

Financing of Public-Private Partnerships

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Vicepresidency for Countries

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Discussion Papers

PPP Americas 2021

Financing of Public-Private Partnerships

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About the Discussion Papers

The Discussion Papers - PPP Americas 2021 are a series of documents produced in preparation for the X Edition of PPP Americas, the main forum for Public-Private Partnerships (PPP) in Latin America and the Caribbean (LAC), organized every two years by the Inter-American Development Bank (IDB).

As part of the PPP Americas 2021 edition, eight groups of experts, professionals, consultants and academics directly involved in the planning, identification, structuring and management of PPP projects in the countries of the region met. Under the coordination of IDB specialists, the groups reviewed the main topics of interest and current affairs in the field of PPPs, in order to exchange experiences, discuss success stories and lessons learned in the ongoing projects in the region.

From an open call made in March 2020, to which more than 200 specialists, professionals and academics from the region applied, around 90 people from across the region were selected to be contributors. They actively participated in discussions on the following topics: reliability of State payments, project selection criteria and drivers of value for money, best practices in contract management, diversification of the capital structure, contract termination rules and their consequences for project viability, planning and prioritization in infrastructure development, fiscal impacts of the projects and the role of control bodies.

Each topic explored in the groups led to a Discussion Document, compiling the reflections shared by the specialists in their joint discussions between June 2020 and April 2021. In addition, in January 2021, each group of specialists shared their insights with the other groups, to encourage the development of a richer and deeper conversation, and to take advantage of synergies between the different areas.

This initiative aims to help consolidate an environment for the exchange of experiences and best practices in PPPs for the region. Its main purpose is to serve as an input for the discussions that will take place at PPP Americas 2021—where solutions will be proposed in all directions.

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Financing of Public-Private Partnerships¹

The financing of projects structured through Public-Private Partnerships (PPPs) in Latin America and the Caribbean is conditioned by a number of factors that cover different aspects, such as the complexity and depth of local financial markets. It also conditioned by incentives and mechanisms for investor diversification, the regulatory, normative and institutional environments for carrying out private investments, and the structures of the projects and contracts themselves. To increase the bankability of PPP projects in the region, relevant challenges must be comprehensively addressed in each of these dimensions. And although they are diverse in nature, they are ultimately interrelated.

Although not exhaustive, this discussion paper addresses five key issues related to PPP financing, explores the associated challenges, identifies a number of opportunities and solutions, and illustrates the latter with experiences in the region. These topics are: i) Exchange rate risk and local currency financing, ii) The role of national development banks, iii) International financial regulation (Basel III), iv) The participation of institutional investors in infrastructure financing, and v) Secondary market of capital and debt. In addition, the paper discusses the impacts of the COVID-19 pandemic on infrastructure financing.

Depending on the type of challenge, potential solutions to increase and improve the financing of PPP projects in the region may involve policy measures, regulatory changes, development of market-based instruments, or modifications to project/contract-level provisions. The implementation of these solutions is not mutually exclusive, and should be analyzed according to the country's operational maturity in PPP projects, the depth of its financial markets, and the associated regulatory, normative and institutional environments, among other elements.

The conducted analysis and the regional experiences reported are ultimately intended to serve as a basis for reflection, and a reference for those involved in solutions to increase and improve PPP financing in Latin America and the Caribbean.

¹ The authors are grateful for the comments and revisions by Reinaldo Fioravanti y Scarlett Piantini.

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1 Exchange Rate Risk and Local Currency Financing

1.1 Context and description of the challenge

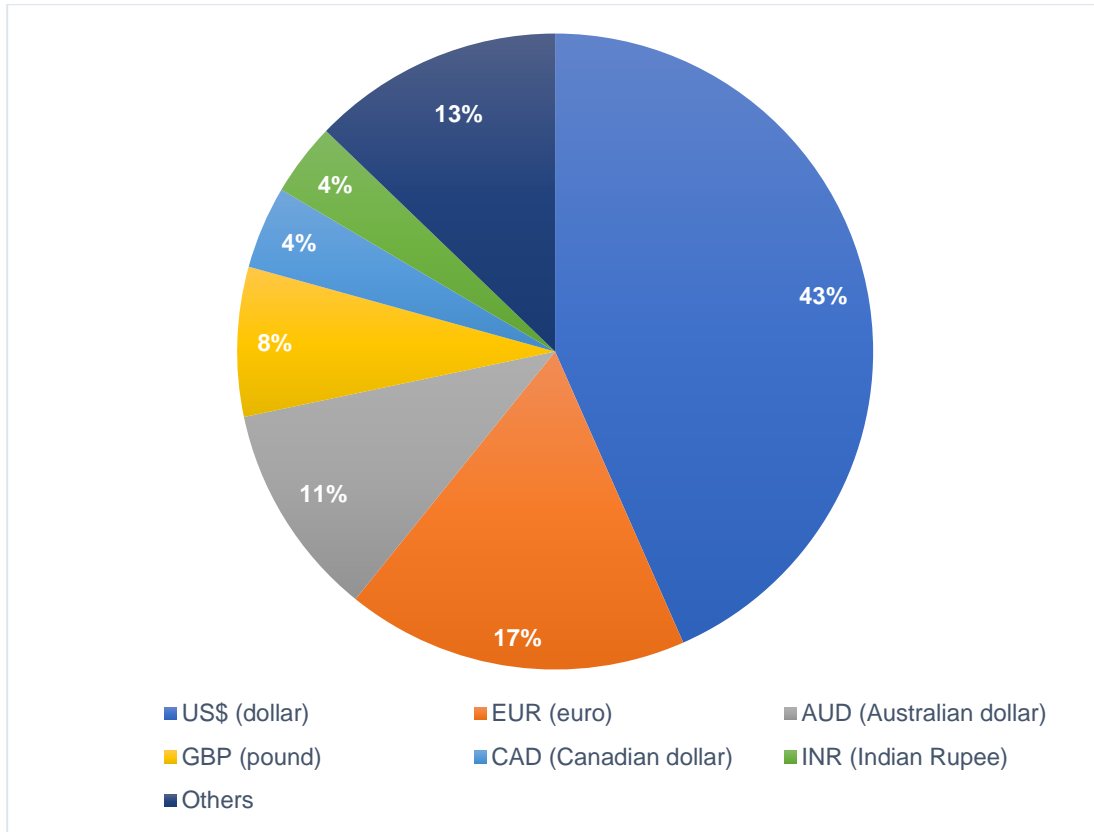
Exchange rate (or currency) risk in PPP projects arises from the use of more than one currency in a project. This generally affects projects that cannot be financed by the local financial markets because of capacity restrictions faced by the latter. In this scenario, it is common to attract foreign capital to finance projects to address the limitations of local financial markets. However, when projects are structured in local currency, foreign currency financing faces the risk of losing value due to exchange rate fluctuations. This is the case of projects in education, health, water and sanitation, roads and public transport systems.

Likewise, the exchange rate risk has a greater impact on projects that require high investment amounts, or programs with projects to be implemented in a short period of time due to the pressure that these may place on the local financial markets. However, it is also possible that certain projects with investments in foreign currency that are set to materialize over the course of a few years may generate an increase in price risk in the short term ("reverse exchange rate risk"). An example would be the renovation of highly specialized medical equipment.²

Effective management of foreign exchange risk is a significant challenge for attracting foreign capital to finance projects in Latin America and the Caribbean, especially when considering that most global sources of infrastructure financing are set in dollars (43%) or euros (17%) (see Figure 1). In the region, almost 70% of financing came from international credits during the first half of 2020 (see Figure 2). It is worth noting that between 2015 and 2019, countries such as Colombia and Brazil reported a significant percentage of transactions carried out in local currency by foreign investors – 62% and 48% respectively.

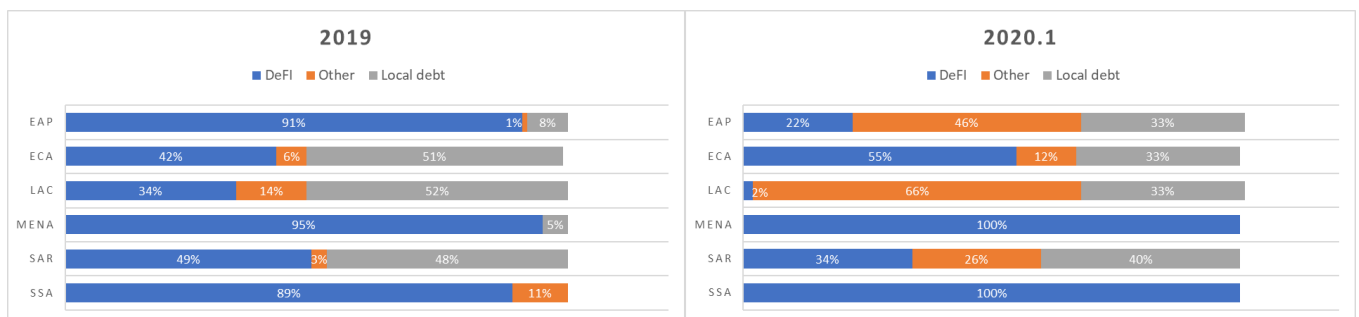
² In this case, there is the risk of obsolescence or increases in the price of new equipment in addition to the exchange rate risk.

• **Figure 1: Major sources of global infrastructure financing - currencies**



Source: I&J Global Finance Private Finance, 2020, Global Infrastructure Hub (GIH) calculations.

• **Figure 2: International and local debt proportion by region for infrastructure projects with private participation in emerging economies - 2019 and first half of 2020**



Source: World Bank (2020). Private Participation in Infrastructure (PPI) 2020 Half year report.

