

Paraguay

Country analysis and economic overview



Prepared for International Think Tank for LLDCs
and United Nations Development Programme



Oxford
Analytica



Oxford Analytica is a global analysis and advisory firm which draws on a worldwide network of experts to advise its clients on their strategy and performance. Our insights and judgements on global issues enable our clients to succeed in complex markets where the nexus of politics and economics, state and business is critical.

HEAD OFFICE

5 Alfred Street, Oxford OX1 4EH
T +44 1865 261 600

Any reproduction or distribution of this study in whole or in part without the written consent of Oxford Analytica Ltd is strictly forbidden.

www.oxan.com

Table of Contents

Table of Figures	4
Paraguay	5
Country analysis and economic overview	5
Competitiveness	10
Technological innovations	12
Sectoral labour force concentration and intra-sectoral concentration	12
Productivity levels and growth rates across sectors and within sectors	14
Gender equality and economic diversification	15
Nature and trends of economic diversification	16
Exploring policy measures (national policy documents)	21
Investment	22
Private sector	23
Private sector investment	23
Integrating the principles of the Vienna Programme of Action	24
Fundamental transit policy issues	24
Infrastructure development and maintenance	25
International trade and trade facilitation	26
Regional integration and cooperation	27
Structural economic transformation	28
Challenges, opportunities and policy recommendations	30
Boosting competitiveness	33
Enabling more conducive business practices, combating red tape and corruption	33
Using rich water resources and hydroelectric potential	33
Increasing tax revenues and productivity gains	33
Improving the distributional effect of the agricultural sector	33
Strengthening resilience to climate shocks	34
Promoting R&D and research capabilities – boosting innovation capacity	34

Table of Figures

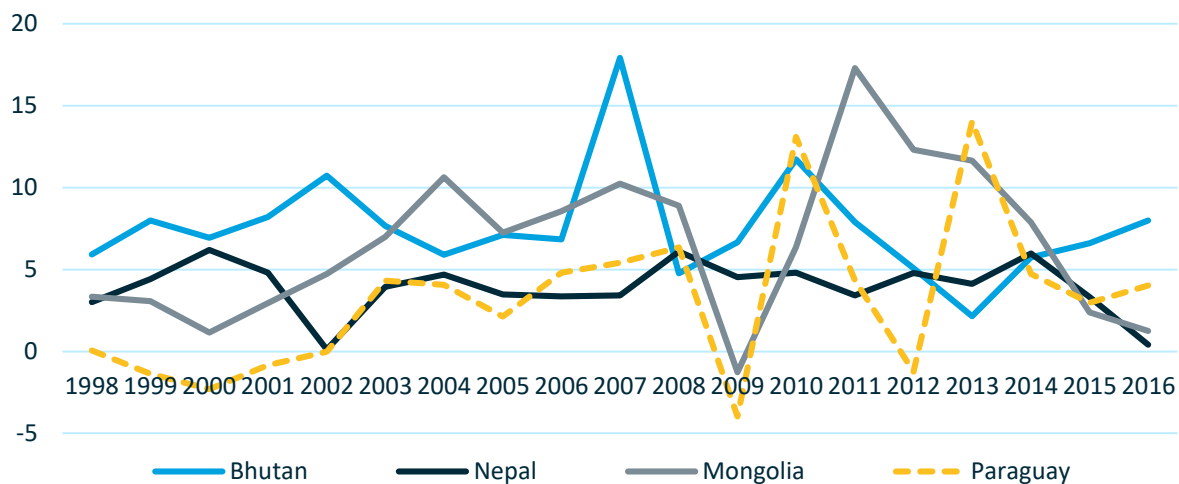
Figure 1: GDP growth rates in Paraguay versus other landlocked countries in this study (%)	5
Figure 2: GDP growth rates in Paraguay (%)	5
Figure 3: Value added by economic sectors (% of GDP)	6
Figure 4: Export structure	7
Figure 5a: Total exports by main commodity group and partner	8
Figure 5b: Merchandise exports' composition by main products	8
Figure 6: Export totals over 5-year periods, detailed by market (US\$ million)	9
Figure 7: FDI net flows (US\$ million)	9
Figures 8 and 9: Accumulated FDI into Paraguay by partner country and FDI stock by sector	10
Figure 10: Evolution of the pillars of the competitiveness index (period 2007-2008 to 2017-2018)	11
Figure 11: Sectoral labour force concentration	13
Figure 12: Labour force participation rate female versus male	13
Figure 13: Paraguay Employment distribution by occupation	14
Figure 14: Value Added Per Worker (constant 1994 US\$)	14
Figure 15: Gender inequality index (0=perfect equality; 1=extreme inequality)	15
Figure 16: Education (Male vs Female), 2017	15
Figure 17: Labour force participation rate in agriculture, industry and services (% of male or female employment)	16
Figure 18: Annual variation of total GDP and agriculture GDP	16
Figure 19: Total merchandise and main products exported (US\$ million)	17
Figure 20: Exports of manufactured products (US\$ million)	17
Figure 21: FDI stock composition by country	18
Figure 22: Industry GDP: share in total GDP & annual growth	19
Figure 23: Investment under Law No. 60/90 (million US\$)	22
Figure 24: Gross capital formation (% of GDP)	23
Table 2: PPP projects presented from 2014-04-01 to 2017-06-30	24
Table 3: Paraguay's strategic value chains	31

Paraguay

Country analysis and economic overview

The economy of Paraguay is small but open. Indeed, total trade (exports plus imports) was just over 80% of GDP in 2016. It is still heavily involved in agriculture, which accounts for around 20% of GDP and more than 60% of exports (WTO country profiles 2017). Over the past 15 years the economy has grown quickly. GDP growth has been above the world average since 2003, except for 2009 (global recession) and 2012 (unfavourable climatic conditions). As illustrated in Figure 1, over the last three five-year periods, the economy grew by 4.1%, 3.7% and 6.0%, respectively.

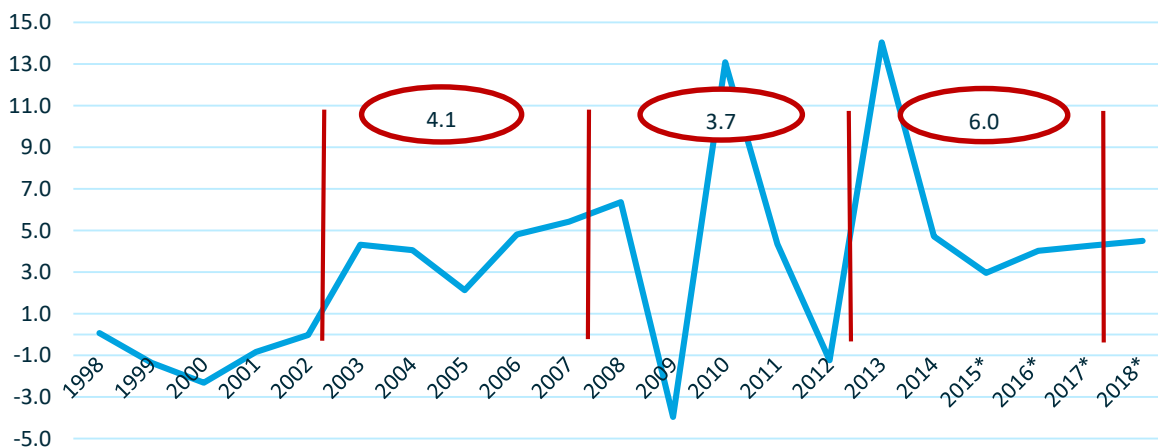
Figure 1: GDP growth rates in Paraguay versus other landlocked countries in this study (%)



Source: World Bank WDI database

By the end of 2017, the Paraguayan economy was almost twice the size it was in 2003 in real terms, and about four times as big at current prices in US dollars.

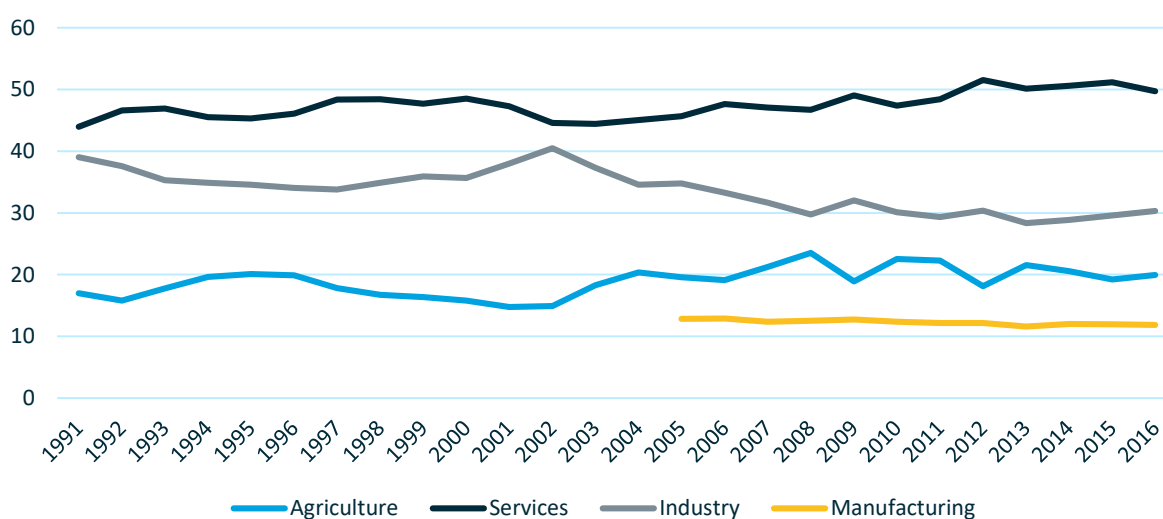
Figure 2: GDP growth rates in Paraguay (%)



Source: Central Bank of Paraguay (BCP), Statistical annex (2018/02)

Despite this expansion, however, the economy has remained largely static in two important respects. One is the continuing degree of volatility, which stems from its continuing dependence on the agricultural cycle, and the other is the minimal degree of change in its composition. While the tertiary sector is the largest in the economy, the primary sector (based on agriculture and livestock) continues to be the key driver of GDP growth and trade. The average share for the primary sector in total Value Added (VAB) was 28.3% between 2003-2007, rising slightly to 29.9% by 2013-2017. The secondary sector has varied from 19.6% to 17.3% in the same period, while tertiary sector has remained constant at 52%.

Figure 3: Value added by economic sectors (% of GDP)



Source: World Bank

In the primary sector, agriculture and livestock are the main activities in terms of both weight and dynamism. In the secondary sector, industry is more significant than mining or construction, while commerce stands out in the tertiary sector. Table 1 shows the shares and growth rates of sectors over the three periods analysed.

The periods between 2003-7 and 2008-12 were characterised by a high degree of volatility in growth rates. This was particularly true in 2008-12, when the adverse climatic conditions and global recession produced greater variability in annual growth rates. From 2013 onwards, in spite of less favourable regional conditions, the growth rates of the main sectors of the economy strengthened again and have shown more stability. However, agriculture continues to show considerable variability in growth rates, and this has repercussions on trade and finance in Paraguay.

