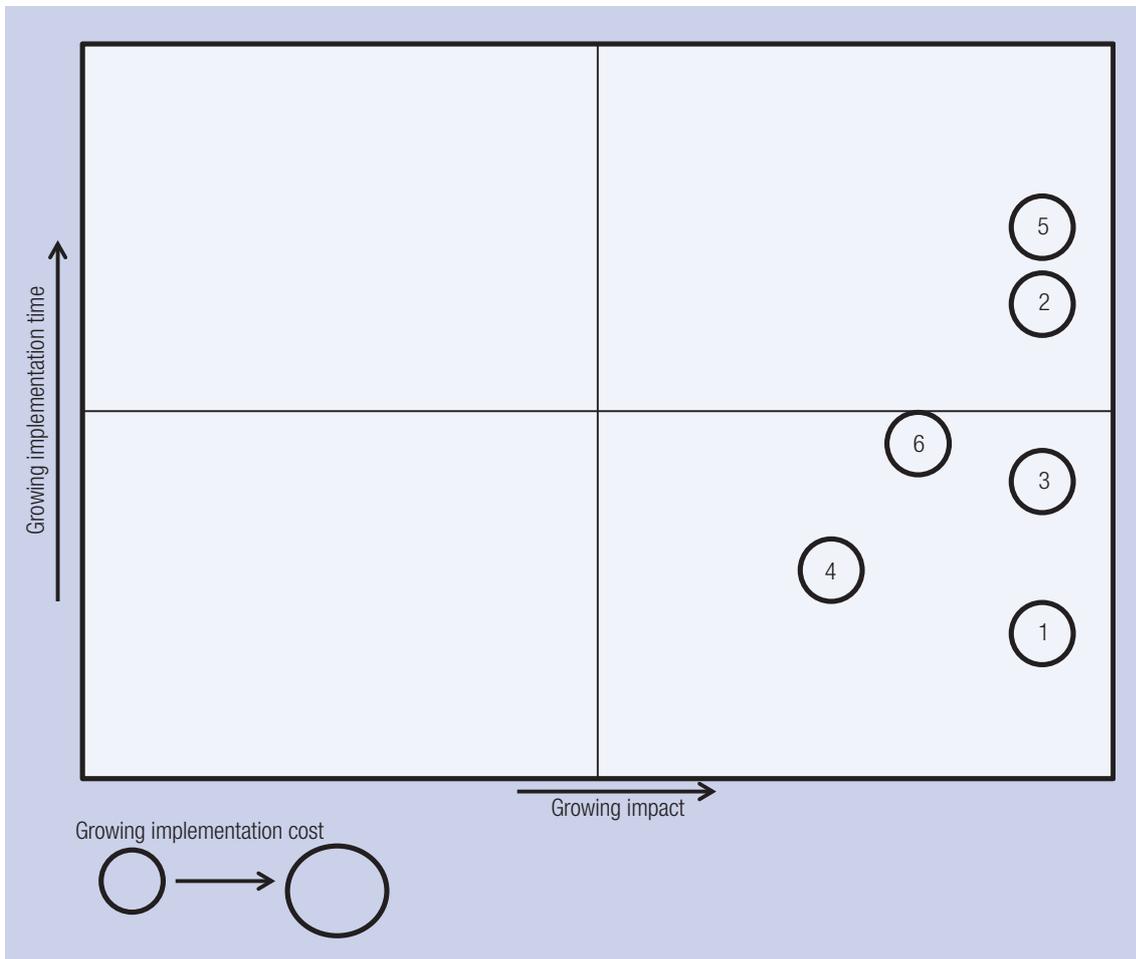
- Define a more structured and long-term approach to education policies focused on professional services linked to construction through a continuous coordinated effort between the government, private sector, professional and business associations and the academia and other education institutions;
- Bring the educational offer closer to market demand, design quality educational curricula to current and future needs, and bring educational programmes closer to international standards. Increasingly focus more on STEM disciplines and develop soft skills that prepare professionals for a continuous learning mindset;
- Pursue mentorship programmes, linking current students to alumni professionals, to motivate students and give a stronger practical perspective from the onset;
- Pursue more partnerships with foreign education and training institutions, including exchange programmes or protocols to unilaterally accept students and trainees from Paraguay;
- Increase the offer of continuous education and training, including refresher courses, in complement to background education. For instance, trainings to disseminate requirements and procedures in the regulatory work should be offered to all stakeholders, including professionals and civil servants. Such dissemination should occur when there are regulatory updates and regularly as refresher courses;
- Extend these strategies as appropriate beyond education and training to professionals to other workers in construction services and to vocational training, for example, in project management, middle management and masonry.