The main causes of foreign exchange risk include the following:

- i. ***Lack of development and experience of debt markets in Project Finance.*** This may lead to insufficient financing available in local currency, making the financial closure of the project more difficult. Likewise, the lack of development of *Project Finance* may cause limitations in the term of the financing granted by local financial entities. This may result in projects with very high debt service in their first years of life, which may not be viable or affordable for the government (in the case of government pays projects), or for the end user.
- ii. ***Lack of development of the local capital market.*** Shallow local capital markets may prevent the use of solutions structured in the local currency, which have repayment periods that can coincide with the life cycles of infrastructure projects. While local pension funds or insurers may have an interest in participating in PPP financing, coordinating a viable capital market solution in an underdeveloped market is complex.
- iii. ***Exposure limits for local banks under banking regulations.*** The implementation of international banking regulations, such as Basel III (see Chapter 4), which obliges banks to increase coverage *ratios* and liquidity levels, often impose a constraint on the amounts and term of the debt in the local market.

In view of the above, it can be concluded that exchange rate risks are partly associated with the relative immaturity of PPP markets in some of the countries in the region, as well as the small size and lack of sophistication of local financial markets.

1.2 Opportunities and Solutions

Considering the role of international financing in the development of infrastructure projects in Latin America and the Caribbean, different solutions to mitigate the exchange rate risk or increase the supply of financing in local currency may be provided by international financing entities, or by the local financial system.

On a project level and during the structuring process, it is advisable identify- as part of the bankability analysis - whether it will be possible to finance the project locally and in local currency. Alternatively, policy or contractual provisions to mitigate foreign exchange risk should be identified at an early stage.

To reduce this risk, two types of solutions can be identified: i) contractual; and ii) solutions by financial institutions.

Contractual solutions include variable or fixed compensation mechanisms in the event of currency fluctuations, or dollar indexation of a percentage of project revenues. Under these two mechanisms, the Granting Entity may partially or totally assume the exchange rate risk. This is likely to improve the

potential financing conditions. However, it is important to emphasize that contractual solutions may involve significant contingencies for the users or the public sector.

Solutions by international financial institutions to mitigate exchange rate risk include exchange rate *swaps*,³ the issuance of bonds in the local market to provide local currency and the development of payment guarantees that allow local financial institutions to reduce their exposure to a given project.

1.3 Regional Experiences

Multiple countries in Latin America and the Caribbean have implemented a range of solutions to mitigate foreign exchange risks. In countries with a more emerging PPP market, such as Uruguay and Paraguay, governments have reduced foreign exchange risks by establishing a proportion of the payments to be made to the concessionaire in dollars. Countries such as Brazil have variable compensation mechanisms for exchange rate fluctuations at a contractual level (see section 1.3.1). Chile, in particular, shifted from granting guarantees to mitigate foreign exchange risks in contracts to structuring projects in local currency, partly because of the solvency and depth of its financial markets. Peru, Brazil and Chile, which have mature markets and sophisticated regulatory frameworks in energy, are awarding power purchase agreements for renewable energy generation in dollars, which has allowed access to financing on competitive terms.

The following is a summary of some of the mechanisms used by countries in the region in order to address foreign exchange risks, and the instruments that international financial institutions can use to increase financing offers in the local currency.

1.3.1 Exchange rate risk mitigation for highway concessions in the State of São Paulo.

In 2016, the Government of the State of São Paulo introduced the contractual exchange rate protection mechanism in a new round of highway concessions. This option is open to the concessionaire in case of contracting financing in foreign currency, provided that the financing is contracted in the first years of the concession, and the resources are intended for the concessionaire's payment to the granting authority, or for its investment in reversible assets.

In general, the mechanism provides for compensation associated with the future flow of variable payments from the concessionaire to the granting authority, based on the variation of the Brazilian real compared to the US dollar and the CPI ("*Consumer Price Index*").

³ An exchange rate swap is a simultaneous double currency swap transaction, one spot transaction in one direction and a forward transaction in the other direction, all with the same counterparty. Both counterparties exchange financial flows of the same nature in two different currencies.

By way of illustration, the Concession Contract for the Paulista Center-West Highway considers a variable payment from the concessionaire to the granting authority of 3% of gross revenues. If the concessionaire chooses to adopt the exchange rate protection mechanism, this percentage can vary between 0% and 6% of the annual gross revenue (less than 3% if the real depreciates, and more than 3% if it appreciates). Depending on the case, if the devaluation of the real results in a financial loss is greater than the amount due from the concessionaire's payment, or if the appreciation of the real is greater than the amount corresponding to the subsidy increase to 6%, the concessionaire or the granting authority will have offset balances in the following years.

Brazil has also tried to implement a mechanism related to airport concessions, a description of the mechanism is attached as an annex.

1.3.2 PPP Financial Structuring in Paraguay: Routes 2 and 7

The first project awarded under the PPP Law in Paraguay: the Expansion and Duplication of Routes 2 and 7, has a payment structure that mitigates the exchange rate risk by incorporating a fraction of payments in dollars. The three types of payments defined in the contract are summarized below:

- i. **Deferred Investment Payments (DIP):** fixed, non-updatable, semiannual payments in dollars. The Contracting Authority will pay these to the concessionaire as remuneration for the financing not covered by the capital contributions made by the shareholders.
- ii. **Availability Payments (AP):** quarterly payments, in guarantees, that the Contracting Authority will pay to the concessionaire during the operation phase of the Contract, as long as the quality and service standards are met.
- iii. **Traffic-Linked Payments (TLP):** variable quarterly payments in guaraníes from the Administration to the concessionaire. These payments are linked to the traffic levels on Routes 2 and 7 calculated at the toll booths.

The financing of the project was structured by Goldman Sachs and received financial support from IDB Invest. The support by DB Invest for an amount of up to US \$200 million, consists of a guarantee which covers the construction risk associated with the use of the resources of the bond issued by Rutas del Este concessionaire, and a loan with a duration and repayment equal to that of the bond.

1.3.3 Educational Projects in Uruguay

Similar to the highway concessions awarded in Uruguay, the educational PPP projects provide the option for the granting administration to pay a proportion of the payment in dollars to the concessionaire. When signing the contract, the concessionaire selects the percentage of the availability payment to be received in dollars, and the granting administration will be responsible for the payment. In the case of PPP Educativa 2, which was jointly financed by IDB Invest and

Cafam, this mechanism allowed part of the construction to be financed in dollars, thus making the financial closure of the project feasible.

1.3.4 Foreign Currency Infrastructure Bonds in Chile

In the beginning of the Concession System in Chile (in the mid-1990s), the Ministry of Public Works -responsible for structuring and sole grantor of concessions, included exchange rate guarantees in the contracts in order to encourage the participation of international parties and to improve project bankability. These mechanisms increased the number of financiers in the market, which in turn allowed them to be more competitive. With time, the need to include these guarantees was reduced.

For more than a decade, concession projects in Chile have been financed entirely in local currency. This is partly because the country has a solid, healthy financial system, and a wide range of participating parties in the concession market. During the operation stage refinancing through the issuance of bonds in local currency is common and Pension Fund Administrators (Administradoras de Fondos de Pensiones, AFPs) are active in this market.

1.3.5 Solutions from International Financial Institutions

International financial institutions may use instruments such as derivatives in order to hedge local currency exposures with their clients. At the same time, they can offer local currency financing through different financing instruments.

Derivatives include *forwards*, options and *swaps*. *Forward* contracts are agreements between financial institutions, whereby a specific exchange rate is fixed at a future date on which the exchange of currencies will take place. Options, on the other hand, provide the buyer with the right, but not the obligation, to buy or sell goods or securities at a predetermined price until a specific date. Finally, *cross currency swaps* are the exchange of a series of flows (principal and interest) at a specific interest rate and exchange rate for a set period of time.

Generally speaking, the development of the derivatives market requires at least an operational and regulatory framework to support such transactions, and a certain level of sophistication among the parties involved. For this reason, the use of derivatives to mitigate exchange rate risk in PPPs tends to be more widespread in countries with deeper financial markets and a well-established market for infrastructure projects with private participation. According to figures from the Bank for International Settlements, Brazil, Chile, Colombia, Mexico and Peru have *swap* markets in the region. And Brazil is the most active one, followed by Mexico and Chile (BIS, 2020). In Brazil, *swap* markets are more liquid for periods of up to 5 years (IDB, 2019), which is a constraint for infrastructure projects because they often require longer financing terms.

Alternatively, international financial institutions may also finance local currency operations through the local capital markets. For that purpose, the following general condition should be in

place: i) a regulatory framework that allows entities not domiciled in the country (or multilateral entities, if applicable) to complete the regulatory process required to perform issuances, ii) government entities that support and hold information on these instruments such as brokerage firms, payment agents, bondholders' representatives, among others, and iii) interested local investors with approved regulations to invest in this type of instrument, such as local pension funds.

Through bond issues, it is possible to obtain local currency financing that can be associated with specific projects and structured on terms and conditions similar to these. However, they are generally complex to structure and the likelihood of successfully issuing them depends on the depth of local capital markets.

Financing entities can also tap local currency funding lines provided by local entities. The effectiveness of these operations depends, to a large extent, on the financing entities' capacity to fund themselves at competitive interest rates. Finally, if there is a robust project portfolio to finance local liquid assets, international financial institutions may consider establishing a local treasury. This is significantly more complex but may be justified based on market needs and demand.

For example, between 2018 and 2019, IDB Invest executed \$400 million in local currency financing in the region through different instruments, including bond issues, funding lines with public development entities and local liquid assets. IDB Invest has local treasuries in Mexico and has a local bond program registered in the Paraguayan, Costa Rican and Dominican Republic markets. It has agreements (*ISDA Agreement*) with international banks to execute *swaps* and has credit lines in local currency with local institutions, such as the Financiera de Desarrollo Nacional in Colombia.

2 Redefining the Role of Development Banks and Agencies at National and Subnational Levels

2.1 Description of the role of banks and development agencies, and their related challenges

Public banks have traditionally been relevant when it comes to supporting the development of the productive sector. In emerging market and development economies (EMDEs), public bank participation has averaged 11%⁴ of total private equity investment in infrastructure between 2017 and 2019 (World Bank 2017, 2018, 2019, 2020).

In Latin America and the Caribbean, public development banks play a leading role and have assets that represent around a quarter of the regional GDP (De Olloqui, 2013). Although a significant proportion of these institutions in the region continue to focus on financing productive sectors, a number of national and local banks, and development agencies, have played an important role in financing infrastructure projects with private participation, and this role can be strengthened.

