



Efficient and quality infrastructure in Latin America and the Caribbean: how to improve investment performance

Background

Investing in infrastructure involves applying financial resources to the construction, maintenance and improvement of installations, equipment and services that are fundamental to the functioning of society. The evidence confirms how investments of this type generate multisectoral effects, with direct



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This *FAL Bulletin* analyses the efficiency and effectiveness of infrastructure investments to promote better outcomes and facilitate the closing of the infrastructure gap in Latin America and the Caribbean.

The document outlines the importance of project performance in promoting quality infrastructure. In addition to examining the recent evolution of the World Bank's logistics performance index (LPI) in the countries of the region, it proposes specific methodologies to improve the management of public infrastructure and reiterates key principles for achieving higher quality in project implementation.

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and indirect impacts on all the Sustainable Development Goals (SDGs). In particular, Goal 9 states that investments in infrastructure are crucial to achieving sustainable development and empowering communities in many countries (United Nations, 2023).

Investing in infrastructure enables the provision of basic services such as transport and logistics, energy, water, sanitation and telecommunications. It is generally characterized by large projects involving substantial capital outlays over long periods, which at the same time are associated with significant levels of risk and the need for time so that the results can be assessed. The infrastructure sector also makes heavy use of construction and logistics activities, which have an impact on various areas, such as employment levels, technology and sustainability. Infrastructure services are essential for economic development, connectivity, trade and social well-being.

The transport sector, for example, is directly related to movements in the international goods trade and it encompasses systems that include roads, bridges, railways, seaports and airports. Low levels of investment in such infrastructure create logistical bottlenecks for the development of regional and global supply chains, which constrain the ability of countries to take advantage of their strategic global trade positions.

Countries in Latin America and the Caribbean have historically faced significant infrastructure investment gaps and a range of challenges in ensuring the quality of the available infrastructure, which has limited their potential for economic and social development. The structural challenges have clearly hampered adequate infrastructure investment in the region, which has had a negative impact on economic competitiveness, regional integration, access to basic services and the ability to respond effectively to emergencies and natural disasters. Inadequate transport infrastructure has increased logistics costs and slowed the flow of goods and services, affecting the countries' ability to compete on international markets and reducing the region's attractiveness as a destination for foreign investment.

Sánchez and others (2017) identify two types of infrastructure gap: (i) the vertical gap, which is defined in terms of internal factors of the country or region under analysis and the differences that arise between the evolution of the infrastructure supply and domestic demand for it; and (ii) the horizontal gap, which arises in relation to a given objective, such as a level of essential service coverage compared to what exists in other regions of the world. While it is doubtless essential to increase the investment volume to eliminate logistical bottlenecks and, consequently, to reduce possible infrastructure gaps, another key element is to improve project quality in order to attract more investments.

Thus, spending more on infrastructure is essential, but alone it is not enough; it must be accompanied by better investing for better results. Investment quality is associated with better project preparation—which can, for example, expand access to funding sources—and

with greater effectiveness of the services offered. Economic viability in terms of cost-benefit analyses must be guaranteed, but so must the continuity and sustainability of projects, which involve maintenance costs. Both issues can be said to bear a relation to the main objective of increasing the productivity of the factors of production within economies.

In addition, the International Monetary Fund (IMF, 2015) examines the relationship between the efficiency of public investment management and long-term economic growth and clarifies some important concepts. First, efficiency is the relationship between the value of the public capital stock on the one hand and infrastructure coverage and quality on the other. This is calculated by comparing a country's infrastructure with the countries that have the best coverage and quality standards, which represent an efficiency frontier. In other words, infrastructure is more efficient if the capital stock exists but also if coverage and/or quality levels are closer to the optimal indicators. Second, the productivity of public investment is the relationship between investment and economic growth, measured as the ratio between the average real growth rate of the capital stock and the average real rate of economic growth. The economic and social impact of public investment depends mainly on its efficiency, and its effects on economic growth are dependent on the level of productivity (see diagram 1).