Increase reliance of decision-making processes on an evidence-base:

- Pursue the increased availability of disaggregated and updated data relevant to policies related to professional services linked to construction;
- Consider the classification of these professional activities, and perhaps of the whole construction sector, as services, keeping in mind the challenge of the different classification schemes. Considering these activities as services, and not within the production of goods, is important to allow services-focused data policies to be effective;
- Build a system of registration and statistics of the sector in an inter-institutional coordinated effort to, *inter alia*, address the possible inconsistencies of the several registration schemes applied to professional services linked to construction.

The definition and implementation of these options should take into account several criteria such as costs, time for implementation, and the potential impact in strengthening river transport services. For instance, education policies (for example, curricula design or mentorship programmes) may have a very important potential impact in the sector and it may require some time to implement. Multi-stakeholder coordination mechanisms (for example, through the NSF) may have a similarly high potential impact and it may require less time to implement. Figure 34 provides an illustration, while the assessment of the actual determinants requires specific analyses.

**Figure 34. Illustrative mapping of initiatives to strengthen professional services associated with the construction sector in Paraguay**



Note: 1 – multi-stakeholder coordination mechanisms; 2 – review international trade framework; 3 – review domestic regulatory framework; 4 – digitalization of processes and e-government tools; 5 – education policies; 6 – data and statistics policies. The determination of the actual relative impacts, costs and implementation times requires specific analyses. This figure is presented as an illustration of a possible outcome and does not replace the need to conduct such analyses.

