SPECIAL REPORT

“Without infrastructure there is no development” General state of infrastructure in Latin America

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"Infrastructure is a basic and urgent requirement for the development of Latin America. The perfect location of the region on the global competitiveness map calls for a more efficient and proper infrastructure that enhances competitiveness and the quality of life of the population. This challenge demands considerable investments, advanced and diverse technology and huge institutional and management capabilities."

(L. Enrique García. CEO of CAF-Bank)

1. INTRODUCTION

One of the most important challenges to be faced by Latin American countries is to stop being mere commodity exporters and to be able to bring added value to their exports and modernize their economies in order to gain competitiveness and productivity. In this sense, **the commitment to invest in infrastructure has become a key point in achieving that qualitative leap required by the countries of the region in an increasingly competitive world**. Actually, guaranteeing current and future economic growth of the region depends, to a great extent, on the decisions taken in the field of infrastructure.[1]

As the Andean Development Corporation points out, usually, **a better infrastructure improves the quality of life of the population, increases economic growth, facilitates regional integration and diversifies the production system**:

"While it is true that investments in transport infrastructure do not guarantee economic and regional development by themselves, the fact is that these investments are required for development to flourish. Infrastructure is a valuable economic and social cohesion tool, connecting the region, enhancing spatial integration and improving accessibility. Furthermore, it is essential not only to absorb current passengers and goods traffic, but also the strong traffic growth, consequence of the liberalization of the markets and economic globalization. Similarly, the "snowball" effect it can have on national economy, through its multiplier

1 In this report infrastructure is used as defined by IDB, meaning: "a set of long-life engineering structures and facilities, which form the basis for the provision of services considered basic for the development of productive, political, social and personal purposes". This concept includes roads, rails, ports, airports, land irrigation, drinking water, sanitation, electricity and gas, information, communication and telecommunications infrastructures: Internet, mobile phones, software, hardware, etc."

"The World Economic Forum (WEF) pointed out that a dollar invested in infrastructure generates an economic return of 5%-25%"

effect, turns infrastructure into a counter-cyclical political tool during crisis, as it can be very useful to speed up the process of economic recovery."

Therefore, access to high quality infrastructure becomes key for the competitiveness of a country in order to meet future demand in fields such as agriculture, mining (irrigation works, roads and ports) and industrial, tourism and services sectors.

Infrastructure, whether it is productive (roads, rails, ports) or linked to social and environmental welfare of the population (drinking water, sanitation, electricity and residential gas) **is a public good, that produces significant externalities** for the economic system, since its provision, when efficient, translates into benefits for the society as a whole, and not just for the economy of a country. The World Economic Forum (WEF) pointed out that a dollar invested in infrastructure generates an economic return of 5%-25%.

Thus, investments in infrastructure become a factor in economic development and social inclusion, as supported by the director of the World Bank for Latin America and the Caribbean Region, Danny Leipziger: "There is a clear connection between investment in infrastructure and poverty reduction". According to Miriam Belchior, Minister of Planning, Budget and Management of Brazil, "the reason for this is that investments speed up the pace at which the economy grows, increase employment and income levels and help diminish social and regional inequalities".

2. INFRASTRUCTURE DEFICITS IN LATIN AMERICA

It has been clearly demonstrated that investing in infrastructure has positive effects in relation to competitiveness, economic growth and poverty reduction since it allows to seize opportunities offered by economic growth and international trade. But these externalities do not take place when deficits in infrastructure are present. And that is precisely what has been happening historically in Latin America.

The Organization for Economic Cooperation and Development (OECD) has noted that "**infrastructures are an important bottleneck for sustainable growth, competitiveness and even equity in Latin America**. The region has deep gaps when compared not only to OECD countries, but also emerging economies in Asia and other regions of the world".

This is also evidenced by the World Bank which states that there is a high dependence on road transport, but half of the roads remain unpaved. Meanwhile, rail transport shows serious flaws as shown in the study carried out by Solchaga Recio & Asociados, which establishes that the volume of this transport means has halved since 1990.

"The public sector has moved from investing, on average, 3% of GDP during the nineties to just over 1% nowadays"

Additionally, air transport has grown in recent times by more than 200% regarding number of passengers and tons of cargo, but airports show serious flaws concerning logistics systems, inappropriate regulations and poor services development. The same occurs with ports, with the exception of Chile, since they are neither prepared to absorb the increased traffic nor the new means of transport.

Therefore, as the Inter-American Development Bank maintains, **rapid economic growth of the region and development of foreign trade in the past two decades have evidenced the serious defects of the region with respect to electrical and transport (roads, rails and ports) infrastructure**.