Diagram 1

Efficiency and productivity of public investment



Source: International Monetary Fund (IMF), "Making public investment more efficient", *IMF Policy Paper*, June 2015 [online] <https://www.imf.org/external/np/pp/eng/2015/061115.pdf>.

IMF (2015) concludes that the most efficient public investors obtain twice the economic return on their investments than the least efficient ones, something that can be attained with stronger institutions through the public investment management assessment (PIMA) framework. Investment priorities vary according to country groups: while more advanced economies should target on stable and sustainable fiscal frameworks, emerging markets should focus on more rigorous and transparent arrangements for evaluating, selecting and approving projects. Low income developing countries should strengthen the financing, management and monitoring of project implementation. According to the study, all would benefit from stricter oversight of public-private partnerships and better integration between strategic planning and capital budgeting.

In addition, comparing the value of public capital (inputs) and infrastructure coverage and quality metrics (outputs) between countries reveals average inefficiencies in public investment processes of around 30%. Thus, efficiency and productivity are related to improvements in public investment management, the benefits of which are associated with stronger PIMA institutions, which could close up to two thirds of the public investment efficiency gap (IMF, 2015).

Increasing infrastructure investment levels also depends on governments' fiscal capacity and ability to attract foreign capital, which pose additional challenges. In that context, private investment can also contribute significant operational and procurement benefits to infrastructure projects. These considerations —along with, in some cases, advantages of access to capital— may justify public-private initiatives or the provision of infrastructure by private means (Glaeser and Poterba, 2021).

Infrastructure investment is a key driver of sustainable economic development. This bulletin analyses alternatives to improve the results of investments of this kind in Latin America and the Caribbean. This is possible with more efficient investments that generate projects that over time allow for greater benefits (coverage) compared to costs (inputs). However, in order to perform better, projects also require greater effectiveness or efficiency, defined as

the ability to achieve the desired or expected effect. Accordingly, project quality is a key factor in increased effectiveness and, consequently, in better performance.

Poor public spending performance, whether due to inefficient use of resources or poor quality of results, can constrain the additional amounts that can or should be allocated to infrastructure. While inefficiencies limit investment capacity, poor quality also entails higher future expenses, with losses for users or increased maintenance costs. Thus, improved performance reduces waste and achieves better long-term results for users in the region, thereby optimizing the use of resources. When public funding is used, optimization must be accompanied by greater responsibility in the management of public spending; similarly, in the case of private financing, projects must be made more attractive, thereby contributing to increased investment and the closure of infrastructure gaps. In both cases, improved governance is of key importance and brings concrete benefits for the populations involved.

The first section of this bulletin evaluates infrastructure performance in Latin America and the Caribbean according to the infrastructure and logistics components of the World Bank's logistics performance index (LPI). The second section analyses the IMF PIMA framework, which identifies key factors for increasing the efficiency of public investments. The third section proposes solutions for implementing a broader cost-benefit analysis to overcome structural challenges in pursuit of more effective infrastructure investment programmes that result in higher productivity. The fourth section examines the principles for quality infrastructure investment proposed by the Group of 20 (G20). Lastly, the fifth section presents a series of recommendations.

I. Current state of infrastructure and logistics in Latin America and the Caribbean

Finding solutions to improve investment performance in Latin America and the Caribbean requires an understanding of the current state of affairs. According to ECLAC (2023), the lack of quality logistics infrastructure means that costs are higher in the region than in more developed countries, which has a negative impact on trade flows. The World Bank's LPI reports an average score for Latin America and the Caribbean of 2.6 in 2023, below the world average (2.9) and far from the best score of 4.3 obtained by Singapore.