Table 1: Shares in Value Added (VAB) and sectoral growth rates over the three periods

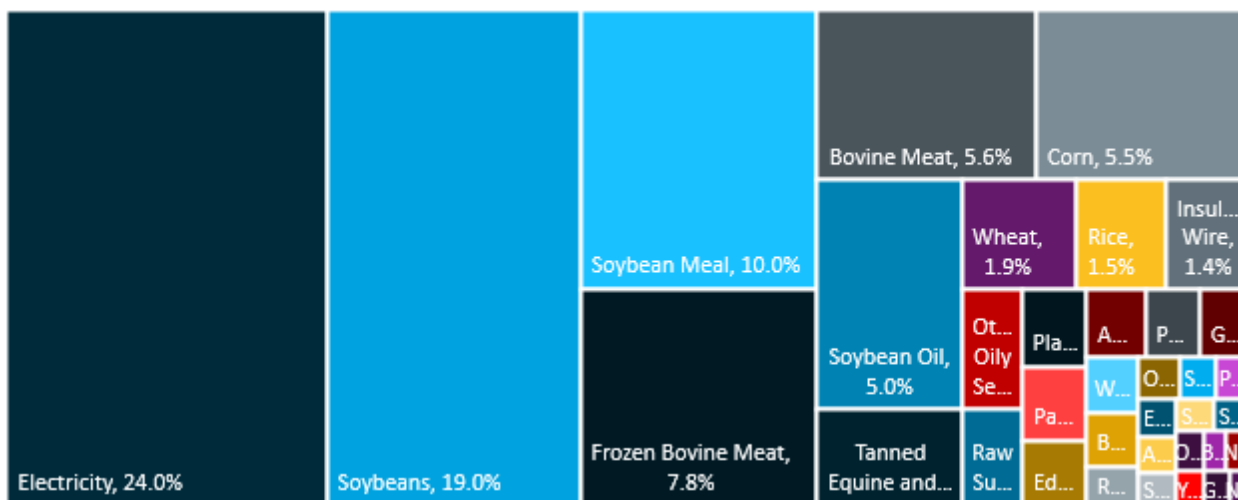
Sector	Activities	Share in total VAB			Growth average		
		2003-7	2008-12	2013-17	2003-7	2008-12	2013-17
Primary	Agriculture	19.64	20.14	22.21	6.92	2.81	14.87
	Livestock	6.49	6.44	6.24	5.12	3.99	5.88
	Forestry	2.05	1.70	1.36	3.28	-0.79	4.14
	Fishing	0.09	0.08	0.06	0.80	0.41	1.31

Secondary	Mining	0.12	0.11	0.11	5.48	3.60	7.36
	Industry	15.32	13.26	12.65	1.60	2.11	7.05
	Construction	4.13	4.29	4.55	4.94	5.70	9.90
Tertiary	Electricity and water	1.91	2.00	2.03	5.08	5.82	5.78
	Transport	4.38	4.14	4.14	7.35	1.12	7.96
	Communication	3.88	4.80	4.82	8.42	8.70	1.77
	Commerce	20.06	19.21	17.35	4.90	2.39	5.49
	Finance	2.27	2.94	3.49	1.72	13.56	5.80
	Real state	2.02	1.78	1.48	1.90	1.95	2.97
	Enterprise services	2.73	2.87	2.69	1.89	5.70	6.25
	Accommodation and gastronomy	1.26	1.21	1.20	1.91	4.92	5.66
	Household services	6.19	6.20	6.01	2.94	4.86	5.71
	Government	7.47	8.82	9.63	3.61	12.64	2.63

Source: BCP, Statistical annex (2018/02)

In spite of a less buoyant export performance in 2014-16, which cut the share of exports in GDP, one of the major enablers of growth in the Paraguayan economy over the last twenty years has been its openness and healthy export growth (especially for soy products). Between 2003-7 exports grew at an average of 7.9% before falling back to 2.2% in 2008-12 and then recovering to 5.8% over 2013-17.

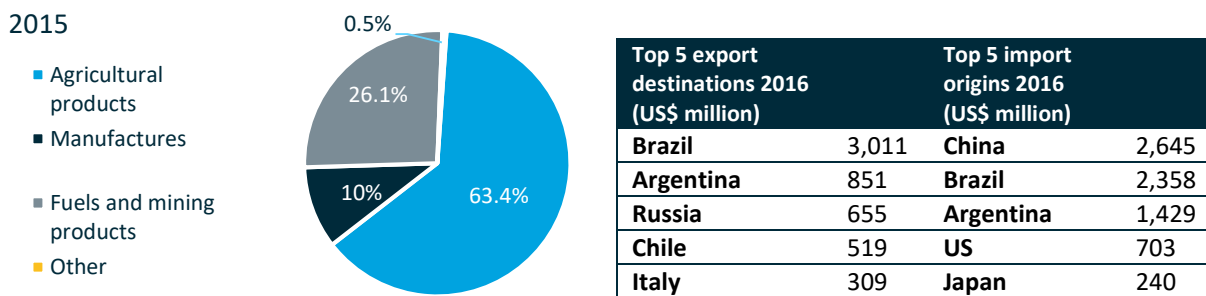
Figure 4: Export structure



Source: The Observatory of Economic Complexity (2015 data)

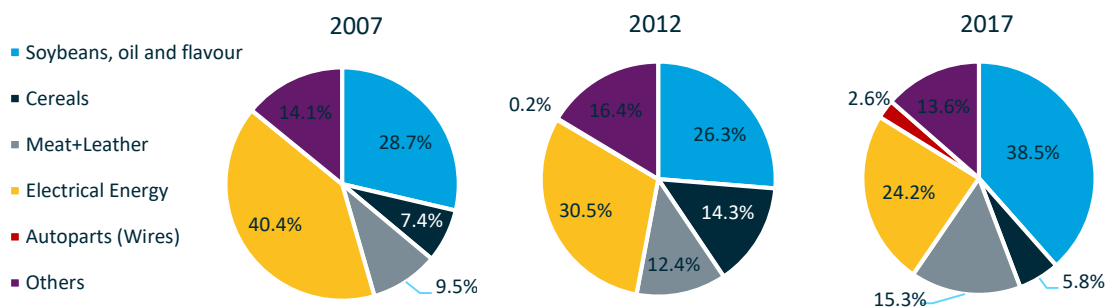
Exports are composed mainly of electricity (surplus hydropower) and a wide range of agricultural products such as soy, dairy and meat products. Auto parts also feature. Revenues from services exports (chiefly transport and tourism) represent about 10% of total exports and could offer opportunities for growth in the future.

Figure 5a: Total exports by main commodity group and partner



Source: World Trade Organization Country Profiles

Figure 5b: Merchandise exports' composition by main products

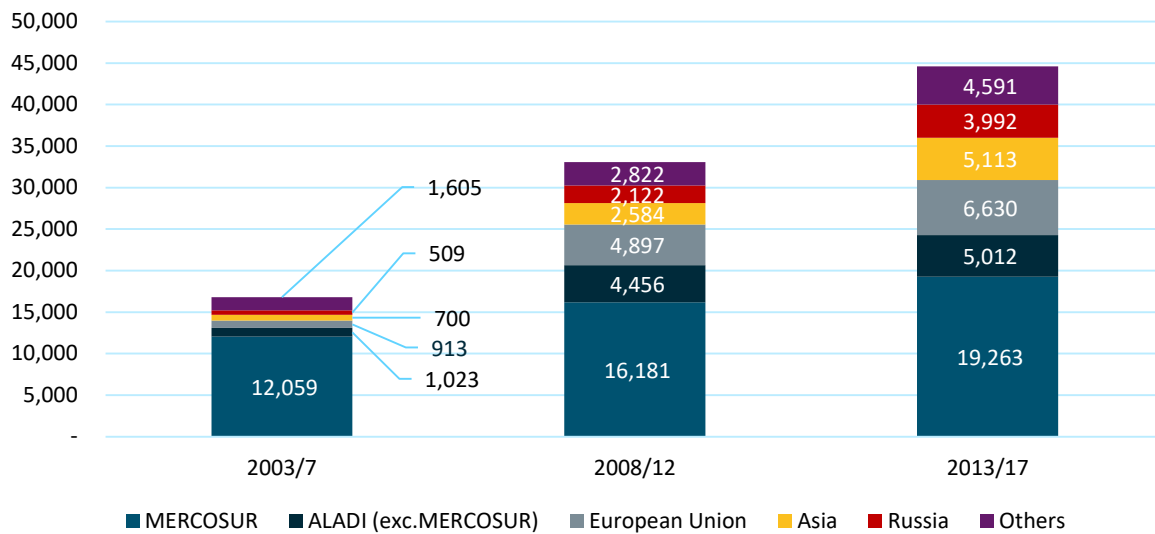


Source: BCP, Statistical annex (2018/02)

By 2017, Paraguay was exporting to 135 countries, compared to 100 in 2003. MERCOSUR countries have remained the largest export target, but they fell from taking 72% of exports in 2003-7 to only 43% in 2013-17 due to rapid gains for Paraguay in other markets. Between 2003 and 2017, exports to MERCOSUR grew at an annual average of 5.3% but exports to the EU and Asia rose more sharply, by 20.5% and 22.2%, respectively.

After Brazil (which accounts for about a third of exports), the EU is the largest export market for Paraguay, followed by Russia. However, Brazil only accounts for about 25% of Paraguay's imports, with China almost at the same level and Argentina at about 15%. The EU and US both achieve about an 8% share.

Figure 6: Export totals over 5-year periods, detailed by market (US\$ million)

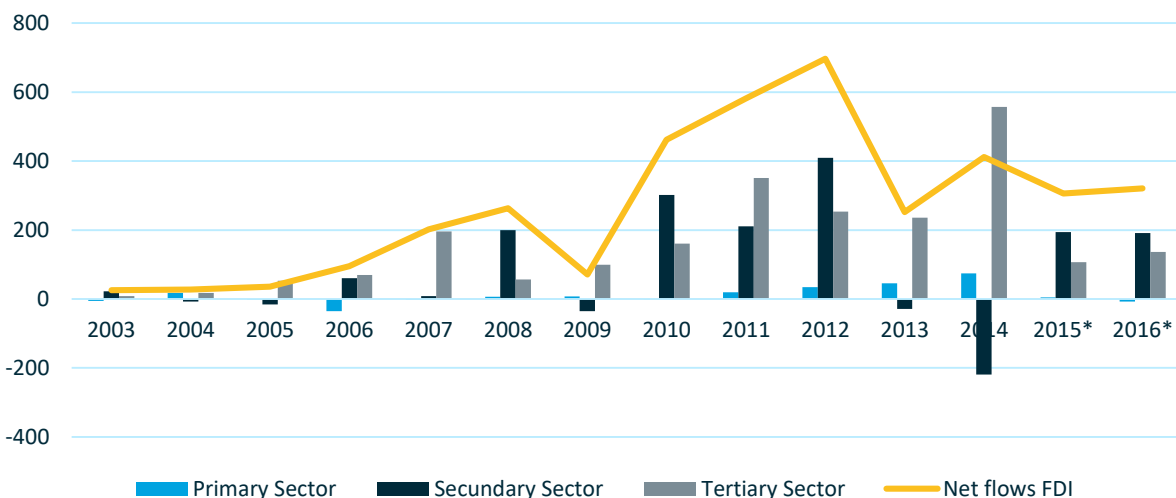


Source: BCP, Statistical annex (2018/02)

FDI also an indicator of diversification and connectivity

Net annual FDI flows into Paraguay did not exceed 200 million dollars until 2007 but from 2007 to 2012 annual FDI rose significantly, with the only exception being 2009 (in the aftermath of the global financial crisis). During 2013 to 2016, FDI volumes into Paraguay fell back again amid the wider trend of a slowdown of investment into Latin America and around the world in general. This weak period for global GDP growth, trade and investment seems to be over, with international activity rising again over the last year. Between 2008 to 2016, the US accounted for 25% of the net flows accumulated by Paraguay. This is followed by Brazil with 19%. In total, the EU probably accounts for almost as much FDI as the US. Other FDI positions are mostly accounted for by other regional economies.

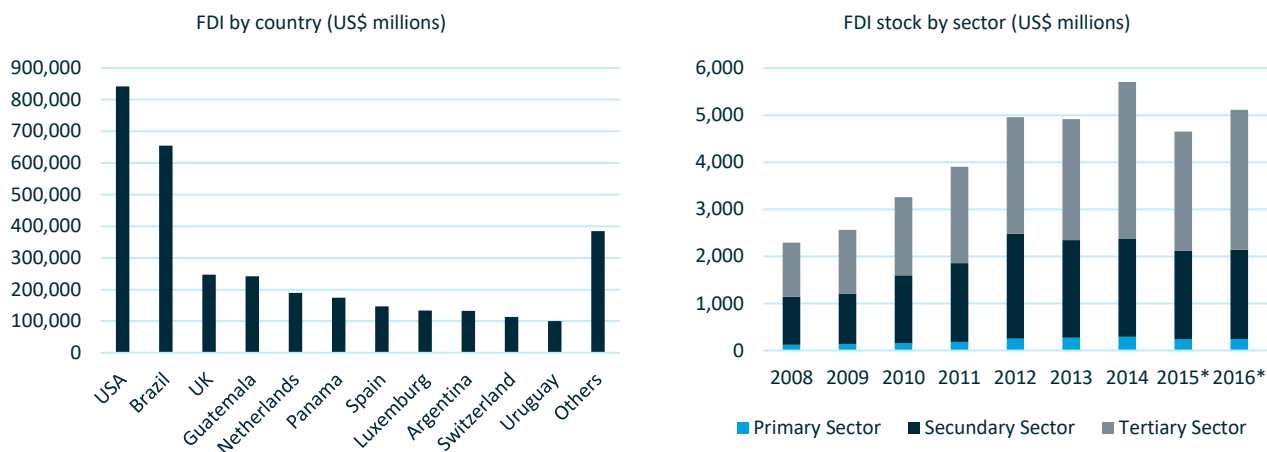
Figure 7: FDI net flows (US\$ million)



Source: BCP, Statistical annex (2018/02)

The accumulated stock of FDI increased during 2008-2012 before plateauing between 2013 and 2016. The composition of the stock has not shown significant changes between 2008 and 2016: the important primary sector continues to account for just 5% of the total while the secondary sector has fallen from 45% to 37%, and the tertiary sector has risen from 50% to 58%.