This deficit reflects the fact that investment has clearly been insufficient both from the public and the private sector.

In the eighties, the region invested over 3% of GDP in infrastructures. This amount was mainly financed by the State (during the days of interventional states and Import Substitution Industrialization). This trend shifted in the nineties, after a wave of neoliberal reforms, and dropped to 2% with the private sector leading these investments. During the first decade of the 21st century investment dropped to 1% and since 2007 it rose to over 2% and currently sits close to 3% with equal involvement from the State and the private sector.

According to the World Bank, the public sector has moved from investing, on average, 3% of GDP during the nineties to just over 1% nowadays. The private sector has increased its contributions and now also invests around 1% of GDP to infrastructure, especially in countries like Mexico and Colombia.

As stated by the Executive President of the Andean Development Corporation, CAF-Bank, Enrique García, **two different types of actions are required to reduce the gap in the field of infrastructures** (both regarding new investments and maintenance costs of infrastructure):

- **The current investment, 3% GDP (on average in Latin America) has to be doubled to a minimum of 6%**, following the example of Asian countries, whose current average infrastructure investment is 10% GDP. India, for example, invests 6% of its annual GDP, while China allocates 10%. This represents a 50% increase in investment, which amounts to USD 200 - 250 billion.

  A recent report of the World Economic Forum graded the Latin American infrastructure with a score of 3.6 out of 10 points, compared to the average of 5.4 for OECD countries, with roads and rails being the most serious weaknesses along with the electrical sector.

"The challenge for the State is not only to plan, facilitate and coordinate public policies, but to attract private investment"

- **The private sector is essential** since States lack the resources and sometimes the required knowledge. Therefore, promoting "strategic alliances" between the private and public sector seems key.

  In this sense, as expressed by CAF-Bank, the State must increase its investments and implement a set of public policies in order to improve subsidies targeting, allocate more resources to the maintenance of infrastructures, promote sustainable and integrated development policies in the aforementioned field and strengthen public institutions.

In summary, the challenge for the State is not only to plan, facilitate and coordinate public policies, but to attract private investment by centralizing projects and investment needs as well as ensuring legal certainty.

In this regard, CAF-Bank presented the diagnosis of infrastructure, titled IDeAL, during the last Summit of Heads of State and Government held in Panama City in 2013. The "Infrastructure in Latin America's Integral Development" is an analysis of the current state of infrastructure and proposes a strategic agenda for its development in Latin America.

The final results of this study lead to the conclusion that **while countries in Latin America are making a huge effort in infrastructure investment, it is not enough to increase potential GDP in the medium term** "through reforms that tackle the bottlenecks that restrict growth and productivity, domestic savings and investment. The gap between the region and richer and more dynamic countries is not only not diminishing, but increases every year in regard to the enhancement of roads, ports and airports and logistics services that raise the transaction costs and make production less competitive".

3. INFRASTRUCTURE INVESTMENT IN EACH COUNTRY

Latin America is a very heterogeneous region and the field of infrastructures is no exception, as there are important differences regarding infrastructure quality from country to country and the investments made by each country vary greatly.

Between 2010 and 2015, Latin America plans to allocate USD 450 billion on new infrastructure projects, and while this is a very high figure, it hardly represents an average investment of over 2% GDP. **Even Brazil and Colombia, the two leading investors, do not reach the average of emerging regions**.

The 2012-2013 edition of the Infrastructure Global Competitiveness Index (WEF) assesses 144 nations by a weighted

"This report reveals the fact that some countries are clearly betting on infrastructure development"

average of seven basic aspects of infrastructure (1. General quality of the infrastructure, 2. Quality of the roads, 3. Quality of the rail infrastructure, 4. Quality of the port infrastructure, 5. Quality of the air infrastructure, 6. Quality of the provision of electricity, 7. Quality of telecommunications).

The report concludes that **only three countries in the region are above the world average (4.3) in relation to infrastructure quality and none come close to the highest scores (6-7)**.