It is estimated that about 70% of the region's development banks finance productive infrastructure and basic services projects. The sectors in which they have the largest share are transportation (38%), water and sanitation (22%), power generation (17%), and distribution and logistics (10%). The most widely used financing instrument is direct credit for the private sector, mainly for small and medium-sized projects, such as renewable energy generation (ALIDE, 2019). In the first half of 2020, the participation of public banks increased to 17% of total infrastructure investment with private and public bank participation. And it allocated more than US\$ 1.9 billion in loans to infrastructure projects in Brazil and Colombia (World Bank, 2020).

Through financial and non-financial instruments, public development banks can directly or indirectly help fund, finance, or reduce risks associated with the construction and operation of such projects. They can support the development of the PPP mechanism by structuring and providing long-term financing or guarantees, especially in emerging markets, non-traditional sectors, and in cases of limited local financing.

The advantages that local development banks have to support PPPs include: i) knowledge about local financial markets, financial instruments and credit-enhancing instruments; ii) established relationships with commercial banks and other financial institutions; and iii) privileged position to access local financial markets (ALIDE, 2019).

⁴ The figure includes debt and *equity*.

Such entities in particular bring clear added value in cases where local banks are not capable or inclined to analyze or manage certain project risks, including technical, regulatory and market risks. They can also support the financing of projects with significant positive externalities but low returns, making them potentially less attractive to other financiers. They also tend to be less averse to volatility in the economic-financial landscape, which allows them to act counter-cyclically. Finally, in some cases, their sovereign credit rating allows them to obtain financing at competitive rates, and they can pass these conditions on to local banks to encourage certain investments, or to projects directly. Their institutional nature makes it easier for them to attract other sources of financing for the projects they support, and in return this facilitates their bankability.

Considering the above, the challenge for banks and national agencies is therefore the development of instruments to address existing market failures in PPP financing and mobilizing resources from the private sector. In the segments or subsectors that have an active participation in the financial market, the participation of these agents may be suboptimal.

2.2 Opportunities and Solutions

Given the evolving nature of PPP markets, the value added by development banks and agencies at national and local levels will be maximized to the extent that they focus their efforts exclusively on projects or segments where the private sector has evident limitations.

In this respect, the actions of public development banks should be guided by the principle of efficiency in risk allocation. In other words, public banks should assume the share of the financial risk (be it market, credit, or liquidity risk) that they are best able to manage through the different instruments available to them (Prats, J., and Ketterer J. A., 2019).

To the extent that these institutions prioritize their actions in addressing market failures and developing risk mitigation instruments in an efficient manner, they become a supplement and catalyst for the private sector, rather than a substitute.

Therefore, it is recommended that when taking action, banks and local development agencies consider: (i) selectivity among sectors/projects with risks not managed by the private sector or emerging markets; (ii) limits on financing participation; and (iii) mobilization of the private sector through risk mitigation products and instruments. This is relevant because in the absence of such focus, local development banks may end up restricting or even eliminating the competition of local or international financial entities in the *Project Finance* market, eventually limiting the country's development capacity.

The instruments provided by local development banks include concessional lines of credit to first-tier banks, senior debt, guarantees, liquidity lines, and funding in local currency.

The crisis caused by the COVID-19 pandemic highlights the importance of local development banks as countercyclical agents. Therefore, the current context is an opportunity for these entities

to redefine their approach and added value in order to support the attraction of private capital to the development of PPP projects in the region.

2.3 Regional Experiences

2.3.1 National Bank for Economic and Social Development, Brazil - BNDES

BNDES has traditionally been the main long-term infrastructure financier in Brazil. Between 1997 and 2017, BNDES loans accounted for 70% to 80% of total infrastructure financing in the country (S&P Global Ratings, 2018). This leading role derived from the highly subsidized interest rate, the Long-Term Interest Rate (*Taxa de Juros de Longo Prazo*, TJLP), which is in the process of being replaced by a market-based long-term interest rate since 2018. With this transition, the BNDES aims to reduce the *crowding out* of the private financing market for infrastructure and increase co-financing, syndication and the use of capital market instruments, such as *debentures*, for infrastructure development.

In addition to credit platforms and second-tier channels to cover multiple clients and segments, the BNDES offers *credit enhancement* products, syndicated loans, *debentures*, corporate bonds, insurance, loan securitization and credit fund structuring, among others. It also works with other development finance institutions and the private sector on blended finance models through collateral guarantees and local currency financing facilities.

In its transition to a new role, the BNDES is actively participating in project structuring from early stages to the viability and bankability of such projects. An example of this is the bank's recent support for the structuring of PPP projects in the sanitation sector, and the commitment to support several states seeking to improve concessions, PPP and privatization models.

2.3.2 Development Bank of El Salvador - BANDESAL

Like its peers in Latin America, the Development Bank of El Salvador (BANDESAL) has a mandate to channel resources into the economy in cases or sectors where local or international first-tier commercial banks have less appetite to participate due to the investment volume, the sector, or project complexity.

When it comes to projects with private participation in infrastructure, BANDESAL has recently played a key role in the first PPP bids in the country, specifically in the case of the highway lighting and video surveillance. In this project, BANDESAL stated its willingness to finance the project directly with a favorable interest rate, or by backing the payment of the debt through a bank guarantee to commercial banks, therefore mitigating the risk of non-payment of the principal and interests.

2.3.2.1 Development Finance Corporation, Peru - COFIDE

COFIDE, known as the Development Bank of Peru, supports financing for investment projects focused on economic, social and environmental development impact. COFIDE acts as a partner and catalyst of capital investment through financing instruments with competitive and flexible conditions and long terms aligned to long maturity projects. This is done in domestic and foreign currencies, and with focus on complementing the participation of commercial banks. With respect to its infrastructure investment portfolio, COFIDE has 9.3% of its loan portfolio in electricity, gas and water, and 9.3% in transportation, storage and communications (COFIDE, 2020).

Through its financing instruments, COFIDE has contributed to the transition of the energy matrix by supporting the development of large and small-scale hydroelectric plants, wind farms and a photovoltaic project. In transportation, it has participated in road, port and airport projects. COFIDE is also promoting tourism, trade and competitiveness in Peru. COFIDE's objectives are aligned the government's strategy and the National Infrastructure Plan for Competitiveness (NIPC).

2.3.3 National Bank of Public Works and Services of Mexico (BANOBRAS)

Mexico's National Bank of Public Works and Services (Banobras) offers financial solutions for the development of infrastructure and public services. Banobras provides financing through credits and guarantees to those PPP projects that have their own source of payment, either from the exploitation of the concession or public contract or from the charges for the associated service. The financial products offered by this entity include loans (included syndicate loans), financing through Financial Intermediaries (Program), financial guarantees and guaranteed refinancing. Banobras also supports the participation of commercial banks and other financial intermediaries, both domestic and foreign, by granting them long-term funding to finance projects.

The PPPs supported by Banobras can be federal or local, and comprise different modalities: Concessions, Service Provision Projects (SPC) or Financed Public Works Contracts, among others. The main sectors eligible for support are communications and transportation, energy, water, solid waste, social infrastructure (hospitals and prisons, among others), and urban infrastructure.

FONADIN, a trust established by BANOBRAS, is a coordination vehicle of the Mexican Government for the development of infrastructure. The Fund supports the planning, design, construction, and transfer of infrastructure projects with social impact or economic profitability, involving the public and private sectors.

2.3.4 National Development Financial Institution (FDN - Financiera de Desarrollo Nacional), Colombia

FDN is a development bank in Colombia specialized in financing and structuring infrastructure projects. It focuses on addressing financial market constraints through different instruments and mobilizing sources of financing, including through the capital market. It also offers specialized solutions and products in consulting, project management and structuring.

The financial products offered by the FDN include credit guarantees, senior long-term debt, and *mini-perm* debt. The Multipurpose Liquidity Facility by FDN is an additional source of liquidity for projects, which allows them to cover cash shortfalls for the payment of Senior Debt. It also allows to advance payments guaranteed by the government.

The FDN also offers Partial Guarantees, which support the payment of a bond issuer's obligations. This improves its credit profile and enables access to new sources of financing through the capital market. Additionally, The FDN offers local currency and long-term credit lines to international financial institutions to finance projects in the country (FDN, 2020).

As a mixed company, FDN also structures public initiative projects for national or territorial entities and provides support and review services to private initiative projects. It also promotes and supports granting entities in the process of selecting potential investors (NDF, 2020b).

3 The Basel Accord: Limits on Banks' Debt-to-Capital Ratio in Long-Term Lending

3.1 Description of the Challenge

The Basel III Accord establishes more tighter rules with respect to reserves, the *ratios* that commercial banks must maintain and the levels of liquidity that must be preserved in order to avoid, mitigate, or cope with a possible banking crisis. For example, in the case of loans to Special Purpose Vehicles (SPVs), the bank must maintain a liquid reserve equivalent to 100% of the loan, which increases its opportunity cost. Likewise, regulations require banks to have a greater proportion of their resources in Stable Reserve Funds, which have high liquidity (Reyes-Tagle, Gerardo, 2017).