LPI covers six components: (i) the efficiency of customs and border management clearance; (ii) the quality of trade and transport infrastructure; (iii) the competence and quality of logistics services; (iv) the ability to track and trace consignments; (v) the timeliness of shipments; and (vi) the ease of arranging competitively priced international shipments (ECLAC, 2023). It therefore evaluates the quality of both infrastructure and logistics and includes a standardized scoring scale that enables performance comparisons among different nations and the identification of areas for improvement. As a result, the different components can be compared to help countries to identify their challenges and opportunities and thereby improve their performance. The calculation of the index is based on a worldwide survey of international logistics operators (global freight forwarders and carriers) and high-frequency data sets on maritime transport and container tracking, postal transport, and airfreight activities (World Bank, 2023).

The 2023 LPI enables comparisons to be made among 139 countries (World Bank, 2023). Each country receives a score on a scale from 1 (very low) to 5 (very high), with higher scores indicating a better logistics performance. While LPI is weighted among the six main components, this document emphasizes the quality of trade and transport infrastructure and the quality and





competence of logistics services.¹ This enables an analysis of the infrastructure and logistics situation in Latin America and the Caribbean in order to understand the recent evolution of country performance and identify potential bottlenecks.

According to the World Bank (2023), the 2023 LPI indicates that logistics services were generally resilient for both the best and worst performers, despite a more challenging operating environment. The overall global average score in the 2023 LPI was broadly the same as in the previous survey in 2018, indicating that countries recovered rapidly from the shipping disruptions caused by the coronavirus disease (COVID-19) pandemic and the global supply chain crisis. However, both at the aggregate level and in the different components, there was a performance gap between developed and developing countries (ECLAC, 2023).

Data for 22 Latin American and Caribbean countries between 2018 and 2023 indicate a low but positive variation in LPI in most cases. The index improved in 10 countries, deteriorated in 6 and remained constant or almost constant in the remaining countries. The highest 2023 LPI results were recorded in Brazil (3.2), Panama (3.1), Chile (3.0), Peru (3.0) and Uruguay (3.0). Honduras, Peru and Uruguay recorded the largest increases (0.3 each), while the countries that registered the largest declines over the period were Chile (-0.3), Mexico (-0.2) and Panama (-0.2).

In the infrastructure and logistics components, there was greater progress in general: over the period, 15 countries improved their infrastructure component, while only 2 recorded deteriorations. Meanwhile, 13 countries saw their logistics scores improve and 4 recorded declines. In 5 countries, variations of zero or almost zero were reported for the infrastructure component, and the same was true in 5 countries for the logistics component (see figure 1).

Specifically, between 2018 and 2023, there were improvements in the infrastructure component for the Bolivarian Republic of Venezuela, Brazil, the Dominican Republic, Guyana and Uruguay, which reported positive variations of 0.3 points. Panama also posted a significant improvement (0.2) and recorded the region's best 2023 LPI infrastructure result (3.3). In contrast, there was a significant deterioration in Chile (-0.4), the country that had recorded the highest infrastructure indicator in 2018, and in Haiti (-0.1), which posted the region's lowest result for this component.