And as a region, Latin America (3.6) clearly shows its underdevelopment as it only outperforms Africa (2.7):

RANK	COUNTRY	SCORE
37	Panama	4.82
45	Chile	4.62
49	Uruguay	4.40
68	Mexico	4.03
70	Brazil	4
72	El Salvador	3.93
74	Costa Rica	3.80
75	Guatemala	3.79
86	Argentina	3.58
89	Peru	3.54
90	Ecuador	3.51
93	Colombia	3.44
101	Honduras	3.12
105	Dominican Republic	3
106	Nicaragua	2.97
108	Bolivia	2.95
120	Venezuela	2.64
123	Paraguay	2.54

Source: Global Competitiveness Report 2012-2013, World Economic Forum and The World Factbook-CIA. http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

In addition, 2013 Latin American infrastructure projects and those taking place in 2014 show a **high level of concentration: they are led by Mexico and Brazil in terms of money invested**, according to the report "Evolution of economies of member states of the Inter-American Federation of Construction Industry (ISEF) 2012-2013". Moreover, Mexico and Brazil account for approximately 50% of the 100 works on the list made by CG/LA Infrastructure, world leader in the promotion of infrastructure projects.

This report reveals the fact that some countries are clearly betting on infrastructure development: Ecuador, Panama and Uruguay are the nations with the highest increases in infrastructure development. The case Ecuador, governed by Rafael Correa, is the most striking one. Thanks to the increase in central government revenues via oil royalties and the enhancement of tax collection coverage and enforcement, the budget has been doubled, up from 11 annual billion to 21.11 billion in 2012. These resources have been mainly invested in infrastructure and education, apart from the Human Development Voucher (BDH).

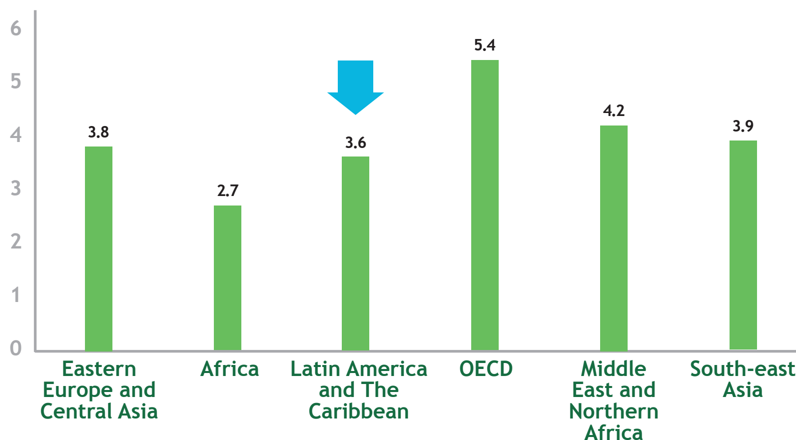
Among the projects for 2014, the most prominent works will take place in Brazil, Mexico and Colombia.

In Brazil, the Salvador-Recife rail (USD 5.315 billion) and Galeao Airport (USD 3.5 billion) stand out.

In Mexico, the Bicentennial Refinery in Tula is the most outstanding project (USD 11.6 billion), followed by a new airport in Mexico City (USD 4.5 billion).

COMPARED OVERALL PERFORMANCE OF INFRASTRUCTURE

Infrastructure Quality Indicator Average score



Source: Data obtained from: http://segib.org/actividades/files/2012/05/ideal2011.pdf

LATIN AMERICAN INFRASTRUCTURE LEVELS*

The scale of the projects attracts global building companies

Ranking	2006	2007	2008	2009	2010	2011	2012	2013	2013/2016	Positions gained or
Ecuador	94	97	108	100	96	94	90	79	Gained	15
Panama	46	50	58	65	44	38	37	37	Gained	9
Uruguay	58	64	69	66	53	49	49	55	Gained	3
Brasil	71	78	78	74	62	64	70	71	Same	0
Mexico	64	61	68	69	75	66	68	64	Same	0
Peru	91	101	110	97	88	88	89	91	Same	0
Costa Rica	73	95	94	82	78	83	74	76	Dropped	-3
Bolivia	107	118	126	122	100	104	108	11	Dropped	-4
Guatemala	74	70	71	68	66	70	75	78	Dropped	-4
Nicaragua	101	116	128	120	111	116	106	105	Dropped	-4
Chile	35	31	30	30	40	41	45	46	Dropped	-11
Paraguay	109	126	130	129	125	125	123	123	Dropped	-14
Argentina	72	81	87	88	77	81	86	89	Dropped	-17
Colombia	75	86	80	83	79	85	93	92	Dropped	-17
El salvador	54	51	56	51	59	65	72	72	Dropped	-18
Dominican Republic	80	79	81	85	107	106	105	110	Dropped	-30
Honduras	81	75	75	77	85	91	101	115	Dropped	-34
Venezuela	84	104	109	106	108	107	120	125	Dropped	-41