Figures 8 and 9: Accumulated FDI into Paraguay by partner country and FDI stock by sector



Source: BCP, Statistical annex (2018/02)

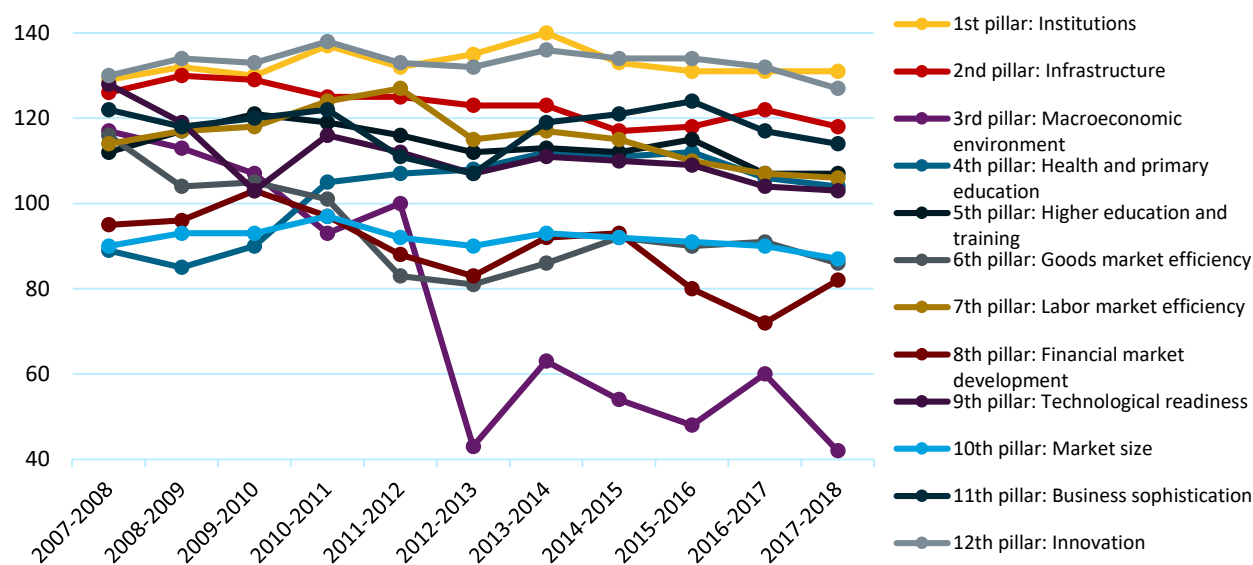
Competitiveness

The World Economic Forum’s Competitiveness Index summarises the institutions, policies and factors that determine the level of productivity of a country in terms of 12 pillars of competitiveness. The Index tracks between 137 and 140 countries each year, and Paraguay has struggled to reach a position in the top 100 countries for many of these pillars, as shown in Figure 10. In the most recent edition of the Index, for 2017-18, Paraguay ranks 112th overall out of 137 countries.

Although this is a slight improvement over the previous edition, Paraguay continues to be held back by low rankings for such fundamental drivers of growth as infrastructure, innovation and institutional framework. In terms of infrastructure, the most alarming weaknesses are associated with the quality of infrastructure, including routes, ports, air infrastructure and electric power supply, in which Paraguay ranks well below other Latin American and Caribbean countries. The latter may seem strange given Paraguay’s electricity export position but this is largely due to poor reliability of local supply.

Other areas in which Paraguay ranks poorly include development of technology, education and training, and business sophistication, although it should be noted that the macroeconomic environment has shown significant improvement in recent years.

Figure 10: Evolution of the pillars of the competitiveness index (period 2007-2008 to 2017-2018)



Source: WEF, Historical Global Competitiveness Index

According to data from the Ministry of Public Works and Communications (2014), Paraguay has 32,207 km of roads of which less than a quarter (22%) are classified as paved. For comparison, in 2011 the figure for Argentina was 30%, for Brazil 15% and for Uruguay, over 90%.

The state of the roads is particularly important as Paraguay does not have a functioning rail network. The main routes connecting the capital of Asunción with the most productive regions in the east of the country are no longer able to support the growing demand for transport. The Paraguay River waterway, which carries approximately 70% of the country's exports, is not navigable in times of drought due to poor maintenance and insufficient dredging capacity.

According to the ALADI (2016), Paraguay's reliance on river and road connections means that it has the highest transportation costs in the region. This is particularly significant as most of its exports are still bulk raw materials rather than higher value manufactured goods. Paraguay's combination of poor quality exports with high cost transportation options constitutes a barrier to trade that is estimated to be more important than tariffs.

Although almost all the population has access to electricity, much of which is low-cost hydropower, the 2017-2018 Global Competitiveness Index gives Paraguay the lowest regional ranking for electricity supply, with frequent power cuts due to overloads on the weak local distribution network.

According to the government's Permanent Household Survey for 2016, only 22.46% of households have direct access to the Internet. Around 90% of the population in both urban and rural areas use cellular devices, although only 13.4% have fixed lines. As the transmission capacity of communication networks is low, interference and dropped calls are common.

The 2018 edition of the World Bank's Doing Business index gives Paraguay an overall ranking of 108th out of 190 countries. This marginal improvement over the previous year is due to slightly improved scores for ease of business opening, management of construction permits, and resolution of insolvency.

Technological innovations

In terms of innovation and technological development, the 2017-18 Competitiveness Index notes Paraguay's weakness in the quality of its scientific institutions, the limited collaboration between universities and companies for R&D development, the low levels of private investment in R&D and the lack of availability of scientists and engineers. Data from the National Council of Science and Technology (CONACYT) shows that investment in R&D was 0.13% of GDP in 2015, when the regional average was 0.70%. According to CONACYT, countries with a level of per capita income comparable to that of Paraguay usually invest an average of 0.3% of GDP in R&D.

The country's universities and research and technology centres have limited ability to generate and transfer knowledge to the productive sectors that contribute to GDP, and so concentrate their resources on agriculture and human health. The government is the main source of research funding. As CONACYT points out, the most alarming regional difference in this area involves students graduating from STEM programmes, with Chile producing nine times as many engineers as Paraguay, and Uruguay 2.5 times as many.

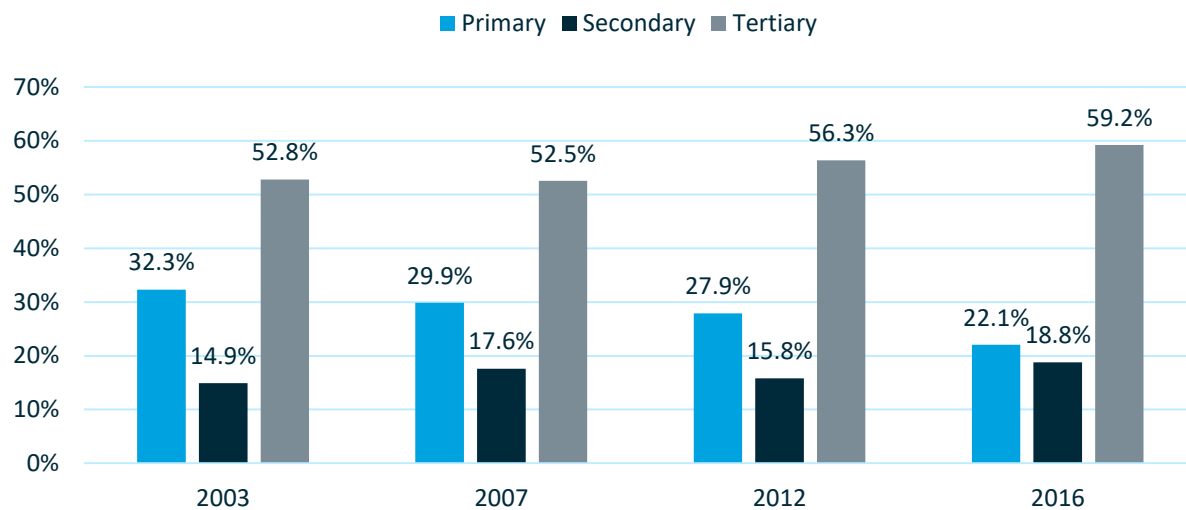
Sectoral labour force concentration and intra-sectoral concentration

In spite of the relatively static sectoral mix of the economy, some significant changes have been seen in sectoral employment and productivity. Paraguay's labour force has undergone a structural shift since 2003, passing from agriculture to the tertiary sector, which now employs more than half of the workforce. Between 2003 and 2016, employment in the primary sector fell from 32% to 22%.

Recent research by the World Bank on employment in Paraguay suggests that this structural change has been positive, with sustained growth leading to an improvement in the quality of work available and the creation of new jobs for the country's growing numbers of young, urban workers. The continuing number of low productivity jobs in the informal sector will remain a challenge in the coming years, however.¹

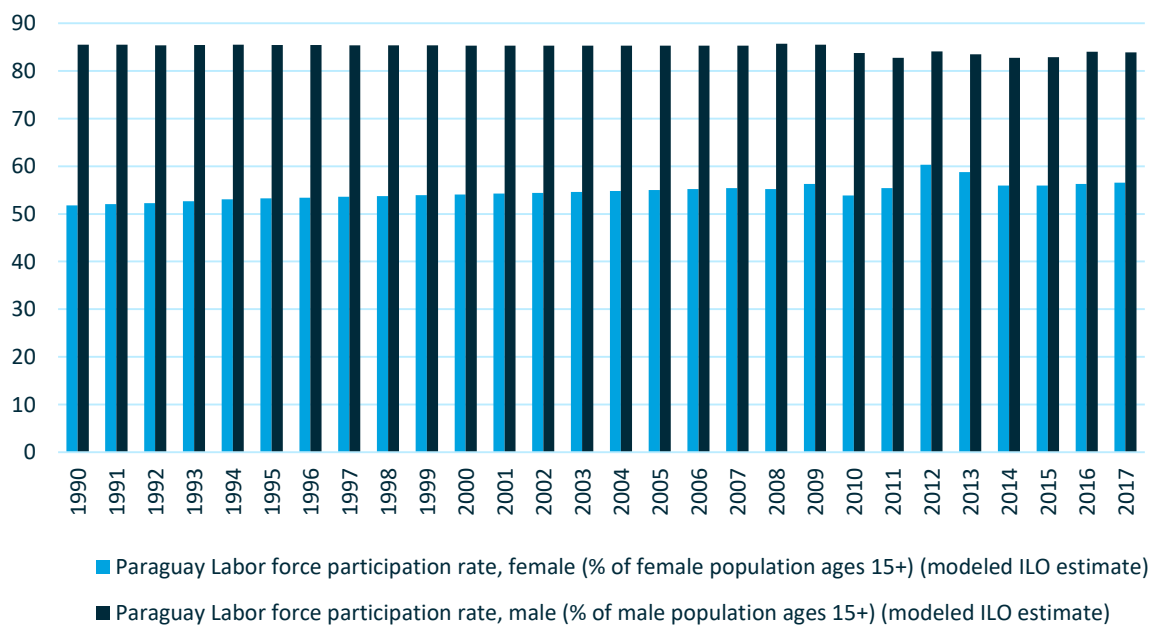
¹ Banco Mundial (2017), Diagnóstico del empleo en Paraguay: La transformación dinámica del empleo en Paraguay, Banco Mundial, Washington DC.