Characteristics of Basel III:

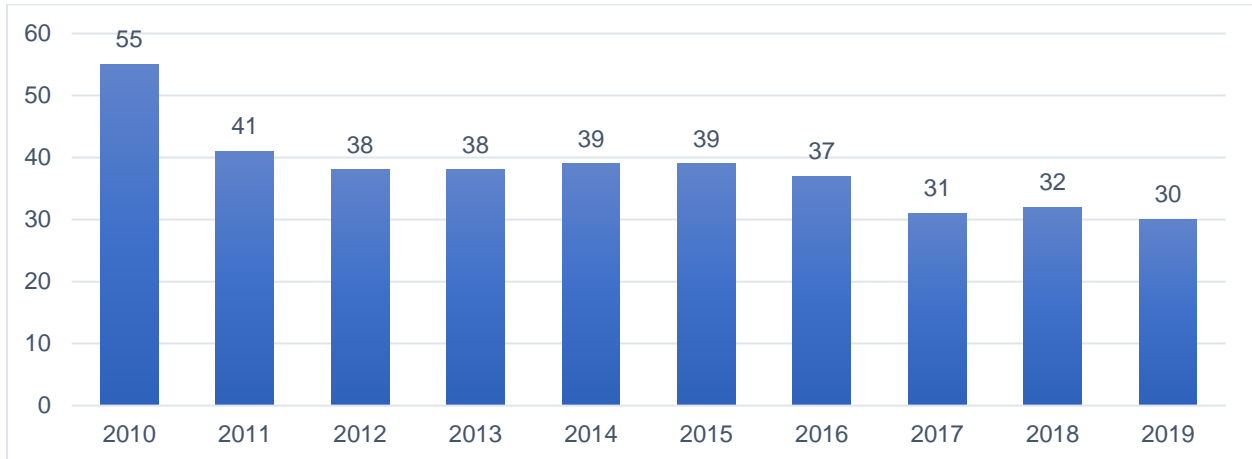
1. Liquidity coverage ratios (LCR) for banks are higher and stricter.
2. A net stable funding *ratio* (NSFR), which limits the funding of medium and long-term projects.
3. New limits to larger exposures and risk calculation criteria are created.
4. The possible elimination of internal risk based models for project financing is introduced.

Source: Reyes-Tagle, Gerardo (2017)

As a result of these restrictions, it is argued that the cost of commercial financing has increased, credit tenors have decreased as well as the use of letters of credit and revolving credit facilities. However, some sources, such as the 2018 analysis by the *Financial Stability Board*, note that the initial Basel III reforms have not necessarily had a significant effect on volumes or pricing across different groups of institutions. It also points out that financing for infrastructure projects does not appear to have been disproportionately affected, compared to other types of bank lending (FSB, 2018).

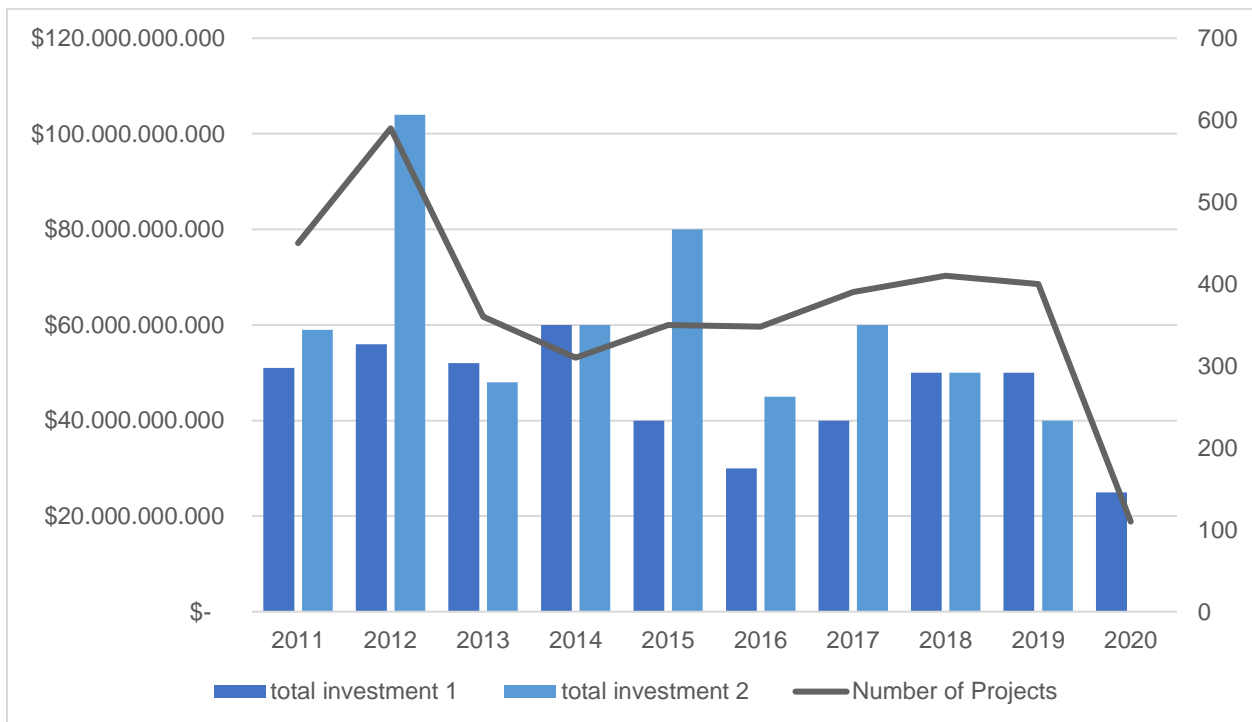
However, data from the *Global Infrastructure Hub* (GIH, 2020d) points to a reduction in private investment in infrastructure PPPs, which could be partly associated, among several other factors, with the high capital requirements defined by the Basel regulation on banking activity. In this regard, global private investment in infrastructure PPPs fell from US\$55 billion in 2010 to US\$30 billion in 2019 in the last decade (see Figure 3). In general, the volume of investments with private participation in infrastructure in EMDEs has not increased over the last decade (see Figure 4).

- **Figure 3:** Value of private investment in PPP (2010-2019) - Billions of US\$



Source: IJ Global and calculations by Global Infrastructure Hub (GIH, 2020b)

- **Figure 4:** Committed investments in infrastructure projects with private participation 2011 - first half of 2020. (US\$ billion)



Source: World Bank, 2020. Private Participation in Infrastructure 2020 Half Year Report.

Currently, the countries of Latin America and the Caribbean are at different stages of implementation of the Basel III recommendations (some are even still in Basel II), and the adoption of the rules or recommendations has been partial in some cases. For this reason, it is difficult to draw generalized conclusions about the impact of Basel III on PPP financing.

3.2 Opportunities and Solutions

The implementation of Basel III and the potential resulting limitations faced by the financial system have provided an opportunity to develop alternative mechanisms for financing PPPs such as project bonds (see next chapter).

In terms of addressing the limitations of the financing market for infrastructure, reducing the capital requirements below the levels currently required by the Solvency II and IAIS regulatory frameworks could be considered. A study conducted by Moody's on infrastructure financing in developing economies indicates that there is room for the adoption of more favorable capital regulation parameters (Moody's, 2017). The study showed that the credit performance for financing projects in these economies is not too different from that observed in advanced economies.

However, it is important to note that within the context of the COVID-19 pandemic, Basel has supported the easing of requirements for banks in order to maintain credit supply and improving loss absorbency. The Basel Committee on Banking Supervision supported measures to relax some regulatory requirements to enhance the financial resilience of banks and the operational resilience of the banking and supervisory community during the pandemic. The latter, considering that Basel III standards have strengthened the resilience of the banking system over the past decade. The continuity of these measures in the medium term should be subject to analysis vis a vis the performance of the financial sector.

4 Participation of Institutional Investors and Capital Market Instruments

4.1 Description of the Challenge

Commercial banks have traditionally been the main financiers of PPPs in developing economies and emerging markets. Between 2017 and 2019, such entities provided nearly half of the financing⁵ to infrastructure projects with private participation (World Bank, 2017, 2018, 2019). However, and for the reasons discussed in previous chapters, these institutions face limitations on the volume and tenor of the financing they can offer. This is evident especially in the case of large or numerous projects, or a portfolio of projects concentrated in the same sector.

In parallel, pension funds, sovereign wealth funds, insurance companies and other types of local and international institutional investors have large sums of money to invest globally. Although their participation in infrastructure projects is growing, it is still low, particularly in developing economies and emerging markets. In 2019, the 100 largest institutional investors globally were estimated to have US\$20 trillion in assets (*Institutional Investor*, 2019). However, these actors have infrastructure investments that represent 1.3% of their portfolio (OECD, 2019).⁶

In developing economies and emerging markets, institutional investors have been participating with credits representing 0.2% of total infrastructure investment with private participation in the primary market (World Bank, 2019). In Latin America and the Caribbean, such local and international actors invest in PPP projects in a few countries, such as Brazil, Mexico, Peru, Chile and Colombia. In general, they participate in operating projects /secondary market contracts transportation and energy, and in projects with predictable revenues.

Despite limited investment so far, long-term assets managed by institutional investors are well suited to the timing of infrastructure projects, including through PPPs. In addition, depending on the sector and type of project, PPPs can offer these actors predictable and attractive returns. Therefore, their participation can be enhanced.

The key challenges for mobilizing resources from institutional investors in infrastructure projects in the region are identified below:

- Incipient development of financing instruments. Around two-thirds of countries in the region are still at an "emerging" stage with respect to alternative infrastructure

⁵ Average share of commercial banks in all loans to projects with private participation in developing economies and emerging markets.

⁶ Refers to investment in infrastructure in the form of shares and unlisted debt

financing tools, and have not issued green or impact bonds at local level (EIU, 2019). The low development of local capital markets and associated instruments in most countries partly explains the limited participation of these parties. Additionally, there are still few collective financing instruments such as infrastructure funds in the region, and the lack of experience and knowledge in *project finance* structures can prevent some parties from investing.

- Inappropriate Risk Mitigation or Risk Transfer. Institutional investors tend to prefer *brownfield* projects. They are also more active in traditional sectors such as transportation and energy, as these are considered less risky and more aligned with the long-term investment horizon. These parties are also averse to construction risks and seek protection against commercial risks. The absence of appropriate risk mitigation or risk transfer mechanisms deters the participation of these investors, especially in less traditional sectors such as water and sanitation, education, and health.
- Technological, Social and Environmental Risks. In line with the above, the potential social and environmental risks of infrastructure projects, along with the weaknesses in the associated local regulations, are detrimental to the participation of institutional investors in certain projects. In addition, the lack of technical capacity in these entities leads to greater caution when it comes to investing in new technologies.
- Institutional and regulatory weaknesses in the infrastructure sector. Institutional weaknesses negatively impact the development of well-structured projects that are attractive to institutional investors. The portfolio of robust projects in the region is currently small and there are still inconsistencies in contracts and bidding documents. Moreover, investment is sometimes hampered by weaknesses in the laws and regulations governing the infrastructure sector, general regulatory risks, and lack of integrity, among other.
- Regulations or guidelines for the participation of institutional investors in infrastructure. In some countries there are no detailed regulations for the participation of institutional investors, or there are limitations on their participation.
- Absence of objective and robust data on asset performance (OECD, 2019).⁷ The absence of adequate accountability mechanisms, reliable data and transparency in the information of infrastructure projects makes it difficult for institutional investors to evaluate risks and asset performance in order to make investment decisions.