Source: CG/LA Infrastructure Report

Colombia is currently investing USD 28.5 billion in six projects covering power generation (Bicentennial Pipeline, with a length of 970 kilometers, which will require an investment of USD 5.88 billion), transport (1,200 kilometers of roads what will enhance the connection between Antioch and the coffee belt, the center of the country, Magdalena Medio and the Atlantic and Pacific coasts; as well as Ruta del Sol, a two-way roadway of 1,070 kilometers which will cost USD 2.6 billion and shall connect the center with northern Colombia) and oil refining (Ituango hydroelectric plant, the largest hydroelectric plant in the country and whose costs amount to USD 5.5 billion: Cartagena Refinery considered the most modern refinery in Latin America) and river infrastructure (the objective is to restore navigability in the river Magdalena between Puerto Salgar and Bocas de Ceniza, a distance of 908 kilometers).

As described below, **Latin American countries share a common characteristic: they have increased infrastructure investment significantly, but are still far from perfect.**

Chile

Chile is one of the leading countries in the region, as it already prioritized infrastructure investment during the nineties due to a very open economy

"Mexico confirms the Latin American trend: infrastructure investment has increased significantly but it still is far from meeting its needs"

since the eighties linked to Asian, European and American economies, which made clear the need to bet on infrastructure. Therefore, in the late nineties a concession law of the Ministry of Public Works was passed, which promoted public-private partnerships. In the last decade, Chile took a quantum and qualitative leap in relation to its infrastructure network, even though reports such as the one made by the Chilean Chamber of Construction (CCHC), (The Critical Infrastructure Development Report") of 2013 show that USD 48 billion still need to be allocated during the next five years, which would mean increasing the current 2.5% annual GDP up to 6% annual GDP.

The final leap that Chile wants to make in order to become a developed country requires, among other things, doubling the investment in infrastructure. If we take a close look at each sector, electricity is the largest investment with USD 13.257 billion, followed by urban roads (public transport) with USD 11.721 billion, interurban roads with 11.581 billion, health and prison infrastructures with USD 5.031 billion, water (USD 3.276 billion), ports infrastructure with USD 1.754 billion and airports with approximately USD 1.070 billion.

In summary, as Chilean economist Jorge Marshall points out, "the growth of the last decade has been mainly marked by demand and not supply factors and it has been achieved despite the lag in investments and key reforms. However, this situation will be difficult to sustain over time and sooner or later the country will have to face the consequences. The most serious bottleneck is the electricity sector; Chile already has higher prices than the developed countries and these prices double the ones of neighboring countries. This trend will only continue worsening; another key point to be considered when planning infrastructure development. The cost of transport and logistics in Chile account for 18% of the selling price of products, while in countries like Singapore and the United States these costs only amount to 9% or 10% of the final price. The current scenario of conflict in this sector will make it difficult to reduce the gap".

Mexico

Mexico confirms the Latin American trend: infrastructure investment has increased significantly but it still is far from meeting its needs. Both the administration of Felipe Calderón and the current of Enrique Peña Nieto have made great efforts in this field, although it remains insufficient. Mexico needs to increase infrastructure investment to 4.5% GDP according to Norman Anderson, President and CEO of CG/LA Infrastructure.

The National Infrastructure Plan 2007-2012 established the National Infrastructure Fund, which contributed to reaching the aforementioned 4.5% figure as average investment in 2011, more than a point higher than the annual average of 3.2% from 2001 to 2006.

"Among the major public initiatives to foster the expenditure on infrastructure, one of the most important ones is the Growth Acceleration Plan (PAC)"

In accordance with the Infrastructure Investment Plan, the current administration of Peña Nieto will allocate around USD 300 billion between 2013 and 2018 for infrastructure projects that are mostly public-private. "The size of this figures reflects the willingness of this Government of turning infrastructure into a strategic engine", said Peña Nieto.

Brazil

Despite the macroeconomic growth of recent years, infrastructure investment in Brazil has remained low. During most of the last decade, the share of expenditure on infrastructure was around 2% GDP. More recently, this percentage has increased up to 3.3% GDP. This figure is below the rate considered necessary to keep an infrastructure stock and also compared to what other emerging countries, such as South Korea, have invested in development.