Figure 11: Sectoral labour force concentration



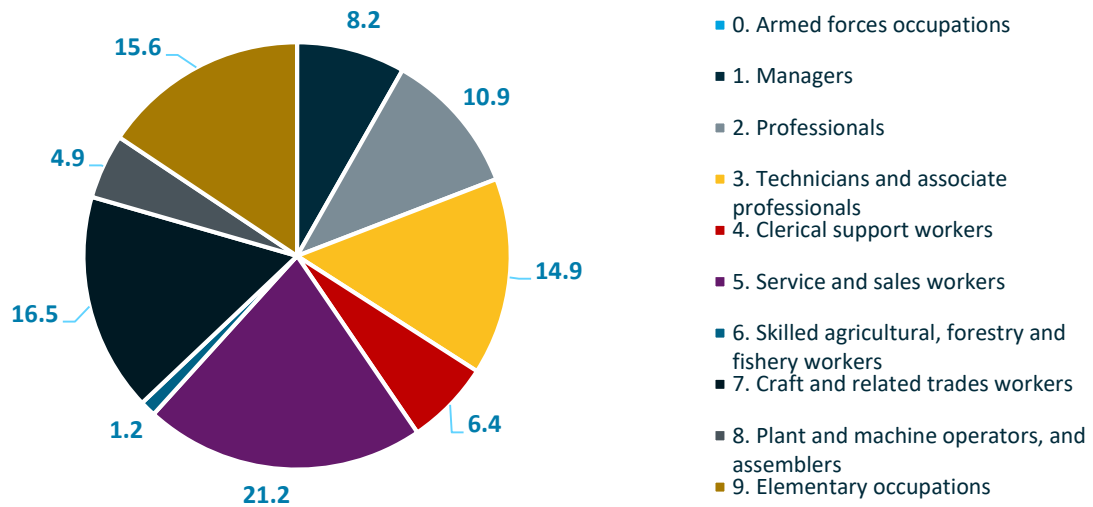
Source: Staff calculations with DGEEC data

Figure 12: Labour force participation rate female versus male



Source: World Bank, World Development Indicators

Figure 13: Paraguay Employment distribution by occupation

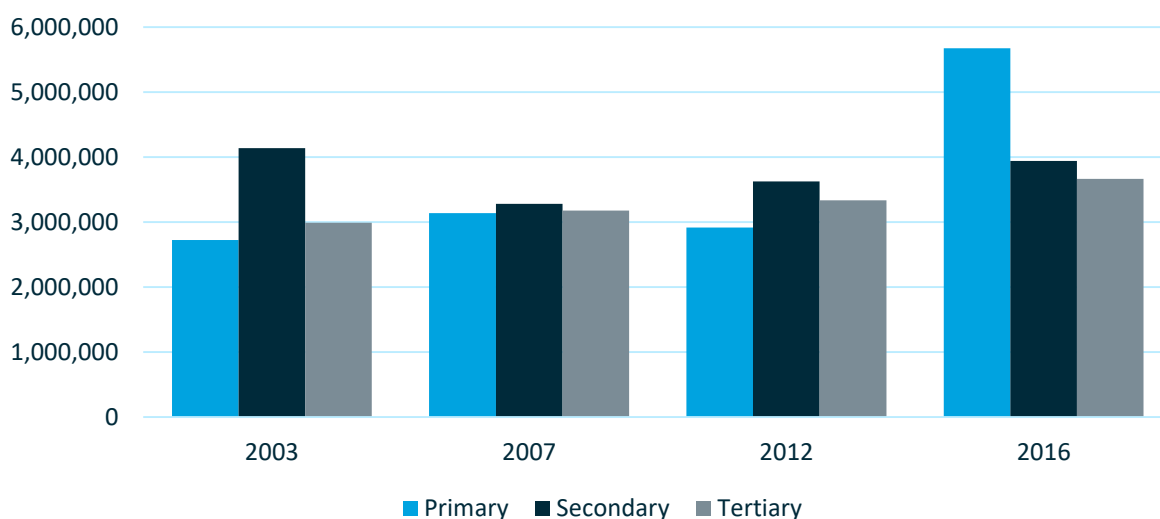


Source: ILO Labour Force Survey Paraguay 2016

Productivity levels and growth rates across sectors and within sectors

Value added per worker is highest in the primary sector, with the recent surge probably helped by growth in the soy market. In the secondary sector it has remained relatively static between 2003 and 2016, with a noticeable dip in 2007. Its recovery after 2012 is largely due to rising regional demand for Paraguayan products. Although the tertiary sector now employs the majority of the labour force, its value added per worker has seen only a slight improvement during 2003-16. Paraguay needs to build on these productivity improvements over the coming decade.

Figure 14: Value Added Per Worker (constant 1994 US\$)

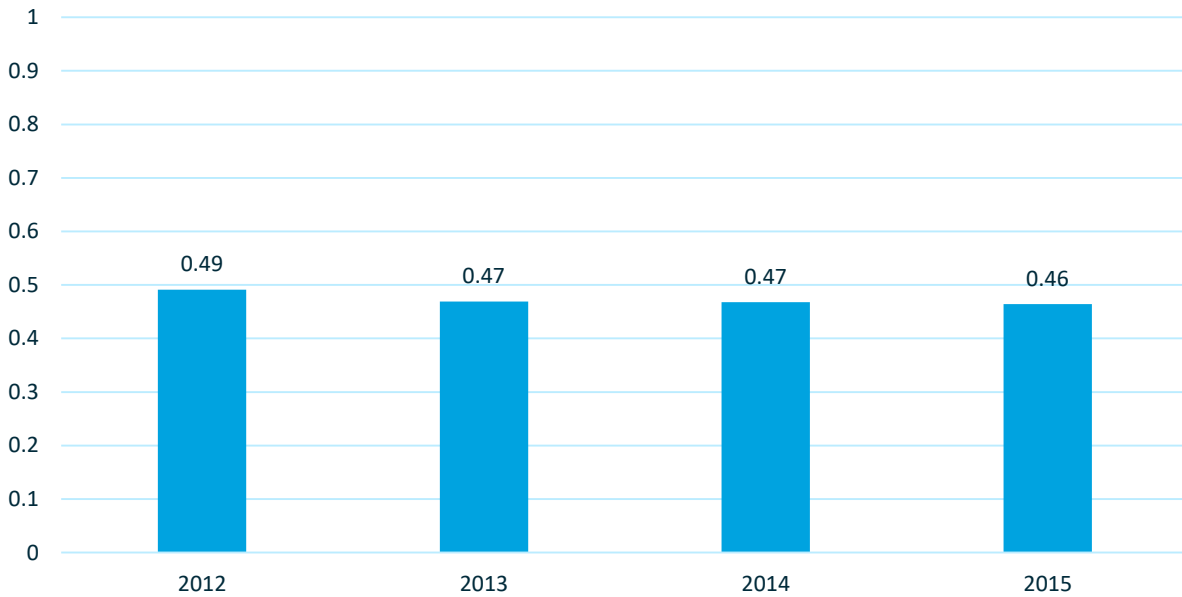


Source: BCP and DGEEC data

Gender equality and economic diversification

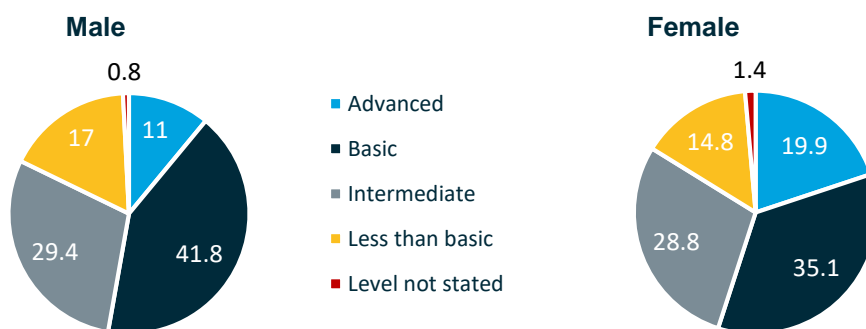
Gender inequality has shown little change since 2003. The only year in which females reached 40% of the labour force was 2012, although it was close in 2016. In terms of salary, the disparity has been around 30%, although a range of factors including place of residence, educational achievement, and number of children can affect the gap in individual cases.

Figure 15: Gender inequality index (0=perfect equality; 1=extreme inequality)



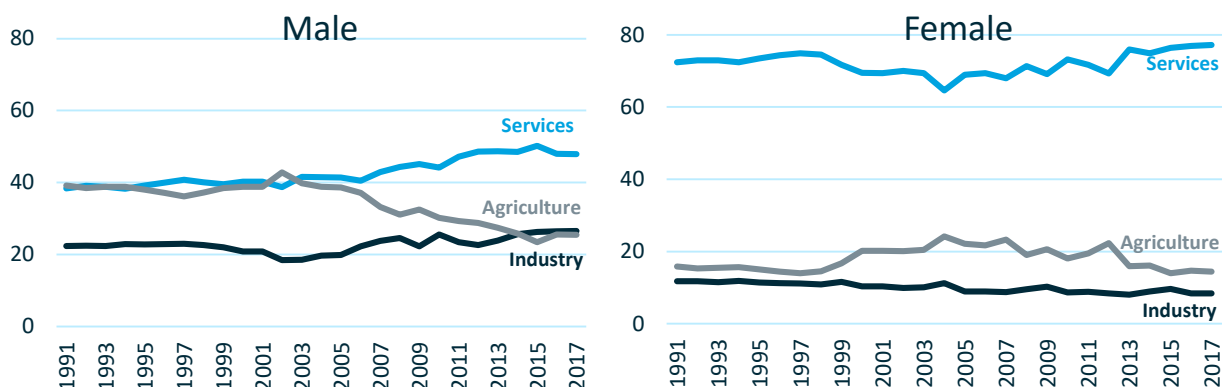
Source: United Nations Development Programme Human Development Reports

Figure 16: Education (Male vs Female), 2017



Source: ILO Labour Force 2017

Figure 17: Labour force participation rate in agriculture, industry and services (% of male or female employment)

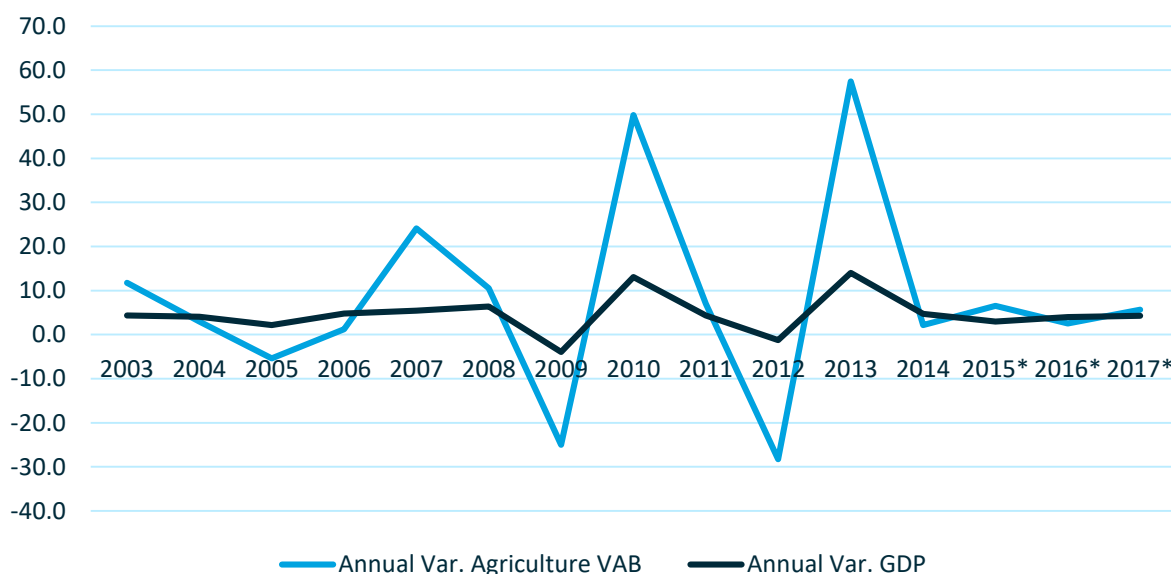


Source: World Bank

Nature and trends of economic diversification

Paraguay is competitive in areas such as producing and exporting soy products, but its continuing reliance on the volatile agricultural sector is reflected in the close correlation between swings in agricultural output and shifts in overall annual GDP growth, as shown in Figure 18.