⁷ The absence of appropriate risk mitigation or risk transfer mechanisms has limited the participation of these investors in infrastructure projects.

4.2 Opportunities and Solutions

To diversify the investors of PPP projects, it will be necessary to design risk sharing mechanisms and improve the regulatory frameworks for the participation of local and international institutional investors, as well as the overall institutional and business environment for such mechanism. In addition to this, the deepening of local capital markets would offer significant opportunities for institutional investors in infrastructure. Once the risks are mitigated and the conditions are in place, the participation of institutional investors could increase particularly in the primary infrastructure market, where they currently make fewer investments.

Three types of solutions can increase the participation of institutional investors in PPP financing:

i) Enabling environment solutions for PPP project development and institutional investor participation; ii) Project-level solutions; and iii) Financial instruments associated with the capital and debt markets.

i) Enabling environment solutions for PPP project development and institutional investor involvement

The solutions associated with the enabling environment for the development of PPP projects include a robust institutional, regulatory, and normative framework for the development of PPPs. Regulatory stability, transparency, and integrity, as well as the predictability and project prioritization are particularly relevant. Additionally, standardization of contracts and documentation throughout the projects' life cycle can reduce complexity and facilitate comparability. Standardization is considered as part of the measures to consolidate infrastructure projects as an asset class and increase private investment (OECD, N.A) (GIH, 2018). As far as the participation of institutional investors is concerned, the countries must have specific regulations in place. And, on a case-by-case basis, assess how to make the investment regime for these parties more flexible in order to encourage greater involvement.

(ii) Project-level solutions

At project level, it is important to have adequate pre-investment studies that properly illustrate the associated business model. Proper structuring of projects is key, and emphasis should be placed on developing innovative structures aimed at reducing or mitigating the most relevant risks for institutional investors. Governments can assess, on a project-by-project basis, the possibility of issuing guarantees or making irrevocable payments. As for the bidding conditions, it is recommended to incorporate a margin of flexibility focused on attracting this type of investors. Project *road shows* should also be aimed explicitly at institutional investors. In addition, in order to encourage the participation of these agents in priority projects, tax incentives can be considered to reduce the cost of project issuances.

iii) Financial instruments associated with the capital and debt markets.

Trust securities and thematic bonds are examples of capital market instruments that can support the diversification of investor in PPP projects. These are increasingly attractive to institutional

investors as they seek projects with high social and climate sustainability performance, including sustainable procurement, protection of natural resources, and assessment of climate risks and short-term threats (Inter-American Development Bank, 2018). Full or partial credit guarantees for project bonds may also encourage institutional investors to participate.

Green Bonds

The green bond market aims to enhance the role of debt instruments in financing projects that contribute to environmental sustainability. Bonds can be issued by governments, banks, municipalities, or private sector companies. The green bond label can be applied to any form of debt, including private placements, securitizations, and asset-backed bonds.

Since the start of the global green bond market in 2007, the cumulative issuance of this instrument reached US \$754 billion in 2019. Latin America and the Caribbean account for 2% of cumulative global issuance, 41% of which comes from Brazil. However, its activity has been increasing significantly, and the number of associated transactions tripled between 2018 and 2019. As of mid-2019, only 9 countries in the region had issued green bonds (Brazil, Chile, Mexico, Peru, Argentina, Costa Rica, Colombia and Uruguay). More recently, Barbados, Ecuador and Panama joined the market. While in Brazil these bonds are predominantly issued by non-financial private sector companies, in other countries such as Chile, their issuance is mostly carried out by the public sector, and issuance by development banks is most prevalent in Mexico. About half of the region's green bonds are allocated to renewable energy projects, 20% to transportation, 8% to waste and the remainder to non-infrastructure sectors.

Greater standardization of definitions, metrics, and accountability for the use of resources and impacts can increase the attractiveness of these instruments in the region. Also, improvements in the associated regulations, further development of debt markets and the promotion of this instrument by the region's financial institutions will be key to catalyzing its use.

References:

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In addition, infrastructure funds can mobilize resources from international investors that seek to support projects based on specific criteria. One of the most innovative solutions at a global level is the securitization platform created by the Asian Infrastructure Investment Bank of Singapore with Clifford Capital, which will acquire and manage loans from financial institutions to *brownfield* infrastructure projects with the aim of securitizing them for institutional investors. The platform provides such parties with access to a diversified portfolio of infrastructure loans through a new investable asset class (Murray, 2019).

4.3 Regional Experience

Some experiences in the region about the participation of local and international institutional investors in the financing of PPP projects are summarized below.

4.3.1 *Debentures* and Thematic Bonds in Brazil

Although institutional investors in Brazil have participated in a specific and limited manner in infrastructure projects, the country is developing and scaling up mechanisms and incentives to encourage greater participation. Up to now, infrastructure *debentures* have mobilized resources from the capital market, yet the tax benefits are aimed at individuals. Considering this, a bill to improve the regulatory framework for infrastructure *debentures*⁸ and Investment Funds in Infrastructure is being discussed in the National Congress since 2020. Likewise, the creation of institutional *debentures*, which aims to create incentives for this profile of investors, is under consideration.

In addition to this, green bonds as well as social and sustainable bonds have gained momentum. It is expected that the surge of these instruments will generate greater interest from pension funds or insurance companies, particularly in the water and sanitation sectors. Since the first green bond was issued in the country in 2015, the market has grown exponentially, with 50 green and sustainable bonds issued in the stock market for US \$8.1 billion. BNDES was the first Brazilian bank to issue green bonds in 2017 to refinance its solar and wind investment portfolio and invest in renewable energy projects. The measures to encourage this market include Decree 10.387 of 2020, which provides tax incentives to investors for the issuance of green bonds, or projects with

⁸ This bill proposes the creation of infrastructure *debentures*, financial instruments that have similarities with the incentive *debentures*, regulated by Law 12.431/11. It is important to mention that debt instruments arising from Law 12.431/11 are often informally known in the market as infrastructure *debentures*. This which requires additional attention to the nomenclature of the different types of *debentures* in the proposed bill.

a social impact through the capital market (Mayer Brown, 2020). As a result of these measures, bonds have been issued in the sanitation and road market. Emissions by Grupo Iguá and Patria, respectively⁹ illustrate the latter.

At state level, notable efforts have been made to promote the participation of institutional investors in infrastructure projects. In São Paulo, the US\$2.8 billion PIPA project on a 1,273 km road complex was awarded in 2020 to a consortium formed by the Patria Fund and the Singapore Sovereign Wealth Fund. The awarding of this project, with the participation of institutional investors, was partly possible due to the implementation of contractual arrangements that created conditions for institutional investors to participate in the bids. This includes the possibility of subcontracting by the service operator concessionaire. Other mechanisms to encourage institutional investors in projects launched by São Paulo include structured dialogue initiatives with the market, tripartite agreements between financiers, concessionaires and the government, and currency protection mechanisms. All three instruments were used in the concession of the PIPA roads project.

4.3.2 CKDes and FIBRAS in Mexico

Mexico increased the sophistication of its infrastructure market by developing instruments that encourage the participation of institutional investors through the capital market. The country started with Development Capital Certificates (*Certificados de Capital de Desarrollo*, CKDes), and currently has more sophisticated instruments such as the Infrastructure and Real Estate Trusts (*Fideicomisos de Infraestructura y Bienes Raíces*), or FIBRAS for real estate projects, and FIBRAE for energy projects.

The Development Capital Certificates (CKDes) were created in 2009 in response to the needs of the Specialized Retirement Fund Investment Companies (SIEFORES). The purpose of the SIEFORES is to invest the resources of the Retirement Funds Administrators (AFORES) to diversify their portfolios in alternative assets, such as private companies and projects that were not part of their investment portfolio before the existence of this instrument.

With respect to FIBRAS, these assets enable investments in real estate through the Mexican Stock Exchange. Investors receive income from the monthly lease of the real estate, and the dividend of the shares of the Trust.

At the end of 2020, The Mexican Stock Exchange (BMV) announced that investment vehicles dominated issuance in 2020, with the placement of three Capital Development Certificates

⁹ In May 2018, the Patria Group, responsible for the road concession between Florínea (on the border with the State of Paraná) and Igarapava (on the border with the State of Minas Gerais), issued debentures for R\$1 billion. In turn, in July 2020, the company Iguá Saneamento issued two *debentures* for a total amount of R\$920 million, for the Cuiabá and Paranaguá concessionaires. In addition to representing the largest private sanitation infrastructure *debentures* in Brazil, they are the first sustainable *debentures* for the sector.