Ivan Tiago Machado Oliveira, from the Institute for Applied Economic Research, notes that "Brazil had not made any important investment in infrastructure for a long period of time and we are already feeling the effects of this lack of investment. This is an essential element as well as an obstacle for Brazil and for other Latin American countries, although the Brazilian case cannot be extrapolated to other countries given the size and complexity of Brazilian economy. When I think about the agenda Brazil will have to set in order to achieve sustainable growth, investment must be made in education. The short and long-term effects will be very positive and I am very well disposed towards it. We have improved, although not at the desired speed, but in ten years' time we might reach a more reasonable level of education that could even be translated in global productivity gains for the economy. In my opinion, these are the fundamental weaknesses Brazil and the other countries of the region, will have to overcome."

The infrastructure deficit is nowadays one of the main obstacles that explain the issues that prevent the country from attaining a sustainable growth over 4%.

Among the major public initiatives to foster the expenditure on infrastructure, one of the most important ones is the Growth Acceleration Plan (PAC), which, from 2007 and 2010, represented an investment of R$ 444 billion, around 3.5% GDP. Most of the resources were invested in social housing instead of physical infrastructure.

PAC was launched by Lula's government on 28 January 2007 and investments for a value of 503.9 billion reals in 2010 were forecasted.

The capital employed in the PAC has its roots in the following major resources: Union resources (federal government's budget), capital investments of state-owned companies (e.g. Petrobras) and private investments with incentives and public investment alliances.

"With the launch of the PAC, the federal government announced a number of measures with the aim of encouraging project implementation"

With the launch of the PAC, the federal government announced a number of measures with the aim of encouraging project implementation. These measures include tax-exemptions for some sectors, environmental measures stimulating the regulatory framework and encouraging financing and credit and long-term fiscal measures.

In February 2009, the federal government announced a capital injection amounting to 142 trillion reals for the PAC. These extra resources were spent with the purpose of creating more jobs in the country and thus reducing the impact of the global crisis on Brazilian economy.

PAC 2

In 2011, the second part of the program was launched by Dilma's government. The PAC 2, with the same objectives as the previous one, had additional resources since the collaboration with states and municipalities was strengthened. Between 2011 and 2014, the government expects investments made through the PAC 2 to reach R$955 billion. These investments have been instrumental to increasing the country's employment rate, enhancing the infrastructure and ensuring the economic development within all regions in Brazil.

In this respect, Dilma Rousseff's government has launched the Logistics Investment Program (PIL), the implementation of which is linked to the two sports events that have taken place and will take place in the country: the 2014 football World Cup and the 2016 Olympic Games.

Colombia

Infrastructure turned out to be one of the priority sectors since Juan Manuel Santos became President. As President-elect, he described the sectors that should boost the country (infrastructure, agriculture, housing, mining and innovation) by creating 2.4 million new jobs by 2014.

This measure has been translated into tangible improvements in many areas such as the institutional strengthening through the creation of the Vice Ministry of Infrastructure and the National Agency for Infrastructure (Agencia Nacional de Infraestructura), the modernization of the procurement system and the enactment of Law No. 1508 of 2012 (regarding public-private partnerships, APPs).

Nevertheless, bottlenecks still exist in Colombia, since there should be an annual investment in infrastructure of at least 7.4% GDP in order to reduce poverty to similar levels to those of Southeast Asian countries. These are the conclusions drawn from the report about the "International Seminar on Infrastructure and Equity", organized by the Development Bank of Latin America (CAF-Bank), which pointed out that this investment should be made for 12 years in order to close the vertical poverty gap. If the horizontal gap were to be closed, a higher percentage, 14.9% of GDP, should be allocated.

"Ollanta Humala's government plans to invest USD 17 billion until 2016 in the construction and enhancement of all types of infrastructure"

In Colombia, along with the Infrastructure Development Plan (Plan de Desarrollo de Infraestructuras) and projects such as Highways for Prosperity, investments amounting more than USD 107 billion are expected by 2020 of which more than half are earmarked for transports and rail and road networks, as well as for infrastructures in cities and regions, mining, energy and housing.

Peru

The infrastructure deficit rate in Peru is one of the highest among the important countries of the region. The Peruvian Chamber of Construction (Capeco) claims that the mentioned deficit exceeds US$ 40 billion and, should the planned projects be implemented, this gap would only be reduced by 50% in 2016.

Other studies, such as the one conducted by the National Association for the Promotion of Infrastructure (Asociación para el Fomento de la Infraestructura Nacional, AFIN), show that, around 2021, the current infrastructure gap would almost double (estimated US$ 88 billion). The necessary annual investment would therefore amount to US$ 8.8 billion, which approximately represents 5% of the current GDP.

