Box 2. The importance of infrastructure development

Infrastructure and economic development

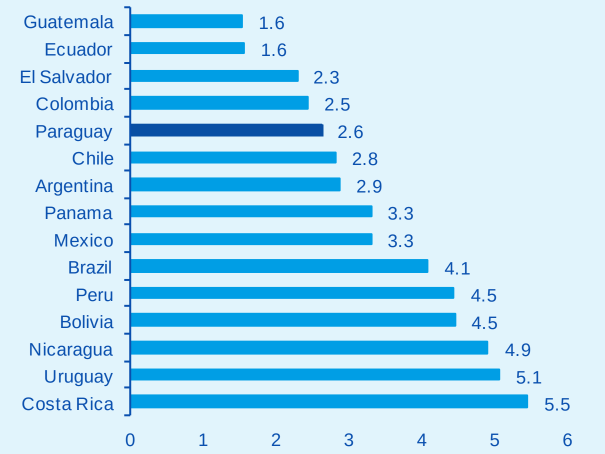
In economic literature, there is much evidence that the efficient provision of infrastructure services is one of the most important factors in development policies due to its positive impact on the productivity of other factors of production.

Accordingly, numerous studies have analysed the correlation between infrastructure investment and economic growth. Easterly and Rebelo (1993), using panel data from 24 countries, found that spending on transport and communications is positively correlated to economic growth[1]. Meanwhile, Calderon and Servén (2004), using data from 121 countries, highlight the fact that the level of infrastructure has an important and significant effect on economic growth in the long term, with robust results to changes in the infrastructure measures and estimation techniques used. They also note that both the quality and quantity of infrastructure contribute to lower levels of income inequality[2].

Perroti and Sanchez (2011), meanwhile, show that Latin American countries needed to invest an average of 6.2% of GDP per year in infrastructure between 2012 and 2020 to close the gap between infrastructure demand and supply and to meet the needs of businesses and consumers[3].

However, data from the region indicate that, in recent years, the amount of investment in infrastructure has fallen far below levels considered ideal to grow quickly and competitively. In fact, the lack of investment in infrastructure is a common denominator throughout the region. In 2012, the regional average for infrastructure spending was 3.42% of GDP. In particular, Paraguay allocated only 2.63% of GDP to improve its infrastructure, below the regional average (see Figure R.2.1).

Figure R.2.1
LatAm: Investment in infrastructure (% of GDP)



Source: Cepal, World Economic Forum and BBVA Research

International indicators on infrastructure in Paraguay

One of the most widespread indicators is the Global Competitiveness Index (GCI), which seeks to measure the performance of different countries in the task of ensuring the necessary conditions for sustainable economic progress. Data for the period 2015-2016 leaves Paraguay in ranked 118 out of the 140 countries assessed (just above Venezuela and Haiti in Latin America), and as regards to infrastructure, it is ranked in the same position. The latter is evidence that one of the main weaknesses of the country's competitiveness continues to be the lack of coverage of physical infrastructure. When analysing the indicators individually, we appreciate that the quality of roads and port infrastructure is what drags the country down, being ranked 138 and 110, respectively.

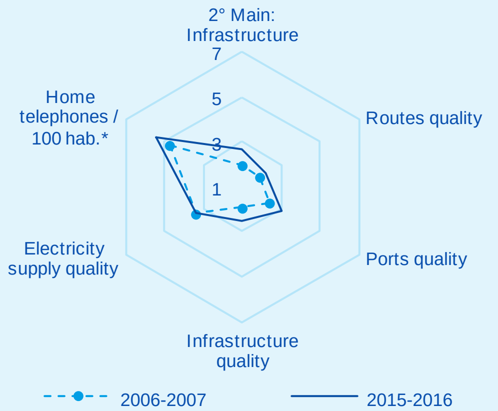
Similarly, a study by USAID (2006) finds that the main logistics costs come from the lack of dredging and buoying of rivers, the poor quality of the road infrastructure and delays in access to ports[4]. It should also be noted that during the recent period, no significant progress was

1 Easterly, W., Rebelo, S. (1993). Fiscal Policy and Economic Growth: An Empirical Investigation. Journal of Monetary Economics, 32, 417-58.
2 Calderón, C., Servén, L. (2004). The Effects of Infrastructure Development on Growth and Income Distribution. Policy Research Working Paper No. 3401.
3 Perroti, D. and Sanchez, R., (2011). The infrastructure gap in Latin America and the Caribbean. Santiago, Chile. Series 153.

4 United States Agency for International Development [USAID] (2006). Impact of transport and logistics on Paraguay's international trade. Document prepared by CARANA Corporation, in collaboration with the National Chamber of Commerce and Services of Paraguay (CNCSP).

observed with regard to the quality of the electrical infrastructure (see Figure R.2.2).

Figure R.2.2
Global Competitiveness Index, Pillar: Infrastructure (Index between 1 "worst" and 7 "best")



Source: World Economic Forum and BBVA Research

Another indicator that provides information about the state of the infrastructure of an economy is the Logistics Performance Index of the World Bank, which evaluates the perception of experts regarding logistics. According to this indicator, in comparison with the average for the region, the assessment remains quite unfavourable to Paraguay (see Table R.2.1).

Table R.2.1
Paraguay: Logistical Performance Index (Index)

	Paraguay		South America
	2007	2014	2014
Logistical Performance Index	**2.57**	**2.78**	**2.85**
Efficiency of customs clearance process	2.2	2.49	2.56
Quality of infrastructure related to trade and transport	2.47	2.46	2.68
Ease of agreeing to shipments at competitive prices	2.29	2.83	2.86
Quality of logistics services	2.63	2.76	2.81
Ability to track and trace shipments	2.67	2.89	2.91
Domestic logistics costs	3.13	n/d	n/d
Frequency with which shipments reach the consignee within the scheduled time	3.23	3.22	3.25

Source: World Bank and BBVA Research

All these factors indicate that Paraguay has a lot of room for growth in relation to the provision and improvement of economic infrastructure (which is attractive considering that the economy has low levels of infrastructure and therefore a higher marginal productivity).

We anticipate that in the coming years the main driver of growth will be investment, especially infrastructure construction. This is important because it generates significant positive externalities and has a widespread direct impact on productivity levels. Ludeña and Ruiz Diaz (2008), for example, found that reducing transportation costs in Paraguay by 54% would contribute to an increase of 0.24% in GDP, to an increase in exports and imports (by 1.38 % and 6.35%, respectively) and an improvement of 3.88% in the terms of trade[5].

While the Paraguayan government has been developing a series of reforms to improve the investment climate and create a better institutional framework for private sector participation in investment (including the Law on Public-Private Partnerships, PPP), there are crucial challenges ahead to reduce the gap in the existing infrastructure.

5 Ludeña, C., Ruiz Diaz, F. (2008). Transport overruns: Geographical curse or infrastructure policy failure? An estimate for Paraguay from a general equilibrium model. Department of Economics, Faculty of Business Administration, Catholic University of Uruguay.

DISCLAIMER

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