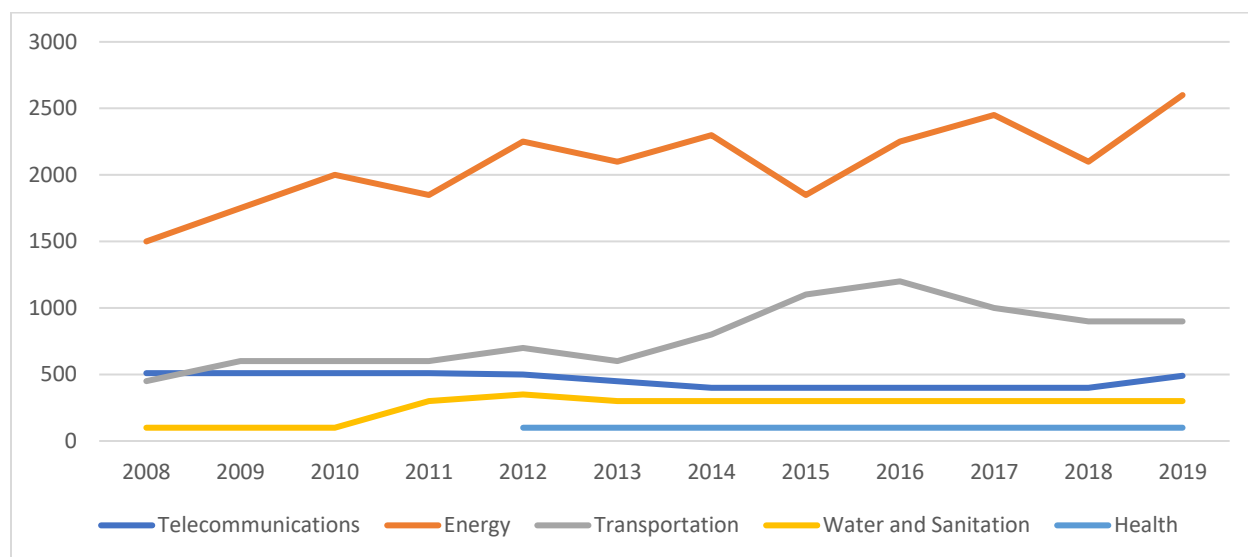
(CKDes) and one Investment Project Fiduciary Securitization Certificate (CERPI). In this year, infrastructure Investment Trusts such as IDEAL's Fibra E and Telesites' Fibra were launched.

In addition to the aforementioned instruments, the enhanced flexibility in the investment regime for pension funds in Mexico has enabled greater dynamism. As the infrastructure market has matured, the number of participants in the different stages of the projects has also increased.

4.3.3 The Participation of Institutional Investors in PPP Projects in Peru.

Although in recent years the participation of institutional investors in PPP projects in Peru has been more limited, they have played a significant role in project financing. In particular, these parties have invested in projects through the domestic or foreign capital market, or through private placements governed by foreign law. Peruvian pension funds have traditionally concentrated their infrastructure investments long-term, moderate risk projects in the energy sector, followed by transportation, telecommunications, water and sanitation, and health (see Figure 5)

- **Figure 5:** Evolution of the investment portfolio of Pension Funds in infrastructure projects by sector (2008-2019) - US\$ million



Source: Peru's Infrastructure Investment Guide - EY

An interesting example of project financing in Peru is the international private issuance method. The first associated transaction was the acquisition by international institutional investors of the concessionaire's rights to payments under the Concession Agreement for transportation infrastructure as per Rule 4(a)(2) of the *United States Securities Act* of 1933. In 2018, international insurance companies acquired rights to the remaining payments of the concession company for approximately US\$350 million, from the company Longitudinal 2 PAMPI Funding BV, a limited

liability private company incorporated under the laws of the Kingdom of the Netherlands, related to the Vial Sierra Norte S. A. concessionaire. The issuance was secured by unconditional and irrevocable payments from the Peruvian Government to the Vial Sierra Norte S. A. concessionaire. Other projects that have obtained international private placement financing include the Eten Cold Generation Reserve Plant, the Marcona and Tres Hermanas Wind Farms, and the Ergon Solar Panels Project.

4.3.4 Institutional Investors in the Chilean PPP Market

In Chile, institutional investors participate in infrastructure projects in several areas. On one hand, they participate in the financing of infrastructure projects under the same conditions as local banks in syndicated loans. On the other hand, they also participate in project financing through the capital market.

These players are also active in the refinancing market and also in the mergers and acquisitions (M&A) market, where they become part of the concessionary companies. Although Chilean regulations allow AFPs to participate with *equity* in projects, this has not happened yet, partly due to the limited knowledge by these entities of *project finance* structures.

4.3.5 Financial instruments associated with the capital market provided by IDB Invest in infrastructure projects.

In addition to offering debt instruments for infrastructure financing, IDB Invest has developed specific solutions to encourage the participation of institutional investors in the development of infrastructure projects in the region.

- **Guarantees:** The Total Credit Guarantee (TCG), is an instrument designed by IDB Invest to reduce the risk of bonds issued to finance infrastructure and energy projects. The instrument guarantees the bondholder the payment of the principal amount and the interests during the validity of the bond. The total credit guarantees provided by IDB Invest in 2018 proved necessary to meet the financing needs of the Santa Vitória do Palmar wind farm, and the Pirapora solar project as they cover the full payment of the debt to bondholders until their maturity. These guarantees, amounting to 130 million reales and 315 million reales respectively, helped ensure that the bonds were priced competitively (in fact, both issues were oversubscribed), and obtained a high credit rating. Santa Vitória do Palmar got AAA local credit rating and Pirapora got a global overall A+ rating.
- **Investment Funds:** IDB Invest's new Infrastructure Credit Fund in Brazil, launched jointly by the IDB Group and BNDES, aims to mobilize resources from institutional investors and other investors for the development of transportation, energy, water and sanitation, and social infrastructure projects through *debentures*. Investments



supported by the fund will comply with the IDB Group's environmental and social safeguards, as well as the Group's standards of corporate governance and integrity.

5 Secondary Market of Capital and Debt

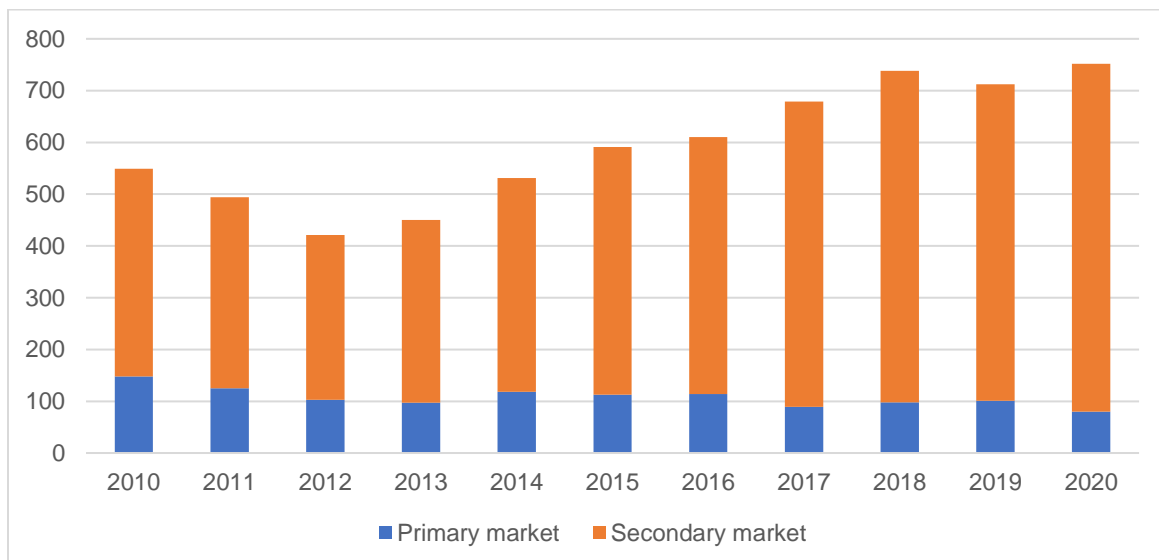
5.1 Description of the Challenge

Once projects enter the operational phase, the risks to lenders and to the sponsors are lower. It is therefore common to consider refinancing existing debt at a lower rate or for a longer term. Similarly, it is not uncommon for project sponsors, especially those specialized in construction, to sell their *equity* participation in the projects to institutional investors or *equity* funds, which have greater incentives to provide resources at this stage.

These two actions can bring multiple benefits to projects, such as lower financial cost and higher return on capital. These benefits are sometimes shared with the procurement authority in accordance with the provisions of the contract or to the applicable law. In turn, capital recovery also allows sponsors with limited resources to invest in new projects.

Globally, the secondary market has been promoting private investment in infrastructure over the last decade. In 2019, such transactions accounted for 85% of private infrastructure investment. In 2020, this figure increased even further as a result of the economic crisis created by COVID-19 (see Figure 6).

- **Figure 6:** Private investment in infrastructure in the primary and secondary market (US\$ billions)



Source: Global Infrastructure Hub 2021. Infrastructure Monitor. Available in: What were the trends in private infrastructure investment in 2020? (gihub.org)

In Latin America and the Caribbean, Brazil is the most active country in the secondary debt market, followed by Chile, Mexico and Colombia, and Peru. The refinancing market has shown a stable performance over the last 3 years with quarterly transactions averaging US\$3.6 billion (see Figure 7:).

However, changes in project equity are not risk free. Constant changes in the governance of projects derived from changes in shareholding may affect the proper management of operational risk. For this reason, some governments impose limits on changes in shareholding structure and have provisions regarding the permanence of the strategic partner or construction company in the project. Despite the above, countries such as Chile, which do not have such restrictions, have not suffered a deterioration in their concessions' performance. This is partly due to the investor profile in their projects, as will be discussed below.

- **Figure 7: Refinancing transactions in infrastructure in Latin America and the Caribbean (number and value, millions of US \$)**



Source: Inframation, 2021. Includes transactions in the energy, transportation and social infrastructure sectors

5.2 Opportunities and Solutions

The increased dynamism of the secondary market of debt and equity in infrastructure PPP projects in the region offers interesting opportunities for the diversification of investors. It is worth

noting that due to its nature and implications for the potential performance of projects, the promotion of the secondary capital market usually implies greater regulation.

Possible measures to increase transactions in this market include relaxing the provisions for the sale of equity stakes in projects. This measure, however, may create challenges for the supervisory actions of the government due constant changes in the counterpart's governance. That said, the benefits of such flexibility could be maximized if the potential impacts on corporate governance and project performance are mitigated. For example, through provisions on the type of shareholder and the number or frequency of such changes, as well as objective control measures. Additionally, corporate governance measures must be implemented at the concessionaire level to avoid the potential distortion in day-to-day management resulting from the entry of a new shareholder in the vehicle company.

The review and potential amendments to the tax regulations applicable to the secondary market of equity and debt could make these transactions more attractive. In particular, the regulations associated with "double taxation" can be a decisive factor for international investors.