In the words of Fidel Jaramillo, Representative of IDB in Peru, "**the infrastructure gap is large throughout Latin America** but, in the case of Peru and some other countries in the region, investments are even lower. According to a study conducted by IDB, investments in infrastructure should reach at least 3% of GDP, while in Peru this figure is just 1.5%. In other words, only half of the investments needed are being made".

For his part, Jorge Medina Méndez, economist in Ernst and Young, states that "the Peruvian economic growth forecasts at a rate of around 6% for the coming years can paradoxically change within a framework where global economy starts a recovery process. "**If we do not accelerate the closing of the infrastructure gap and we are not ready to accept an increased economic activity and further investments after a recovery of the global economy, we will not only lose the opportunity to make appropriate use of the resources and liquidity we currently have, but will also miss a historic train of economic development**. We would therefore have to wait until destiny gave us another chance, although the gap would be larger, in an unprecedented situation in which the only thing we need is leadership and determination, not financial resources.

At the moment, Ollanta Humala's government plans to invest USD 17 billion until 2016 in the construction and enhancement of all types of infrastructure, mainly roads. The construction of Chinchero Cusco International Airport, which will cost USD 399 million and the construction, setting up and maintenance of metro line 2 in Lima, are among the most relevant works undertaken.

"If anything has revealed limitations of the current infrastructure deficit situation in Argentina it is the energy crisis experienced in 2013 and the beginning of 2014"

Argentina

Argentina is another country that has a strong deficit in the area of infrastructure.

A study conducted by Daniel Perrotti and Ricardo Sánchez, economists at the Economic Commission for Latin America (ECLAC), states that the percentage of investment in infrastructure decreased from 3% of GDP between 1980 and 1985 to 2.3% between 2007 and 2008.

And according to a report from the National Regulatory Entity for Electricity (ENRE), between 2003 and 2010, power interruptions carried out by the electricity distributors reached up to 90% in terms of quantity and 175% in terms of duration. Edenor and Edesur's turnover raised by 62% since 2003, while their operational costs increased by 400%. As a result of the strong GDP growth during the last decade, the electricity consumption grew by 80% from 2002 to 2011, though the electricity supply did not grow at the same rate.

A report from the local newspaper La Nación states that, in 2012, for every peso earmarked for public investment, $2.25 were spent in financial subsidies. This led to a rising infrastructure deficit: in 1997, 47% of households had a sewerage service supply; this percentage rose to 54.8% in 2002 and dropped to 53.8% in 2010.

Ariel Coremberg, Professor of Theory and Measurement of Economic Growth at Buenos Aires University, highlights that, in 2010, half of the Argentinian population did not yet have neither a sewerage service supply nor gas system: "Argentina is far behind the main countries in Latin America: Brazil, Chile, Mexico and Uruguay, which substantially improved their social and economic infrastructure. In these countries, more than 85% of the total population has an adequate sanitation system, which is key to reducing structural poverty and improving the health status of the population."

If anything has revealed limitations of the current infrastructure deficit situation in Argentina it is the energy crisis experienced in 2013 and the beginning of 2014. Jorge Lapeña, former Secretary of Energy, explains that this is the result of a dramatic fall in production and an increased demand due to the fact that demand was subsidized and improving and maintenance investments were not made:

"During 2013, total gas production in Argentina dropped by 5.99% compared with 2012; the oil production was reduced by 3.12% in comparison with the previous year. The long-term declining tendency of our hydrocarbons production is increasing ever since it started, in 1998 the oil production (15 years of uninterrupted fall) and, in 2004, the gas production (for 9 years). Oil and natural gas represent approximately 86% of the main energy of our energy system."

Paraguay

In Paraguay, as in the rest of the countries in the region, there is

"According to the Development Bank of Latin America (CAF-Bank), Bolivia is the leading country in improvement and investment in infrastructure in Latin America"

a significant difference between the growing increase of demand for infrastructures (mainly due to the high levels of economic growth experienced by the country) and the capability to meet that demand.

Thus, for instance, for 2014, it was forecasted that GDP would grow by nearly 14%, which generates a huge strain on infrastructure. The government notes that it is necessary to invest around US$ 30 billion in the next 10 years, roughly half of which (US$ 15 billion) could be covered by the State.

The current government of Horacio Cartes plans to launch a "physical and social infrastructure investment plan from 2014 to 2018" which would cost US$ 2.5 billion on an annual basis for the next two decades. Likewise, in his first 100 days in office, the Law 5102 "regarding Promotion of Investment in Public Infrastructure", also known as the "Public-Private Partnership", was passed. The aim of this law was to establish mechanisms to promote investments in public infrastructures and service supply, through public-private participation.