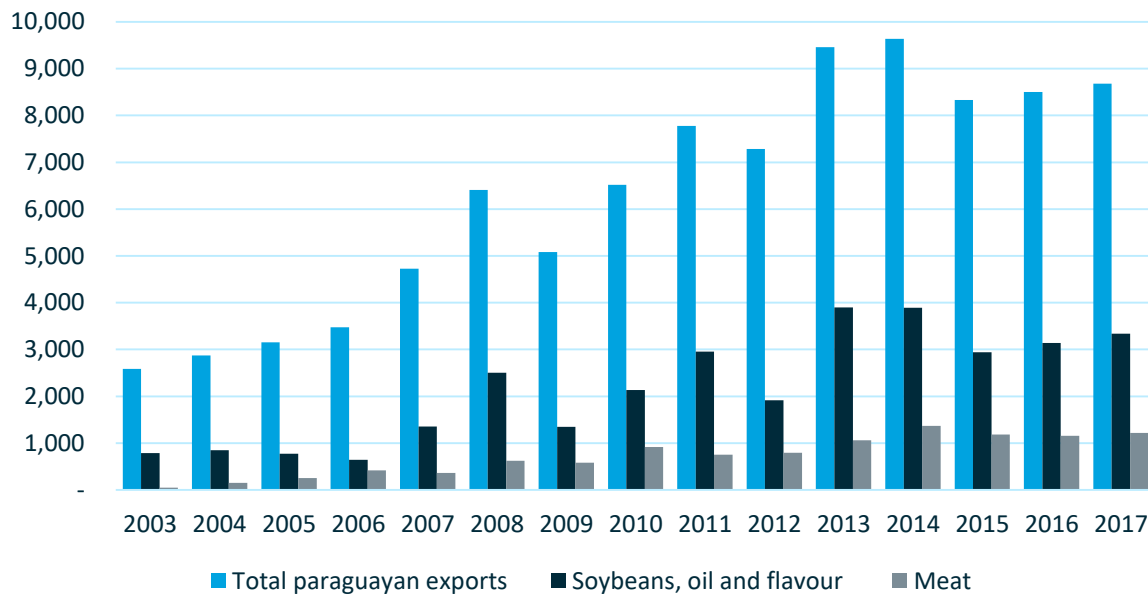
Figure 18: Annual variation of total GDP and agriculture GDP



Source: Central Bank of Paraguay, Statistical annex (2018/02)

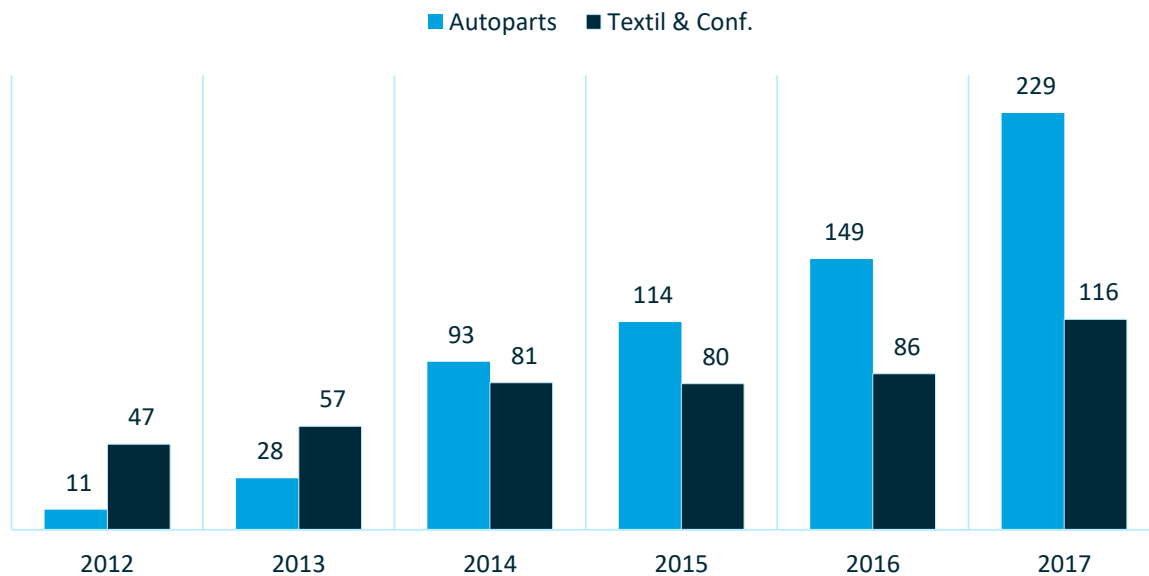
The concentration of exports in soy, dairy, and meat products has meant that the level of foreign currency coming into the country varies with the shipments of these products, as well as impacting overall GDP. Since 2013, however, the manufacturing sector has shown significant growth, some of which is connected to maquila-related investments, and this should increasingly contribute to the size and stability of the country’s exports. Services exports may also be related to this trade and have potential to grow.

Figure 19: Total merchandise and main products exported (US\$ million)



Source: BCP, Statistical annex (2018/02)

Figure 20: Exports of manufactured products (US\$ million)



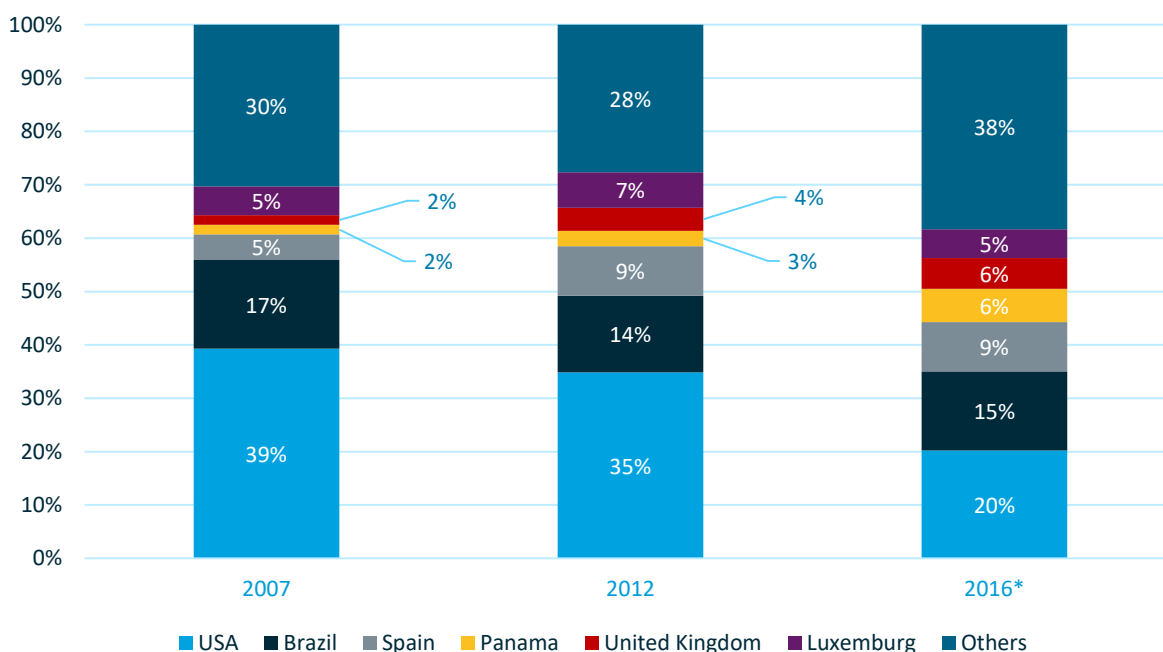
Source: BCP, Statistical annex (2018/02)

Paraguay faces a number of challenges in trying to diversify its export markets. Not only is it a landlocked country with a small economy, but it borders the two large economies of Argentina and Brazil. Between 2003-07 and 2008-12, its annual growth rates varied in line with growth in those two economies. However, between 2013-17, it is clear that the rates of change in the Paraguayan economy were less in tandem with its neighbours.

This recent decoupling of growth reflects the success of efforts to diversify export markets. This is also reflected in the HHI-mar indicator, where Paraguay’s position has improved relative to other economies.

Sources of FDI have also become more diverse. Although the United States and Brazil continue to provide the greatest proportion of FDI investment inflows, their shares have dropped from 39% and 20% respectively in 2007 to 20% and 15% in 2016, while 15 new countries have become investors.

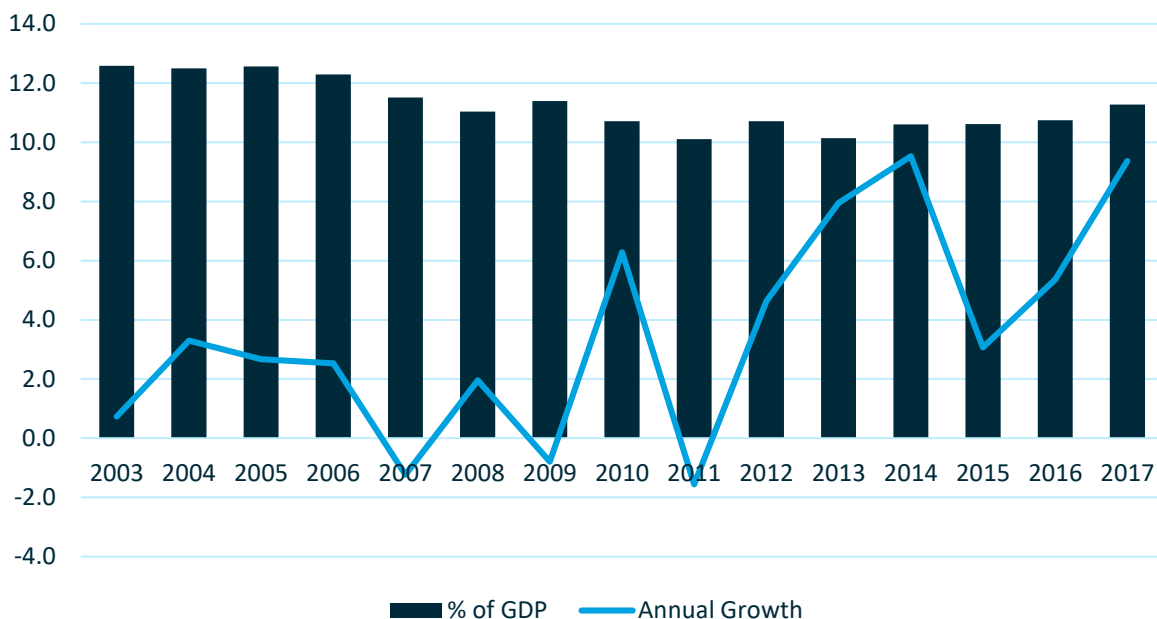
Figure 21: FDI stock composition by country



Source: World Bank, World Development Indicators

As a World Bank report noted in 2017, Paraguay has experienced a strong improvement in output per capita over the last 15 years, enjoying an average annual GDP growth rate of 3.6%. Growth has mainly been driven by strong growth in labour productivity, which contributed 2.3 percentage points, but the overall rate was also helped significantly by growth in the working-age population, which contributed 1.2 percentage points.

The growth of productivity in Paraguay was well above the average for the LAC region. Between 2001-08, this growth was largely driven by the agricultural sector, but in subsequent years productive growth has become more evenly distributed across a range of sectors, including transport services, communications, finance, and real estate.

Figure 22: Industry GDP: share in total GDP & annual growth

Source: World Bank, World Development Indicators

With the integration of supply lines and the globalization of trade, as well as the possibility that Paraguay may at some point have access to new international trade agreements, there is a clear need to improve the country's transport and logistics services to facilitate a greater volume of exports at a more competitive cost. In particular, this means upgrading the road network and increasing the reliability of waterborne routes. Improved infrastructure should also help Paraguay to improve the number of large enterprises. The most recent figures suggest that these account for only 6% of business overall, with the rest being classified as micro, small, or medium sized (DGEEC, 2011 Economic Census).