The creation and strengthening of capital market instruments for the participation of institutional investors, who have a greater appetite for financing operational projects, would also boost the secondary market (see chapter 4).

5.3 Regional Experience

Some of the solutions considered in the previous sub-section reflect experiences in Latin American countries, and are briefly described below:

5.3.1 Mexico

Mexico has a dynamic refinancing market. However, it has lost momentum due to the provisions associated with the distribution of refinancing returns between the public and private sectors, among other. A number of private equity funds participates in the secondary capital market. Institutional investors also participate through instruments such as the CKDEs and FIBRAS, which have been previously described. Secondary market transactions have traditionally been concentrated mainly in the transportation sector. Despite its dynamism, regulatory risk and uncertainty over project cancellations have negatively impacted the secondary capital market in these projects.

5.3.2 Chile

In Chile, virtually all road and hospital projects are refinanced once they come into operation. Refinancing takes place through new *project finance* structures, or through issuing bonds in the capital markets. Although commercial banks offer competitive rates and terms at the time of project financial closing, the secondary market of debt and equity remains attractive because it

eliminates construction risks and generates a higher return for sponsors. As for the secondary capital market, there are relatively few local investment funds in Chile, and significant activity of Canadian and other international pension funds. From a regulatory perspective, there are no restrictions with respect to the sale of equity interests in the projects, except during the construction period. And there have been no perceived impairments to the performance of the concessions. There are also no provisions regarding the distribution of the profitability of refinancing with the government.

However, the tax structure of these transactions is a relevant challenge for the dynamization of these markets in Chile.¹⁰ In this regard, there is no specific regulation that applies to special vehicle companies created under public works concession contracts (Concessions Law) in Chile. In the sale/purchase of concessions in the operation phase, the tax regime becomes especially relevant when the new investors are foreign, as the future profits are repatriated to the respective countries of origin. Chile currently has agreements in force to avoid double taxation with 35 countries. Some are Canada, China, Spain, Australia, France, the United Kingdom and Colombia, to name a few. It has also signed agreements with countries such as the United States and India, but these are not yet in force.

5.3.3 Peru

Peru has an active refinancing market, driven in part by the conditions available to the sponsors at the financial closure of projects. It is common for concessionaires to sign credit agreements at less competitive rates in order to accredit the financial closing, and later refinance through the stock market or a better rate through a bank credit.

The secondary capital market is modest. The contracts limit the transfer of shares (normally the shares blocked from transfer range between 25% and 35% of the Concession Company's share capital), and oblige the strategic partner (the one that accredits the technical requirements for construction or operation and that must have 25% or 35% of the Concession Company's share capital) to remain in the project for a period of between 5 and 10 years.

5.3.4 Brazil

In the secondary debt market in Brazil, the PPP law establishes a mandatory clause to share the profits of refinancing projects between the public and private sector.

As for the secondary capital market, there is no restriction on the sale of equity stakes in projects. However, there are strategic projects that have *lockup* clauses. These clauses prevent the exit of

¹⁰ The current corporation tax rate is 27%, and profits distributed abroad to non-resident taxpayers are subjected to an additional *withholding tax* of 35%. 65% of the corporation tax paid on distributed profits is credited against final taxes payable, except for shareholders domiciled in countries with a tax treaty in force with Chile, for which 100% of the corporate income tax is credited.

shareholders until the works and investments have been completed (for example, airport PPPs). In addition, the law requires prior authorization to transfer the concessionaires' control, subject to proof of the qualification of the new controller.

Similarly, some of the PPP contracts have rules of consent between the parties and publicity of the operation for refinancing, which sometimes also impacts these transactions. However, the issuance of project bonds has been gaining prominence, allowing projects to be refinanced through capital market instruments (see, for example, Decree 10.387/2020).

Finally, it is worth noting that the secondary capital market has also been more dynamic as a result of the Lava Jato scandal, which in some cases encouraged and forced companies to sell their stakes in projects. This caused significant costs and delays in projects. The experience of the São Paulo State Government's Line 6-Orange PPP project is particularly noteworthy. In 2013, the Move São Paulo consortium was awarded the concession contract for the largest PPP in Brazil for the construction of a metro line in the city of São Paulo. As a result of the Lava Jato operation, the consortium companies faced problems obtaining financing, and the concession expired. After extensive negotiations, the transfer of the concession to the Spanish group Acciona finally took place in 2020.

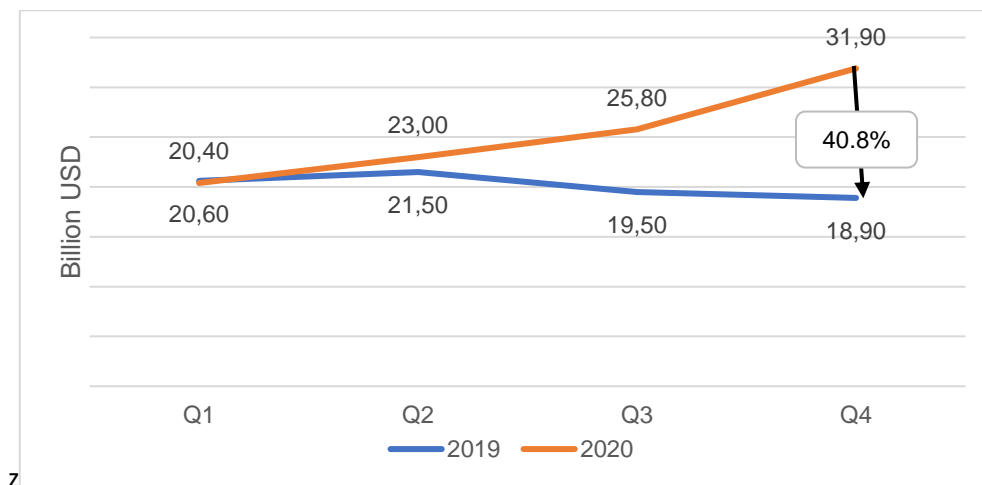
6 The Impacts of COVID-19 on Infrastructure Finance

6.1 Description of the Challenge

The COVID-19 pandemic has significantly affected investment in PPP projects. Globally, private investment in infrastructure projects was significantly impacted by the economic crisis and the lower demand for such assets generated by COVID-19. By the end of 2020, that investment was estimated to be 60% of the amount reported in 2019 (see

Figure 8). In Latin America and the Caribbean, in the first half of 2020, investments with private participation in infrastructure were reported at US\$8.5 billion, 42% less than what was reported in the same period in 2019. Despite the reduction relative to the previous year, it was the region with the highest investment in infrastructure with private participation (World Bank, 2020).¹¹

- **Figure 8: Impact of COVID-19 on private infrastructure investment¹²**



Source: Global Infrastructure Hub (2021). Infrastructure Monitor.

At the project level, the decline in demand and associated renegotiations impacted the financial closure of many projects already in the pipeline (World Bank, 2020). With respect to projects under construction, traffic restrictions and the reduced availability of materials and labor delayed or cancelled the execution of works, therefore increasing costs for the concessionaires. Projects

¹¹ In developing economies and emerging markets.

¹² Private infrastructure investment is defined by the GIH as the private sector's share of the financial close value of infrastructure deals that involved private participation. The analyses consider debt and equity transactions in the energy, transportation, telecommunications, social, water and waste sectors.

in operation, particularly in transportation, have suffered significant liquidity pressures due to lower demand for passenger transportation. In the energy sector, the non-payment of tariffs has resulted in liquidity pressures for distributors. As a result, many projects have needed to restructure their financing.

The pandemic has been declared a fortuitous event or force majeure in most cases, and compensation for losses has been provided for, or the term of contracts extended. However, the resolution and timing associated with the implementation of these protective measures have put operators under financial stress.

In addition to this, the pandemic may bring longer-term changes in demand patterns for certain infrastructure assets, and potentially alter the sectoral concentration of infrastructure investment by the private sector.

2020 saw a sharp drop in private investment in the transportation sector, partly as a result of low demand related to ordered closures, lower economic activity, and a decrease in discretionary travel. Airports have been the transportation sub-sector most affected by the pandemic. Air traffic in Latin America and the Caribbean in May 2020 was 91% lower compared to the same month in 2019. On an aggregate basis, passenger, and air cargo traffic in 2020 was half of that observed in 2019, representing losses to domestic and international airports estimated at US \$7.2 billion (ICAO, 2021). Likewise, the demand for metro and public transportation has been greatly affected by lockdowns, but also by the risk factor of the users' health. In several LAC cities, demand for public transportation decreased by up to 75% after the implementation of social distancing measures in 2020 (IDB, 2020). Likewise, demand for road transportation declined by more than 50% in several countries as a result of mobility restrictions.

With regard to the sector's recovery, demand in the road sector is expected to recover faster than in airports, and port activity is expected to reflect the contraction in international trade. Overall, the recovery in demand for transport assets will depend on a number of factors, including the type of asset, the nature of demand, trends in freight and passenger transport, economic activity, and mobility restrictions put in place to control the subsequent waves of the virus as the vaccine becomes more widely available. However, there could potentially be a longer-term shift in the pattern of individual transportation demand growth, as discretionary travel falls due to the persistence of homeworking in the service sectors and services become more digitized.

6.2 Opportunities

Despite the challenges, countries in the region will continue to strongly support infrastructure development for economic recovery. And some, such as Brazil, Colombia, Peru and Chile, have active concession portfolios and extensive operational experience. As governments' fiscal constraints increase, there will also be greater interest in increasing private sector participation in the development of PPP projects in multiple countries in the region. The foregoing, however, must take into account associated fiscal contingencies. In addition to this, the pandemic represents an

opportunity, if not a necessity, to increase investment in the health sector in particular, and improve the quality of services through PPPs.

In this context, there is a clear need to improve project structuring and risk allocation in order to ensure bankability. This has to be considering additional provisions related to potential events such as the COVID-19 pandemic. In this regard, it is recommended to clarify the scope of the existing mechanisms to mitigate/compensate for the liquidity restrictions of the concessionaires when faced with events of this nature and consider new provisions to diminish these challenges.