In any event, Ramón Jimenez Gaona himself, Minister for Public Works, admits that Paraguay starts with a significant delay: "our infrastructure underdevelopment is so great that we are among the 10 more backward countries in this field, with the worst infrastructure of the world in terms of quality."

Bolivia

According to the Development Bank of Latin America (CAF-Bank), Bolivia is the leading country in improvement and investment in infrastructure in Latin America; while Latin America is investing an average 3% of its GDP, Bolivia invested 4.5% last year.

The government approved in 2013 a historic public investment of USD 3.807 billion, 70% of which was earmarked for road construction and production development projects. This great public investment made by the government had the objective of enhancing infrastructures in many areas, such as road construction.

In any case, this great effort is yet far from meeting the necessities. Private entrepreneurs have expressed to the government the need of making an annual investment of more than USD 4 billion with the purpose of meeting the goals set out for 2025.

CAINCO, the Federation of Private Entrepreneurs of Santa Cruz and the Chamber of Construction of Santa Cruz have made pointed out the need of investing more than USD 4 billion (7% of GDP) yearly in order to meet the goals set out for 2025. The public and private investment must reach USD 45.7 billion in infrastructure projects which enable the promotion of development and the reduction of poverty rates.

"Without the adequate logistics and infrastructure to reduce transport costs, the comparative advantages of Latin American economy disappear"

4. CONCLUSIONS

Infrastructures represent a structural challenge for the region, since they are an integral part of the productive system itself, which is a key element to reduce the existing productivity gap between Latin America and developed countries. Without the adequate logistics and infrastructure to reduce transport costs, the comparative advantages of Latin American economy (its proximity to the American and Chinese markets) disappear.

Therefore, the future growth and economic development of Latin American countries is based on the investment in infrastructures. Investment in public work enhances competitiveness and has an impact on GDP (reports from BBVA Research state that the opportunity cost of not investing in this area is translated into an average loss of 66.5% of GDP in Chile, Peru, Mexico and Colombia).

Yet the investment in this area does not go hand-in-hand with the necessary social externalities unless it is accompanied by another series of elements:

- **Firstly, the region must spend more money in a better way on infrastructures (increase the level of expenditure up to 6% from the current 2-3%):** Spending money in a better way entails an enhancement of the management and procurement proceedings, based on transparency and on real competitiveness, a better-planned and developed investment. Infrastructure projects must be backed up by a long-term professional and strategic planning with previous feasibility studies.

  Investing more and better in infrastructures contributes to economic and social development. According to CAF-Bank, it promotes "a better quality of life, social inclusion and opportunities for marginalized communities", supports "economic growth and business competitiveness", facilitates "the integration of the national space as well as regional integration, decentralization and internal circulation" and contributes "to the diversification of the productive fabric through the promotion of development and the internationalization of national or regional companies in charge of the supply of engineering and construction equipment and associated professional services."

- **Secondly, the investment must be focused on quite specific sectors:** Investment must be focused on the areas with greater deficits, especially waste water treatment, sanitation and transports, which are less-developed compared to sectors such as telecommunications, electric energy, mobile telephony and ports.

  The most urgent matter is road transport since the export and import volume growth has generated strong pressures on

"The region must change its method of managing freight logistics with the aim of strengthening its integration with the rest of the world and continuing to grow still further"

road networks. Road transport is, according to CAF-Bank, the most dominant mode of internal transportation (70% of freight transport is made by road) although the Latin American road network is underused. Regarding the spatial coverage, its density is low: 156km of road for every 1000 sq. km compared to the world average of 240 km.

Furthermore, it is poorly diversified, as it focuses on road transport and thus, railway transport does not exceed 5%, except for Brazil and Mexico, where this figure reaches 20%.

Urban transport also lags well behind other transports. Close attention should be paid to this matter, especially given the exponential urban growth and the emergence of new middle classes. Experts claim that a Latin American person can waste between three and four hours a day commuting, which can be translated into a loss of two hours' wage.

In addition to transport, the port sector is one of the sectors that require greater investment.

Ports are of great geostrategic importance mainly given that between 80% and 90% of the international trade is made through maritime transport. This contrasts with the necessity of modernization of Latin American port infrastructures. According to a report by ECLAC, annual investments amounting to US$ 170 billion until 2020 are required in order to address the shortfall in the regional port infrastructures.