The financial sector also needs to develop policies that will help to promote the availability of long-term credit for investment projects in the productive sector. Paraguay is currently working on indicators related to access to credit, as well as other categories associated with improving the ease of doing business. It is also hoping to achieve an investment grade from the international ratings companies, which could trigger a new wave of FDI.

In 2003, after a period of economic recession that included a fiscal deficit crisis, sovereign default, and the stagnation of public finances, Paraguay reached a 'standby' agreement with the IMF under which it pledged to carry out five fundamental reforms. These were debt restructuring; fiscal fund reform (responsible for two-thirds of the fiscal deficit); tax reform called "Law of Fiscal Adjustment"; a new customs code coupled with operational transparency to accelerate trade; and reform of the public banking sector through the creation of a Financial Development Agency (AFD) and an overhaul of the National Development Bank (BNF).

With the exception of tackling the BNF, all these reforms were achieved. Efforts to tackle the deficit led to a period of eight consecutive years of fiscal surplus that provided a vital cushion during the crisis years of 2009 and 2012, when the government was able to finance investment expenditure while maintaining social spending. In addition, fiscal discipline was strengthened by

the Fiscal Responsibility Law, which sets legal parameters for government spending and gives credibility to its efforts to manage fiscal policy in the long term.

In terms of monetary policy, over the last 15 years the country's central bank has overseen a major improvement in the regulation and supervision of the banking sector after the 1995-1997 banking crisis, and successfully used open market operations to control inflation. It has also developed a careful approach to managing the exchange rate to enhance export competitiveness.

In the last decade, public policy has played an important role in driving public investment. This has included the income transfer programmes that began in 2003 with the aim of reducing poverty. Among these are the conditional monetary transfer (TMC - Tekoporã), pensions for older adults, and, more recently, money for the care of children and adolescents, which has had most impact in the fight against poverty. Although it was only introduced five years ago, the government's housing programme has also had a significant impact. However, there is still a deficit of management skills in the public sector, as well as a lack of experience in policy planning.

Another difficulty is the limited financial resources of the government. The tax burden in Paraguay is 13% compared to a regional average of around 25%. Based on Paraguay's current level of development, the tax burden should be substantially higher, with most experts suggesting it should now be close to 23%. To increase the current figure, the government needs to introduce progressive direct taxes on personal earned income and it needs to tax the agricultural sector at the same level as commercial activities and services. Paraguay's level of VAT is only 10% when the regional average is over 17%, and its personal income tax rate is still around 10% while the regional average is 23%. Corporate income tax is 10%, compared to 20% elsewhere in the region.

Although it could be argued that the low levels of tax have helped to make Paraguayan companies competitive, the lack of infrastructure investment is more than offsetting any benefit from low tax levels, and the private sector would do better if higher taxes produced a better business environment through improved transport options, for example.

Despite the existence of public policies designed to cover the short, medium, and long-term outlook, their contribution will continue to be limited by inadequate implementation and management. This is compounded by the weakness of the country's institutions, particularly the judicial sector, which continues to concern potential investors.

The policy effort to create the Maquila Regime, under which assembly plants close to the border with Brazil import materials and parts and assemble them into finished products, notably motorcycles, has not been viewed as a great success so far. It has little positive impact on the economic as a whole and is widely viewed as having merely created an extension of the Brazilian economy. Combined efforts by a number of ministries, including those covering foreign affairs, trade, and agriculture, have had more success in helping to find new markets for agricultural products. However, in the longer run maquila-related investments can increasingly contribute to the size and stability of the country's exports.

Within MERCOSUR, Paraguay has benefited from its status as a relatively less developed country (PMDR), which among other things has given it the ability to cheaply import raw materials and then export them at a preferential tax rate. In 2004, MERCOSUR created a Structural Convergence Fund (FOCEM) with contributions from more developed members that was intended to ensure that Paraguay, given its status as a landlocked and developing country, has access to better conditions of competitiveness and integration. Four programmes grew out of FOCEM: the Structural Convergence Program, the Competitiveness Development Program, the Social Cohesion Program and the Institutional Strengthening Program.

The result has been some very tangible benefits for Paraguay in the area of infrastructure. This is particularly true in the power sector, with the provision of new transmission lines, but also in transport with projects such as the route connecting the city of Concepción with Vallemí via a bridge over the Apa River. With a portfolio of 1 billion dollars, of which 65% is earmarked for Paraguay, FOCEM has become a vital source for improving the country's infrastructure. This is important because, despite its improving economic performance over the last 15 years and attempts to develop public-private partnerships, the quality and quantity of Paraguay's infrastructure has remained poor.

In order to encourage industrial development, the government has been preparing a soon-to-be-published plan with help and funding from the Inter-American Development Bank (IDB) that is meant to identify those areas that can be most effectively strengthened. The plan is expected to set out several pillars for a stronger industrial sector, and these are likely to include taking advantage of the country's landlocked status by increasing its integration into regional value chains, specifically those of Argentina and Brazil, as well as developing the country's role as a regional logistics sector.

Exploring policy measures (national policy documents)

The industrial plan presented by the Ministry of Industry and Trade in March 2017 identifies opportunities in the agricultural sector, taking soy as a starting point for its relevance to new linkages within the sector. It recommends that the country exports fewer soy beans and instead uses them to manufacture fishmeal and oil, which can then be exported at a greater profit. It also identifies the autoparts, apparel manufacturing and plastics sectors as potential drivers of diversification.

In particular, the development of soy industrialisation in the last decade is the result of substantial investments in milling plants for the production of oil and flour. The economy's greater generation of foreign currency is also a factor. The largest foreign investments in the period were recorded in the production of oils, which accounted for 11.2% of total FDI in the last decade. Transport is the sector with the second highest proportion of total FDI, at 9.1%.

A study presented by the Paraguayan Chamber of Processors of Oilseeds and Cereals (CAPPRO)² estimates that soybean meal exports could generate around 2 billion dollars in foreign currency by 2025, assuming that exports of soybean meal and flour remain at their current proportions.

² CAPPRO/IPIE. Paraguay: Potencia agroindustrial para alimentar al mundo (August 2016).

If more of the soybean meal is instead used to manufacture animal protein, the industry could generate as much as 3.3 billion dollars by 2025.

Investment

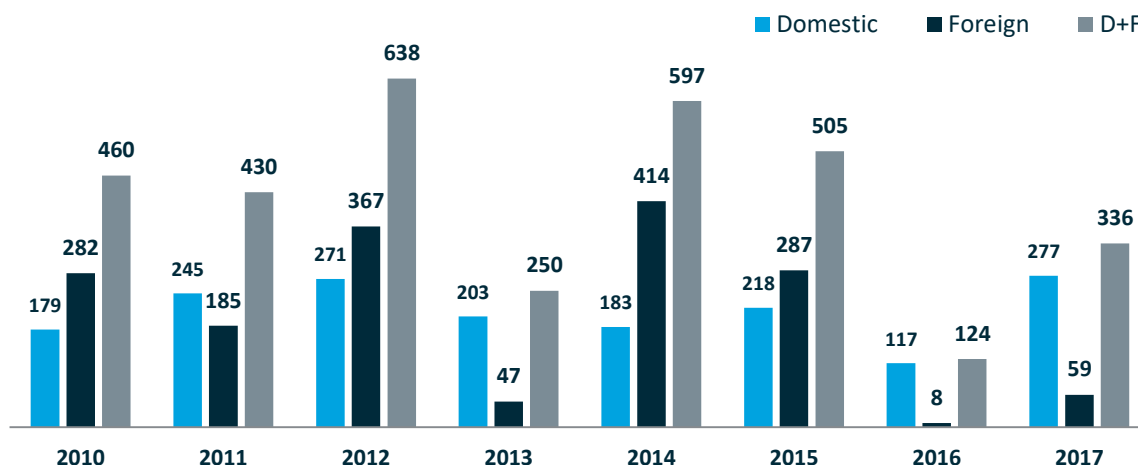
Paraguay is open to foreign direct investment. Law No. 60/90 guarantees equal treatment to foreign investors, with the sole exception of ownership of land near national borders. Paraguayan laws grant investors tax deductions and allow the total repatriation of capital and profits.

To encourage exports, Paraguay maintains special customs regimes, such as a free zone regime. Companies established in free zones dedicated to export pay a single tax on the gross income from these exports. These companies can also sell finished goods and services to the national customs territory for up to 10% of their gross sales revenue, without paying any additional taxes.

Paraguay maintains several types of incentives to investors to promote domestic production, such as those granted under Law No. 60/90 and its amendment.³ The manufacturing sector is the main beneficiary of this law, which has several benefits to investors. It exempts VAT payment in the acquisition of imported and domestic capital goods, and also exempts any tariffs on imports of capital goods, raw materials and inputs for projects.

The graph below shows the level of investment under Law No. 60/90. Foreign investment has been volatile, dipping sharply in 2016-17 after peaking in 2014 at 414 million US dollars. Domestic investment has been more stable, but still fell dramatically in 2016 before recovering in 2017. Not shown in the graph are figures for the first three months of 2018, which show total investment (domestic and foreign) of just 13 million US dollars – considerably less than other years over the same period. Investment under the Maquila law rose sharply from 2016 to 2017, increasing approximately five-fold from 35 million to 166 million US dollars.

Figure 23: Investment under Law No. 60/90 (million US\$)



Source: Ministry of Industry and Trade. Monthly statistics <http://www.mic.gov.py/mic/site/inicio.php>

³ <http://www.mic.gov.py/mic/site/industria/ddi/pdf/Ley60-90.pdf>

Private sector

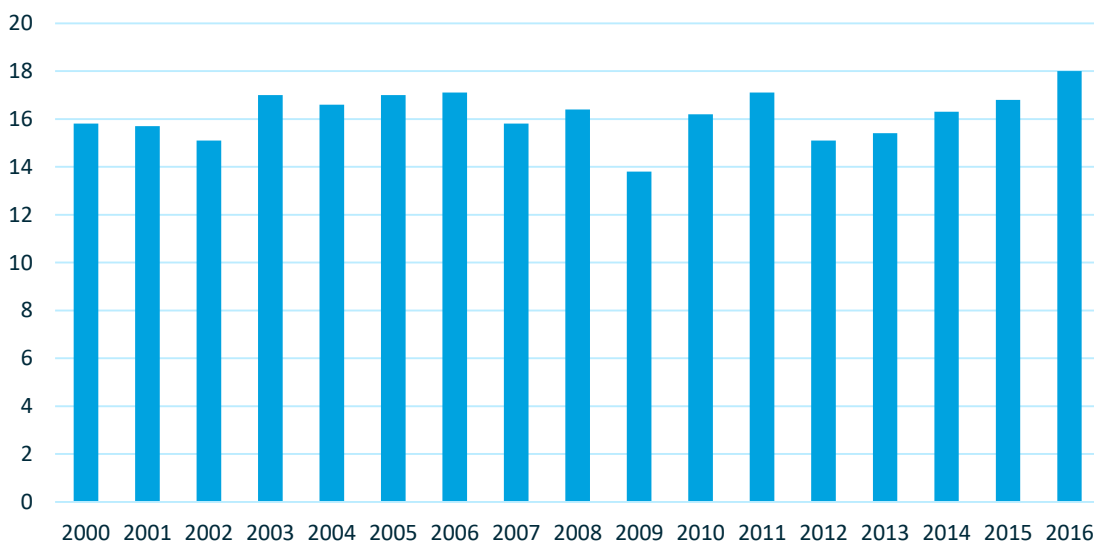
The private sector is involved in the development of trade policy in Paraguay through its participation in councils and forums in which public policies are discussed.⁴ The most notable of these is the Advisory Business Council of Foreign Trade, coordinated by the Ministry of Foreign Affairs, in which the positions and concerns of the private sector are discussed in the context of Paraguay's foreign trade policy.⁵

Private sector investment

Public Private Partnerships (PPPs) have been gaining ground as an option for financing infrastructure development. PPPs allow the public sector to make use of private financial resources for sustainable projects, freeing up public resources for social programmes. Since legislation to encourage PPPs was passed in 2013 and came into force the following year, most of the projects considered have involved transport, although others have involved energy, prisons, and water and sanitation. However, little progress has been made so far, in part because of limited domestic financing capacity. The expansion of Silvio Pettirossi Airport is one of the projects that is furthest along the approval process.