6.3 Regional Experience

A summary of some of the discussions, challenges and measures adopted in selected countries in the region in response to the effects of the COVID-19 pandemic on infrastructure financing is provided below.

6.3.1 Brazil

In Brazil, despite the pandemic was considered a fortuitous event and force majeure¹³ in PPP projects at the federal level, the repercussions of the pandemic have generated extensive discussions between the granting authorities and concessionaires, especially at the subnational level. The imbalances of the projects' cash flow have also exerted pressure on the payment obligations to the government, which is being dealt on a project-by-project basis.

Additionally, there have been attempts to eliminate user fees, which has led in some cases to the judicialization of projects. In other cases, exceptions have been introduced to the rules of prepayment of compensations to the private party at the time of expropriation by the public authority, which adversely affects the legal security of the projects. As determined by the Concessions Law, unilateral breach of the contract by the public partner can only take place with prior compensation to the concessionaire. The non-compliance of prior compensation by the public party has in some cases has generated concern among investors.

At the same time, the structuring of new projects has sought to reflect the lessons learned from the health crisis. The treatment of unforeseen risks and force majeure has improved through specific contractual clauses, as the country is seeking increased infrastructure investment in

¹³ In this scenario, opinion no. 261/2020 from the Office of the Attorney General of the Union (AGU) is particularly relevant. It was prepared in response to a query from the Secretariat of Development, Planning and Partnerships. It involved the Ministry of Infrastructure, which asked, in a highly detailed summary, whether the negative effects of the crisis endured by the multiple infrastructure sectors could legally constitute a force majeure event capable of supporting the eventual economic and financial rebalancing of the concession contract. In the first place, the opinion makes it clear that, even though the concessionaire carries out the activity at its own risk, the contract does not necessarily transfer all risks from the company to the individual. Therefore, the private party is deemed to assume the ordinary risks of the business, while the public authorities assume the extraordinary risks, unless the contract provides otherwise. The AGU recognizes that the coronavirus pandemic may qualify as force majeure or an unforeseeable event to justify the rebalancing of transport infrastructure concession contracts, unless the contract provides otherwise.

partnership with the private sector. Particularly in this context, the contractual modality for management of public hospitals by the private sector is worthy of mention. This type of PPP has been developed for some time in Brazil and has proven to be effective within the context of the pandemic. Under this type of contract, temporary hospitals such as the one built in the Pacaembu stadium¹⁴ were established in record time.

6.3.2 El Salvador

In El Salvador, the impact of COVID-19 has highlighted the need for an approach for the early termination of contracts for fortuitous events, or force majeure, that recognizes the existence of public health emergencies. This has resulted in the need of adequate clauses to enable the continuation of services according to the stage of the contract. The measures considered include contract extensions, tax reductions, modification of tariffs or a reduction of the fee on the total contract revenue.

Regarding the current instruments for the management of contingent liabilities, the Special Law on Public-Private Partnerships provides for the Public-Private Partnership Liquidity Fund, which, on behalf of the State Contracting Institutions (ICE), pays firm or contingent quantifiable commitments to the concession companies that have signed PPP contracts according to the indications of the ICEs. Payments made by the Fund are channeled through first-tier banks that are authorized to operate and raise funds from the general public. This Fund in turn behaves as a trust where the trustee is BANDESAL, and the trustor is ICE. In the event that the contingent commitments do not materialize and therefore are not disbursed, BANDESAL is required to invest such resources in highly liquid and low-risk financial vehicles, while the potential activation of the next cycle of payments to the concessionaire company takes place.

6.3.3 Colombia¹⁵

The Colombian government has undertaken a series of actions aimed at alleviating the impacts of COVID-19 on concession projects and mitigating the potential impacts of similar events in the future on project bankability and performance.

Firstly, the government increased the cap of term extension for both public and private initiative PPPs and port concessions.

The National Infrastructure Agency announced the compensation of the lower yields and idle costs incurred by road concessionaires between March and May 2020. In addition, several

¹⁴ Developed by the Hospital Israelita Albert Einstein with its own resources to treat patients from the public Hospital in the Unified Health System (*Sistema Unico de Saude*), which they are currently managing.

¹⁵ The analysis of the Colombian case is based on *Jaramillo, Pablo; Streubel, Laura (2021). Impacto del COVID-19 en el desarrollo de infraestructura en América Latina y el Caribe y el rol de las asociaciones público-privadas en tiempos de crisis en la región.*

working groups with the concessionaires have taken place with the aim of agreeing on the recognition of events that are exempt from liability related to the health emergency. These working groups also seek to study mechanisms that allow concessionaires to obtain resources for the execution of contracts.

Regarding other measures related to the alleviation of the concessionaires' liquidity restrictions, the 5G contract introduces the concept of Revenue Support, which consists of an annual payment of the difference between the actual and expected project revenues for the previous 12 months. This figure replaces the compensation scheme for differential revenues payable in years 8, 13 and 18 of the concession.

Additionally, the 5G contract draft explicitly recognizes mobility restriction events for cases related to the declaration of a state of exception, or a state of emergency. It also provides for compensation to the concessionaire in order to mitigate the impact caused by the mobility restriction on revenue collection.

Finally, the suspension of certain obligations that are not essential to the performance of PPP contracts under the current pandemic conditions is also being evaluated.

6.3.4 Peru

In Peru, a nationwide State of Emergency was declared in March 2020, imposing compulsory social isolation (quarantine). In addition to this, mandatory social distancing restrictions were also in place at certain times to prevent the spread of the virus. Supplies of food and medicine were, however, guaranteed as well as the continuity of basic services, which meant that the operation of PPP projects linked to these services was not affected. In addition, interprovincial and international passenger transportation (including air transportation) was suspended, although cargo transport continued. While the State of Emergency was in effect, traffic-related measures were maintained for the provision of and access to services, essential goods and activities related to the resumption of economic activities.

The effects of the pandemic on infrastructure projects in the country have been diverse, depending on the sector and the project stage. Transportation has been the most affected sector.

Regarding the impact on road infrastructure projects in operation, the Congress of the Republic passed a law (Law 31018) ordering the suspension of toll collections on the national road network under concession during the state of national emergency without any right to compensation for the concessionaires. In response to the adoption of this regulation, the concessionary companies requested protection at a contractual level. Eventually, Law 31018 was declared unconstitutional by the Peruvian Constitutional Court.

The pandemic also affected road concession projects under construction. The total lockdown included infrastructure projects in the construction stage, which delayed the start of operations. Concessionaires requested the government compensation for the increased costs associated to the delays.

In summary, given that there are no specific regulations to counteract the effects of the pandemic on PPP contracts, the problems caused by this context are being analyzed and resolved within the framework of existing regulations and contracts. For this reason, the measures taken depend on the project, granting agency or regulator.

Under the country's reactivation program (Supreme Decree 080-2020-PCM), it has been possible to resume the execution of certain works, including PPP projects. This law envisages the reactivation of 56 projects in the Transportation and Communications sector, 36 Sanitation works and projects part of the National Infrastructure Plan for Competitiveness (PNIC), a significant number of which are projects with private participation.

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Appendix 1. Exchange Rate Mitigation Mechanism in Brazilian Federal Airport Projects

The first federal airport concession in Brazil took place in 2011, with the concession of São Gonçalo do Amarante Airport. Subsequently, the most important and critical airports started to be awarded through bidding processes. In 2012, Guarulhos (SP), Viracopos (Campinas - SP) and Brasília (DF) were put out for bids. And, in 2014, so were Galeão (Rio de Janeiro - RJ) and Confins (Belo Horizonte - MG).

These ventures were contracted while taking into consideration the fact that the country was in an economic situation that seemed very promising. However, the drop in passenger flow at airports caused by the 2015 and 2016 financial crisis, as well as the involvement of some of the concessionaires' shareholders in Operation "Lava Jato" created an environment of legal and financial instability. Consequently, companies lost financing and were not able to continue with their planned investments and honor the payments to the government.

The low use of the airports, combined with the concessionaires and their shareholders' lack of financial capacity revealed weaknesses in the structuring of the first airport concessions. This affected both the payment to the granting authority and the payment of debts to creditors, and even jeopardized the airports' service level.

In this scenario, the foreign investor, whether the operator or the financier, gains a relevant role in the sector. As a result, the issue of risk and the exchange rate variations during the execution of the contract has been addressed with particular detail..

In the last signed concessions, the dollar's exchange rate variation showed an imbalance between the dates of signature of the concession contracts. This clearly proved the need for the creation of exchange protection mechanisms.

In this regard, in February 2017, the Ministry of Transportation, Ports and Civil Aviation (unified with the current Ministry of Infrastructure) opened a public consultation to collect input for a new regulation in the form of a ministerial ordinance. It sought to implement an exchange rate protection mechanism for airport concessions.

The main focus of the draft ordinance was the possibility of incorporating this regulatory mechanism into the bidding processes that were underway at the time for airports in Fortaleza, Salvador, Florianópolis and Porto Alegre. In this way, the concessionaire would count with the right to use this tool, which was provided for in the contract for a period of up to seven years from the date of signing the contract.

According to the terms of the draft ordinance, the exchange rate protection mechanism would apply to the value of the capital and interest of the contracted financing in foreign currency in the first seven years of the concession. These resources were intended for investment in reversible assets, payments to the granting entity or contributions to the National Civil Aviation Fund (FNAC). In these cases, concessionaires could use the periodic payment to the granting entity (otorgas) to compensate for currency variations or consider the variation of the HICP and aspects of the "Brazilian risk".

Note: in the case of airports, the payments to the granting entity were fixed, and a variable part was linked to the airport's revenues. The idealized exchange rate mechanism would work with the variable part, which allows for a smaller transfer to the government to provide exchange rate protection. In the event of a devaluation of the real (BRL), there would be a discount in the variable payment to the FNAC. However, in the event of a favorable exchange rate variation, the concessionaires would have to pay an additional percentage in the outstanding installments.

Although encouraging, the ordinance was put out for public consultation, but it was never published.