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## ENDNOTES

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- <sup>4</sup> UNCTADstat, accessed in November 2020. Available at: <https://unctadstat.unctad.org/EN/>
- <sup>5</sup> Levels of productivity are determined by applying the concept of GDP per active person to a sample of 11 Latin American countries in 2008. This sample did not include Paraguay but represented in the same year 89.2 per cent of GDP and 85 per cent of employment in Latin America and the Caribbean. ECLAC, 2011, *El desarrollo inclusivo en América Latina y el Caribe, Ensayos sobre políticas de convergencia productiva para la igualdad*, sales number S.11.II.G.56, Santiago de Chile, September. Available at: [https://repositorio.cepal.org/bitstream/handle/11362/2594/1/S2011288\\_es.pdf](https://repositorio.cepal.org/bitstream/handle/11362/2594/1/S2011288_es.pdf)
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- <sup>9</sup> See <http://www.leadingedgeguides.com/guide-paraguay-2018-hydroelectric-energy-supply/>
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- <sup>11</sup> See World Agricultural Outlook Board - USDA 12 September 2017.
- <sup>12</sup> See <https://www.ams.usda.gov/sites/default/files/media/BrazilSoybeanTransportationInfrastructureUpdate0817.pdf>
- <sup>13</sup> See <https://thefishsite.com/articles/substitutes-for-fishmeal-soybean-meal>
- <sup>14</sup> See <https://www.feedipedia.org/node/208>
- <sup>15</sup> See <http://www.ipsnews.net/2016/03/soy-fuels-industrialisation-in-paraguay/>
- <sup>16</sup> Ibid.
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- <sup>18</sup> Ibid.
- <sup>19</sup> Ibid.
- <sup>20</sup> Ibid.
- <sup>21</sup> The RCA is an index calculated on trade flows for a specific category of goods or services in a specific country or region. An index value above one indicates a specialization of the country or region in the good or service. The value of exports includes financial and insurance services. RCA values were calculated with trade flow data from UNCTADstat, available at: <https://unctadstat.unctad.org/EN/>
- <sup>22</sup> Eurostat. Available at: <https://ec.europa.eu/eurostat/home?>
- <sup>23</sup> The GCI is a weighted average of several components, each measuring a different aspect of competitiveness. These components are grouped into 12 pillars which are considered to contribute in an important and non- mutually exclusive way to competitiveness: institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labour market, financial system, market size, business dynamism, and innovation capability. Each component is scored between 0 and 100, with 100 representing the optimal situation.
- <sup>24</sup> The efficiency of train services remark refers to the GCI of 2018 as this element was not assessed in Paraguay in the GCI of 2019. WEF, 2018, *The Global Competitiveness Report 2018*.
- <sup>25</sup> The Gini coefficient measures the distribution of income, with 0 representing perfect equality and 1 perfect inequality.
- <sup>26</sup> Innovative digital financial services, such as digital payments, have reduced physical and economic barriers to financial inclusion, particularly for those in remote and rural areas. These services build on ICT-services to reduce infrastructure costs and increase coverage. For more information on policies to improve financial access for development, please see UNCTAD, 2021, *Financial inclusion for development: Better access to financial services for women, the poor, and migrant workers*.
- <sup>27</sup> For example, Brazil and Chile concluded an FTA to facilitate trade and investment in goods and services.
- <sup>28</sup> See [https://trade.ec.europa.eu/doclib/docs/2019/june/tradoc\\_157964.pdf](https://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157964.pdf)
- <sup>29</sup> See <https://www.efta.int/sites/default/files/documents/legal-texts/free-trade-relations/mercosur/2019-08-24-EFTA-Mercosur-Chapter-Description-of-FTA.pdf>
- <sup>30</sup> See <http://www.leadingedgeguides.com/guide-paraguay-2018-cargo-transport/>
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- <sup>32</sup> See <https://unfccc.int/news/itaiapu-dam-works-to-combine-energy-environment-and-biodiversity>
- <sup>33</sup> See <https://en.wikipedia.org/wiki/Hydroelectricity>
- <sup>34</sup> See <https://www.ft.com/content/bf02af96-7eb8-11e7-ab01-a13271d1ee9c>
- <sup>35</sup> See <http://www.leadingedgeguides.com/guide-paraguay-2018-hydroelectric-energy-supply/>
- <sup>36</sup> More information can be found in the following links: [https://die.itaipu.gov.py/?secao=noticias\\_itaiapu&conteudo=27932&q=node/3](https://die.itaipu.gov.py/?secao=noticias_itaiapu&conteudo=27932&q=node/3) and <https://www.itaipu.gov.py/es/sala-de-prensa/noticia/primer-reunion-tecnica-para-instalar-esclusa-de-navegacion>
- <sup>37</sup> See <https://www.ft.com/content/bf02af96-7eb8-11e7-ab01-a13271d1ee9c>
- <sup>38</sup> The report of the MDB Working Group on Sustainable Transport was authored by the African Development Bank (AfDB), Asian Development Bank (ADB), Development Bank of Latin America (CAF), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Inter-American Development Bank (IDB), Islamic Development Bank (IsDB), and the World Bank.
- <sup>39</sup> See <https://www.worldbank.org/en/news/press-release/2016/07/25/paraguay-improvements-transportation-road-safety-benefit-400000-world-bank>
- <sup>40</sup> See <https://www.caf.com/en/currently/news/2015/11/usd-200-million-to-improve-the-road-network-in-paraguay?parent=15633>
- <sup>41</sup> There is an average daily crossing between 3,000 and 5,000 people but there are peak days when it reaches 8,000 or 11,000 people. See <https://www.lanacion.com.py/negocios/2018/01/25/tren-encarnacion-posadas-transporta-hasta-11000-personas/>
- <sup>42</sup> See <https://www.lexology.com/library/detail.aspx?g=d0337523-4593-48af-b5d4-776e64509024>
- <sup>43</sup> See [http://artigos.netsaber.com.br/resumo\\_artigo\\_55176/artigo\\_sobre\\_a-esplanada-da-noroeste-do-brasil-a-campo-grande](http://artigos.netsaber.com.br/resumo_artigo_55176/artigo_sobre_a-esplanada-da-noroeste-do-brasil-a-campo-grande)
- <sup>44</sup> See <http://www.railwaypro.com/wp/bolivia-and-paraguay-sign-agreement-for-bi-oceanic-train/>
- <sup>45</sup> See <http://thelawreviews.co.uk/edition/the-shipping-law-review-edition-4/1144095/paraguay>
- <sup>46</sup> See <https://unctadstat.unctad.org/CountryProfile/MaritimeProfile/en-GB/600/index.html>
- <sup>47</sup> This data is provided to UNCTAD by [MarineTraffic.com](http://MarineTraffic.com) under a MOU signed in 2017.
- <sup>48</sup> See <http://thelawreviews.co.uk/edition/the-shipping-law-review-edition-3/1136099/paraguay>
- <sup>49</sup> See <http://www.asamar.org.py/es/centro-de-armadores-fluviales-y-maritimos-cafym-n163>
- <sup>50</sup> Information retrieved from the universities between July and September 2018 and from the corresponding statistical yearbooks.
- <sup>51</sup> Information retrieved from the workshop organized in Asunción, in November 2018, in the context of this SPR.