Gross capital formation as a percentage of GDP has remained largely unchanged between 2003 and 2016 at between 15% and 17%, similar to figures for Argentina, Brazil and Uruguay, but low in the context of countries in other regions.

Figure 24: Gross capital formation (% of GDP)



Source: World Bank

⁴ Among the mechanisms created are: the National Country Strategy Team, Municipal Development Council, Private Council for the Reduction of Extreme Poverty, Open Government, and the National Financial Inclusion Strategy.

⁵ WTO, Trade Policy Reviews. August 2017.

Table 2: PPP projects presented from 2014-04-01 to 2017-06-30

Public initiative	Number of projects	Preliminary amount (US\$ million)
Current contract	1	507
Bidding	1	132
Analysis phase	3	2206
Re-directed (2 sanitation, 2 prisons, 1 suburban railway - to be promoted by Law 5.074 / 14 modified by Law 5.396 / 15 and Law 117/91)	5	not available
SUB-TOTAL	10	2845

Private initiative	Number of projects	Preliminary amount (US\$ million)
Analysis phase, with Confidentiality clause	1	not available
Dismissed/discarded	15	not available
Withdrawn by private opponent	2	not available
SUB-TOTAL	19	not available

Source: Technical Secretary of Planning. PPP Management report 2017

Integrating the principles of the Vienna Programme of Action

Paraguay does not currently have a mechanism to promote and monitor the degree of compliance with the implementation of the Vienna Programme of Action. This generates difficulties when trying to evaluate the degree of specific contribution that the programme could make in generating concrete policies that provide integral solutions.

Nonetheless, the strategic document which sets out the long-term goals of Paraguay's economic policies is currently the 2030 National Development Plan (PND 2030). Its vision is designed to be met through coordination between the government, civil society and private sector. The plan is the result of a 2013 series of consultations and workshops with all of these stakeholders, resulting in an overall vision for Paraguay in 2030.

Fundamental transit policy issues

Paraguay is a member of bilateral and multilateral international agreements on air, land and river transport. The Agreement on International Terrestrial Transport (ATIT), which serves as a legal framework for the provision of terrestrial transport services in seven Latin American Integration Association (ALADI) member countries, covers all the countries through which Paraguay moves its products overseas. Last year, the ALADI countries began to study ways to

integrate their transport sectors. The waterways to Port Cáceres in Brazil and Port Nueva Palmira in Uruguay are also covered by a river transportation agreement.

For customs, with the implementation of Decree No. 998/136, Paraguay has imposed the mandatory use of an electronic tracking system. This requirement applies to all cargo bound for Paraguay, by land or river.

The electronic monitoring of ships is regulated in Paraguay by Law 2367 of 2004, and adheres to the International Convention for the Safety of Life at Sea (SOLAS).⁷ The National Directorate of Customs has also passed the Institutional Strategic Plan 2015-2018. The plan is in accordance with PND 2030 and adheres to the guidelines of the World Customs Organization.

The system allows the transport agent to submit the transit request and receive the corresponding authorization electronically. It also allows traceability of the cargo from the customs office of entry to the customs office of destination in a single consultation mechanism.

At the regional level, Paraguay participates in the International Transit System (SINTIA).⁸ Improvements in processes and controls have made foreign trade operations considerably easier. They have also made collecting customs fees easier for the Paraguayan customs agency.

Finally, Paraguay has adopted Resolution MERCOSUR / GMC / RES.17 / 04, "Standard on the Computerization of the International Cargo Manifesto / Customs Transit Declaration and the Follow-up of Operation among the Parties of MERCOSUR".⁹ Paraguay has incorporated the regulation through Executive Decree No. 6897 of 2005.

Infrastructure development and maintenance

The PND 2030 outlines an integrated transport infrastructure investment plan that includes pricing strategies and private-sector participation. The plan itself includes analysis of demand for transport services with special attention to cargo logistics, where supply and demand can vary seasonally in areas like agricultural produce. Other priorities are to enhance logistical capabilities and expand storage structures.

There are several other points to note in the PND 2030:

- The country's main international connection points with Bolivia and through to Chile will be developed as part of the vision to strengthen Paraguay's potential as a regional distribution centre;

⁶ Publication in Official Gazette N ° 248 of 12/27/2013. Available at: https://www.presidencia.gov.py/archivos/documentos/DECRETO998_f42pz517.pdf

⁷ Available at:

[http://www.prefectura naval.mil.py/documentos/PROYECTO%20DE%20CIRCULAR%2002%20%20\(2\).pdf](http://www.prefectura naval.mil.py/documentos/PROYECTO%20DE%20CIRCULAR%2002%20%20(2).pdf)

⁸ Available on the website of the National Customs Directorate (DNA):

http://www.aduana.gov.py/uploads/archivos/Resolucion_DNA_N_%20494_2017.pdf

⁹ Details of the GMC Resolution No. 17/04 available at:

<http://www.mercosur.int/innovaportal/v/598/2/innova.front/resoluciones-2004>

- cargo transport hubs will be moved away from potential areas of urban development;
- fibre-optic and wireless telecoms networks will be expanded to increase access to high-speed internet; and
- Paraguay's electricity grid will be strengthened, with plans to increase overall hydropower capacity to an overall goal of just over 12 GW.

The Master Transportation Plan (MTP), originally created in 1992 by the Ministry of Public Works and Transport with the support of the Government of Japan, has been updated with an approach emphasising investment in infrastructure. The National Logistics Plan (NLP),¹⁰ created with the aim of improving Paraguay's logistical performance, is focused on the development of high value-add services and the streamlining of supply chains.

Law No. 5.102/13¹¹ -- on Promotion of Investment in Public Infrastructure and Expansion and Improvement of Goods and Services by the State -- was passed in 2013 with the objective of using PPPs to promote investment in public infrastructure and services. This includes investments in roads, railways, waterways, ports and airports; dredging and maintenance of rivers; social infrastructure; electrical infrastructure; urban development; and potable water supply and sanitation.

The National Telecommunications Commission (CONATEL) has published its National Telecommunications Plan (PNT) 2016-2020.¹² The plan promotes the expansion of network infrastructure, the management of terminal devices, and the development of virtual services offered to both the public and private sectors.

International trade and trade facilitation

The PND 2030 has two primary trade-related goals: to attract investment, foreign trade and enhance the country's image; and to diversify the economy, in terms of both products and regions. To attract investment, the document recommends that the public and private sectors work together to identify new exporting opportunities and develop a dependable trade route. It also stresses the need to create jobs and fight corruption. In terms of regional value chains, it suggests developing productive clusters to improve competitiveness, using technology parks and data centres to generate industrial innovation, and developing training plans to improve access to human resources.

¹⁰ National Logistics Plan, available at: <http://embapar.de/wp-content/uploads/Plan-Nacional-de-Logistica.pdf>

¹¹ Law No. 5102/13, Regulatory Decree No. 150/14 and Modifications, available at: <http://www.csj.gov.py/legislacion>

¹² National Telecommunications Plan (PNT) 2016-2020, available at: https://www.conatel.gov.py/images/iprincipal/PNT%202016_2020/RD.244.2016%20-20PNT%202016_2020.pdf

Paraguay has signed the Trade Facilitation Agreement (CFA), which entered into force in February 2017 through Law 5564/17,¹³ and contains provisions to expedite the movement, release and clearance of goods, including those in transit. Within the MERCOSUR framework, the Agreement for Business Facilitation and the Protocol for Cooperation and Investment Facilitation are also designed to foster a stable and prosperous trade environment.

The creation of the country's National Trade Facilitation Committee was established by Decree No. 7102/17.¹⁴ According to the WTO Public Policy Examination 2017, among its reforms are the adoption of a computerized risk management system, the introduction of the express remittance regime and the digitization of customs documents. Paraguay has also introduced additional registration and pre-licensing requirements for imports of products such as footwear, salt, steel products, cement and cell phones, mostly for quality and safety reasons and, in some cases, for statistical monitoring purposes.

Regional integration and cooperation

The physical border and commercial integration plan is intended to do three things:

- frame the economic and commercial strategy in open regionalism with bilateral and bloc negotiations;
- connect and integrate the regions of the country to allow it to export more easily; and
- consolidate trade with existing partners while attracting new markets.

The strengthening of transnational coordination mechanisms to ensure navigability of the Paraná and Paraguay River is a critical element of the strategy. Provision of port centres efficiently distributed along the navigable rivers and multimodal logistic nodes to integrate various regions of the country with the exterior also form part of the national plan. Other key objectives include:

- strengthening land transportation and the Paraguayan waterways including border interconnections;
- developing integrated energy systems that allow the efficient sale of electricity to countries in the region;
- integrating the interests of the private sector into the country's international trade portfolio; and
- strengthening trade defence and competition.

¹³ Law No. 5564/17. Available at: http://www.economia.gov.py/application/files/2014/6521/8856/Ley_5564_Facilitacion_Comercio_Come rcio_OMC.pdf

¹⁴ Decree No. 7102/17. Available at: http://www.economia.gov.py/application/files/5615/0219/8909/Decreto_N_7102_-_Comite_Nacional_de_Facilitacion_del_Comercio_abril_2017_2.pdf

There are also plans to develop integrated energy systems that allow the efficient and profitable sale of electricity at a regional level, along with the corresponding legal and technical frameworks to look for agreements based on new production opportunities.

Paraguay is a founding member and active participant of MERCOSUR. Since the creation of the agreement, intra-MERCOSUR trade has been liberalized (with some exceptions in the automotive, sugar, capital goods, and computer and telecommunications goods sectors, which are subject to special regimes). This liberalization has occurred not only in trade barriers, but in those non-tariff barriers, import licences and quotas that have emerged in response to growing imbalances. As a result, MERCOSUR is now Paraguay's main trading partner, with an average annual participation in exports of approximately 50% and 35% of total imports.

Through its participation in MERCOSUR, Paraguay maintains Free Trade Agreements with Bolivia, Chile, Cuba, Colombia, Ecuador, Venezuela, India, Israel, Mexico, Peru and the Southern African Customs Union (SACU).¹⁵ Paraguay is also a member of the Latin American Integration Association (ALADI) and, under its umbrella, maintains several partial scope agreements (PPPs)¹⁶ with Argentina, Brazil, Chile, Colombia, Ecuador, Bolivia, Mexico, Venezuela and Uruguay, among other countries.¹⁷

Paraguay, as a member of MERCOSUR, is granted duty-free access to most imports originating in Argentina, Brazil and Uruguay. Preferences are also granted through agreements signed within the framework of ALADI, Bolivia, Chile, Cuba, Peru, Colombia, Ecuador and Venezuela. Likewise, preferences are granted to Mexico, Israel, India and the SACU countries.

At the regional level, Paraguay is part of the MERCOSUR Public Procurement Protocol,¹⁸ within which it has assumed commitments regarding transparency. In September 2014, Paraguay ratified MERCOSUR's Montevideo Protocol on Trade in Services. In 2017, the member states of MERCOSUR signed an Intra-MERCOSUR Investment Cooperation and Facilitation Protocol.

Structural economic transformation

According to the WTO Trade Policy Reviews (August 2017), Paraguay's economic model has historically had three essential characteristics: the export of livestock and agricultural products; the export of hydroelectric power to neighbouring countries; and commercial intermediation. Paraguay advocates special and differential treatment for landlocked developing countries and small and vulnerable economies, since it considers these characteristics to lead to higher costs in international trade, and vulnerability to external shocks. In addition, Paraguay considers that the informal economy is an obstacle to its economic development in some sectors, such as fuels

¹⁵ SACU: South Africa, Namibia, Lesotho, Swaziland and Botswana

¹⁶ List of Agreements. Available at: <http://www.aladi.org/nsfaladi/textacdos.nsf/vpaisesR/paraguay>

¹⁷ Text of the Montevideo Protocol on Trade in Services of MERCOSUR available at: http://www.sice.oas.org/Trade/MRCSR/montevideo/pmontevideo_e.asp. Law No. 5.268 / 14 of September 24, 2014. Available at: <http://digesto.senado.gov.py/ups/leyes/8964.pdf>.