Alexandre Meira da Rosa, Infrastructure and Environment Sector Manager for IDB, states that "the region must change its method of managing freight logistics with the aim of strengthening its integration with the rest of the world and continuing to grow still further. Companies can produce goods at low prices very efficiently but they lose their competitive advantages due to an inefficient load and transport of these goods within the country."

- **The State must play an important role in the area of infrastructures:** The State has a planning role but it is also in charge of creating an enabling and sustainable environment to implement the long-term investment plans and to attract private investment. It is therefore necessary:
    - » To establish more professional structures within the administration in order to manage the programs since international investors demand clear, transparent and well-managed projects in which to invest.
    - » Likewise, it is necessary to diversify the sources of funding since the majority of the investment activity has so far been financed

"The development of infrastructures will not only favor interconnection and regional trade but will also stop the excessive concentration of investors in the region"

exclusively through national development banks or multilateral support banks.

» Finally, infrastructure development plans should be kept outside the political vagaries. This can be achieved by creating cross-cutting programs in the different administrations in order to pursue the investments made.

- **Investment in infrastructure favors regional integration:** Regional integration is a long-sought goal pursued for more than half a century which has not yet found an adequate institutional integration framework. It can also be achieved if it is established and supported by an appropriate intercommunication among countries of the region.

  Hence the importance of the Initiative for the Integration of Regional Infrastructure in South America (IIRSA), the purpose of which is to foster the physical integration and the social and economic development of the region. The objective of this field of intergovernmental action coordination is to promote the development of transport, energy and communication infrastructures as a basis on which to consolidate regional integration.

  Experts highlight the poor connectivity between countries in the region. Juan Antonio Vassallo, Professor at the Universidad Politécnica de Madrid and specialist in infrastructure says that "each country is similar to an island" and gives an example: "how is it possible that Brazil must send its products to China by sea having to go through Cape Horn instead of sending them by a rail or road track connected to the Pacific coast".

  The development of infrastructures will not only favor interconnection and regional trade (by diversifying markets) but will also stop the excessive concentration of investors in the region. It is estimated that in the next five years, investments in infrastructure and construction made in Brazil and Mexico will represent 60% of the total resources earmarked for this sector in Latin America, according to CG/LA Infrastructure's forecasts. Colombia, Peru and Chile represent another 15%. The rest of the investment will be apportioned among the other 31 economies of the region.

- **Deficit in transport infrastructures causes a low logistic performance in Latin America:** The enhancement of the logistic performance is one of the most urgent challenges the region must overcome given the high concentration of road transport that coexist with a road network that is well below middle-income countries' standards of infrastructure. This is translated into a lower competitiveness, a reduction

"Latin America will have, in the next decades, the opportunity to consolidate its progress towards development"

of interconnection and decrease in the international insertion capacity of the region. As CAF-Bank states, it should specially be taken into consideration that Latin American exports require great use of natural resources for logistics (agricultural products and clothes, which deteriorate rapidly during transportation).

Latin American logistic performance is lower than other areas such as infrastructures, customs and regulatory elements and institutions. This poor logistic performance of the region results in increasing transaction costs compared to developed countries. These logistic costs represent between 18% (Chile) and 35% (Peru) of the value of the final product in comparison to 8% in OECD countries.

According to the "Latin American Economic Outlook for 2014", a report by OECD, CAF-Bank and ECLAC's, "the enhancement of the logistic performance is a fundamental issue to integrate Latin American economies into a world of global value chains. The reduction of logistic costs is also an essential component to encourage intra-regional trade. For this purpose, further enhancements are needed in the area of standardization of practices related to inland transport regulation and in the field of development of road corridors and logistic solutions to connect the Latin American cities and ports.".

In fact, the World Bank 2012 Logistics Performance Index showed that no Latin American country counts among the top 31 and that, within Latin America, the first country is Chile (39th), followed by Brazil (45th), Mexico (47th), Argentina (49th), Uruguay (56th), Peru (60th), Panama (61st), Colombia (64th) and Guatemala (74th). From that point onwards, the rest of the countries are in the bottom part of the list, with Cuba (144th) and Haiti (153rd) as the countries with the worst results.

In short, in relation to the words of the CAF-Bank, we ought to conclude that "Latin America will have, in the next decades, the opportunity to consolidate its progress towards development. This opportunity is the result of the world economy reconfiguration together with the provision of resources of the region. Progress towards development will be confirmed if countries manage to create fairer and more equitable societies that promote more opportunities, inclusion, a more diversified integration and greater added value. In order to face these challenges, substantial improvements must be made in many areas such as education, the capacity to innovate, the quality of institutions and the quality of infrastructures and its associated services".

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