¹⁸ CMC Decision No. 27/04, whose Annex was replaced by CMC Decision No. 23/06. Details available at: <http://www.mercosur.int/innovaportal/v/580/2/innova.front/decisiones-2004>

and food. In consequence, Paraguay's trade strategy fits within the guidelines of its 2014-2030 National Development Plan, and is influenced by its participation in MERCOSUR.

The National Development Plan 2030 is based on two axes for economic transformation: inclusive economic growth (including poverty reduction), and social development.

The first axis has several goals: to promote employment opportunities, particularly for the most vulnerable segment of the population; to increase sevenfold the number of people with university degrees; to universalise social security; to achieve an average annual economic growth rate of 6.8%; to promote multilevel transport infrastructure development (land, water and air); and to maintain low inflation rates.

The second axis aims to raise the quality of education (level 2 of PISA); increase overall life expectancy; cut non-communicable disease, obesity and suicide rates in half; and widen digital access to public information.

The NDP 2030 also proposes to promote training courses, increase innovation, and strengthen national telecoms and technology regulation.

The WTO also notes that Paraguay has issued several new laws to improve the investment climate over the last five years: the Public-Private Participation Law of 2013, the Public Works Law of 2013 and the Investment Protection Law of 2015. The latter protects the remission of capital and benefits, provides guarantees against administrative and judicial practices that can be considered discriminatory, and allows tax incentives for a period of up to 20 years.

The law that establishes the National Automotive Policy (2012) provides for tax incentives to stimulate the manufacturing and assembly of vehicles and parts. In addition, in 2012 incentives were established for the manufacturing and assembly of high-tech goods, allowing exemptions from tariffs and VAT on imports of raw materials and components. Likewise, in 2013 the Industrial Parks Law was approved, which establishes incentives for those parks in addition to those provided for in Law No. 60/90.

In 2012, Law 4457/12 was enacted, which aims to provide a regulatory framework for the creation, development and competitiveness of small and medium-sized enterprises (SMEs). In 2016, Law No. 5628 was enacted, creating a Guarantee Fund for small and medium-sized enterprises. Moreover, different agreements have been allowing such enterprises to receive training and logistical support to export.

Other crucial steps have included the enactment of the Law on the Defence of Competition (Law No. 4,956 / 13) in 2013, and the establishment of the National Commission for the Defence of Competition (CONACOM). The law governs restrictive practices, competition and monopoly prevention. Its scope includes the private sector, central government entities and decentralized entities. Paraguay has continued to modernise its regulatory framework to make procedures more streamlined and transparent, although it continues to use public procurement as an instrument to support national production and employment.

Paraguayan legislation has also undergone several modifications related to the decrees that regulate the laws of patents for inventions, copyright and related rights and trademarks. The National Directorate of Intellectual Property (DINAPI) has been created to improve the enforcement of IPR, identified as a problem in Paraguay. This directorate carries out preventive and investigative activity against piracy and forgery, for which it is authorised to carry out administrative interventions ex officio in customs and in shops and warehouses. Another change was the adoption, in 2013, of the Law on Geographical Indications and Designations of Origin, which provides a protection period of 10 years from its registration, and which may be extended indefinitely for periods of equal duration.

In the telecommunications sector, new rules have been approved regarding the procedure for obtaining licences and authorisations for the provision of internet access and data transmission services, satellite transmission of occasional signals and cable service. The requirements for obtaining licences and authorizations are the same for domestic and foreign companies. However, to lend or operate a telecommunications service, foreign companies must establish a domicile in Paraguay or appoint a legal representative in the country.

Challenges, opportunities and policy recommendations

The Industrial Plan presented by the Ministry of Industry and Trade presents three strategic sectors to shore up the country's productive transformation: food, manufacturing, and the cluster of the Paraná-Paraguay waterway.

Table 3: Paraguay's strategic value chains

Food	Manufacturing	Paraná – Paraguay waterway
Soy	Clothing	Services
Meat	Autoparts	Parts suppliers
Poultry	Pharmaceutical	Barge
Pork	Metalworking	Tappets
Dairy	Plastic	
Fruit juice	Leather	

Source: Industrial Plan, Ministry for Industry and Trade

The strategic guidelines of the industrial plan are further grouped into four pillars: strengthening of institutional capacity; financing and accumulation of gross capital; continuous improvement of the business climate and reducing bureaucracy; and continuous improvement of the competitiveness of clusters, value chains and strategic sectors.

Diversification of destination markets is difficult for Paraguay, as more than three-quarters of its manufacturing exports are directed within South America.

However, given the strengthen of its agricultural sector, development of the biotech sector will provide substantial value-add. The sustainable export of biotech goods is of strategic importance, and also presents an opportunity to combine growth, social development and environmental protection. In countries such as Paraguay, biotech exports are still very low, and the potential for expansion is great. An increase in biotech exports would contribute to product diversification and would be a significant value-add to the country's environment as a whole.

CEPAL (2017) lists some of the benefits that a focus on the biotech sector can have:

- opening new opportunities for agriculture, as an activity not only dedicated to producing food and ingredients, but also to the production of biomass for multiple uses;
- creating opportunities for the development of new value chains; and
- enabling the development of SMEs based on knowledge, inserted into new value chains and to provide employment opportunities and business development to young people and women.¹⁹

Paraguay has the macroeconomic environment to develop the industrial plan successfully. The IMF (2017) has pointed out that at the heart of Paraguay's success story has been a strong track record of economic stability, supported by two main policy anchors: inflation targeting, which

¹⁹ CEPAL (2017). Bioeconomía en América Latina y el Caribe Contexto global y regional y perspectivas.

has been successful in guiding monetary policy and containing inflation since it was introduced in 2011; and fiscal policy, underpinned by Paraguay's fiscal responsibility law. However, maintaining fiscal discipline under the fiscal law has seen its share of challenges. As is typical, disagreements in government often arise around public spending priorities and increases in public debt.

On the other hand, Paraguay should address challenges related to its competitiveness, particularly in agriculture. One of them is the increase in the productivity of agricultural sectors and sustainability. The CEPAL report notes that in South America, overuse of the land has affected land productivity to a much greater extent than in other regions. Extensive livestock and crop production has been particularly damaging, to the detriment of ecologically valuable primary dry forests. Paraguay shows the greatest loss of organic carbon in the soil between 2000-2010, affecting soil fertility in the country. Going forward, Paraguay must find a balance between strengthening its agricultural base to achieve greater economic transformation and implementing sustainable agricultural policies.

Value chain financing should also be taken into consideration. The growth and consolidation of value chains and export clusters will require resources that may be financed publicly or privately. FDI typically looks for local capital and loan financing that allows sustainable operations. Paraguay should encourage the development of new instruments and strengthen existing mechanisms (Industrial Plan, 2017).

Private funding providers are not bound by the same criteria of eligibility, and do not have access to sources of public funding. One advantage Paraguay has is the availability of young people of working age, which means that a larger percentage of its population will be available for work. However, this will only be a positive if educational standards rise, more jobs are generated, and productivity levels improve. In the event that there are not enough jobs, this trend could instead have a negative social impact.

Given the lack of people for mid-level management positions in Paraguay -- a consistent complaint from entrepreneurs and employers -- it may instead be time to orient policy towards promoting vocational education.

The IMF (2018) notes that infrastructural needs are still considerable in Paraguay, particularly in transportation, public education and health. Furthermore, the distribution of electricity within the country is still deficient. The quality of the infrastructure is also compared less favourably with other emerging markets.

CEPAL (2018) points out that one of the most serious deficiencies in Paraguay, along with other countries in the region, is the level of advanced telecommunications infrastructure to respond to the growing demand for digital services. In Paraguay, the average internet speed is less than 2 Mbps, compared to a regional average of approximately 5.6 Mbps, and an OECD average of 15.7 Mbps. As a consequence, given the high social and economic returns of infrastructure investment and Paraguay's early stage of development (its income per capita in 2015 stood at less than half of the average for South America), a big push on public investment will most likely require some financing through higher levels of public debt. Public-private partnerships can provide an alternative financing option, at least for some projects, but Paraguay has less

experience with this type of arrangement. More importantly, public concerns about higher government debt and how well funds will be spent may be restraining larger ambitions, according to the IMF (2018).

To mitigate the challenges and capitalise on the opportunities, Paraguay could consider policies and initiatives aimed at ensuring inclusive economic growth and sustainable development.

Boosting competitiveness

Paraguay need to address several cross-cutting drivers of competitiveness in order to achieve inclusive and sustainable growth prospects. For this, it needs to design and implement mechanisms to improve the effectiveness of public spending and road maintenance, revitalise the programme of public-private partnership for infrastructure projects, and improve connectivity and roads network.

Increased spending on education is another key policy priority which will need to aim for improved education attainment and a fairer, more equal distribution of resources to geographic areas. The policies will also need to account for professional career development of teachers.

Enabling more conducive business practices, combating red tape and corruption

The Executive Opinion Survey (WEF) indicates that the most problematic factors for doing business in Paraguay are corruption, poor education of the labour force, the inefficiency of the bureaucratic system and limited access to finances. In addition, the process of business creation is costly and long in comparison to the OECD countries, the procedures for the declaration of insolvency are obsolete, and only 30% of small and medium-sized enterprises have access to credit in Paraguay. The government should continue the current strategy of designing legal frameworks that are more favourable to doing business in the country.

Using rich water resources and hydroelectric potential

In the short and medium term, Paraguay should take steps to strengthen the regulation and governance of institutions in the electricity sector, ensure investment and improve the tariffs framework, and promote policies to increase energy efficiency and sustainability.

Increasing tax revenues and productivity gains

Current levels of tax revenues are low and largely depend on indirect taxes and transfers of bi-national enterprises. As such, Paraguay should aim at promoting tax reforms to expand the base and establish a more progressive system. It will need to ensure productivity gains while also strengthening the competitiveness of procurement systems.

Improving the distributional effect of the agricultural sector

While agriculture has become one of the main growth engines in recent years, it is largely based on an export-oriented model. As such, Paraguay should promote agricultural growth based on the rational use of natural resources, further improve its two main value chains (meat and soy

production), and enable coordination between various actors in the sector, including the small and rural producers. This can be achieved through policies that enable participation in high-value markets by implementing product differentiation and ambitious marketing strategies.

For example, the soy value chain must be further expanded to help generate more employment. Soybean oil is used in the production of vegetal cream, vegetable oils, margarine and hydrogenated vegetable fats while the main products made with soy flour are used to feed cattle, poultry and swine. As such, development of the soybean industry will result in higher value-added products including cattle, poultry, pork, fish, milk and derivatives, biodiesel, among others. To diversify its economy, Paraguay could also further leverage other value chains, such as garments, autoparts, pharmaceuticals, plastics, and leather. Furthermore, the Cluster of the Paraná Paraguay can help promote services and industrial value chains.

Strengthening resilience to climate shocks

Ensuring the effectiveness of the newly created Agricultural Commodity Exchange and health control measures are key for building resilience to climate shocks. The government, in collaboration with the private sector, will need to look into effective early warning systems and encourage robust agricultural risk management strategies.

Promoting R&D and research capabilities – boosting innovation capacity

Paraguay should also seriously address research programs, technical assistance and access to credit for small producers with a view to promoting small-scale agricultural businesses, cost-effective and sustainable solutions. To promote rural development, the government also needs to pay particular attention to instituting an effective rural cadastre for clarity of ownership and to establish tax responsibilities, regularising land titling, improving inter-agency coordination and carrying out land use plans compatible with economic, social and environmental objectives.

In all sectors, innovative marketing strategies will need to be employed in order to improve competitiveness and product differentiation. Entrepreneurs will need to play a key role in promoting innovation within the value chains, and so government subsidies would need to benefit and thus incentivise the innovators.

UNESCO has identified some mechanisms that favour competitiveness and innovation which, in line with Paraguay's National Development Plan, call for creation and adoption of quality standards through regulatory councils. Other proposals in the field of innovation include the need to facilitate access to equipment and facilities for small and medium-sized enterprises.

Together with the expert community, Paraguay's government and private sector will need to conduct studies to discuss the effective application of the rules outlined in the National Competition Law. They will need to help improve transparency and create an open and competitive market environment. Special working groups could be formed to stimulate such discussions and provide advice on future guidelines. It is also important to facilitate exchanges and research tours involving international experts.