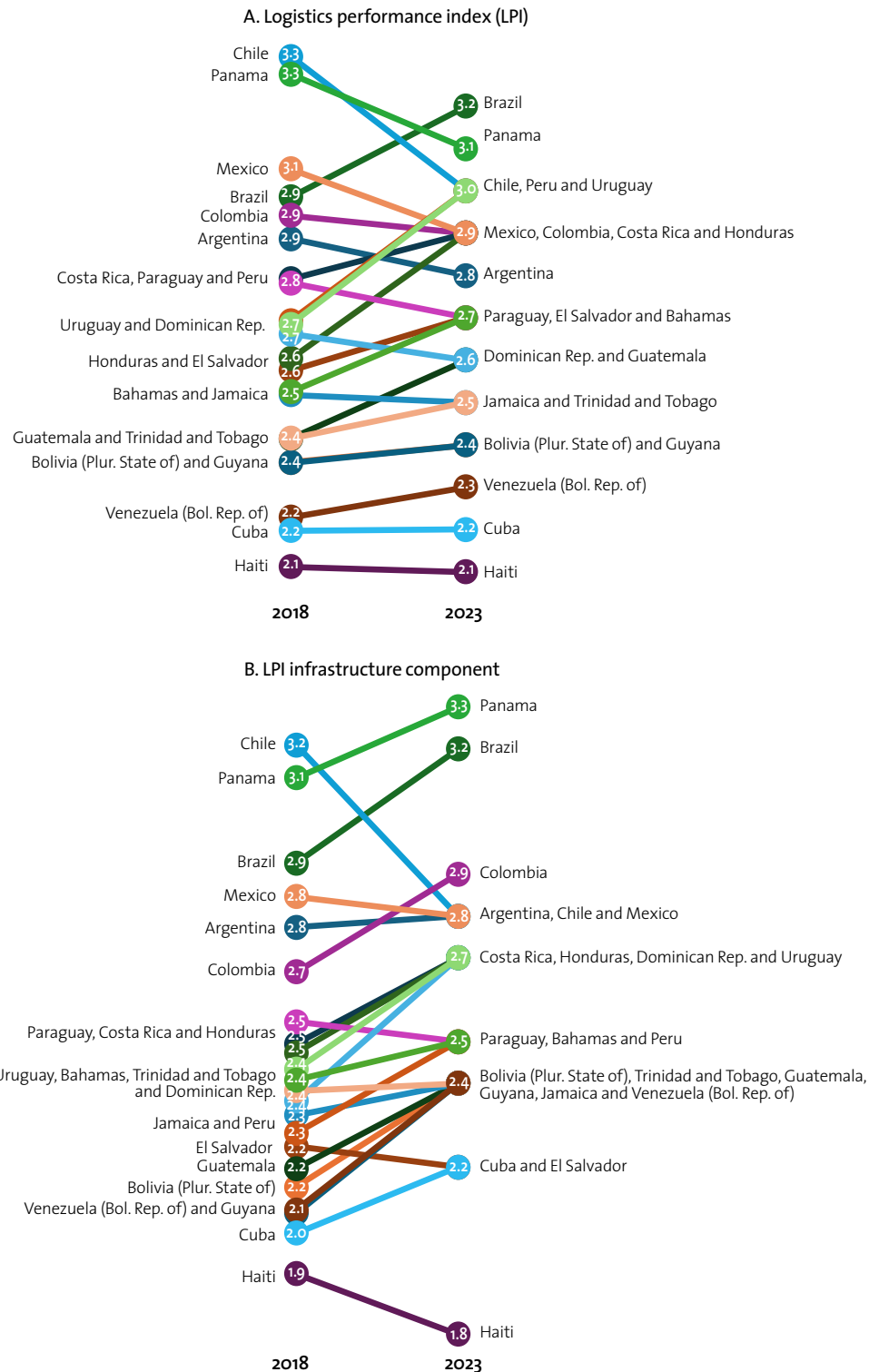
In the logistics component, Guatemala, Guyana and Uruguay recorded respective increases of 0.5, 0.4 and 0.4 points between 2018 and 2023. The countries with the best logistics scores in 2023 were Brazil (3.3), Chile (3.1), Colombia (3.1), Uruguay (3.1), Mexico (3.0) and Panama (3.0).

¹ In some cases, these two components are identified more simply in this bulletin as the "infrastructure component" and the "logistics component". The infrastructure component measures whether the infrastructure is of sufficient quality, whether it is in good condition and whether the services that depend on it—such as electricity, fuel and water—are of good quality and affordable. The logistics component measures the quality of logistics services, such as the availability and competence of suppliers, the quality and cost of warehousing, handling, value added and other services, and the use of technology and innovation to improve logistics performance (ECLAC, 2023).

On the negative side, four countries recorded deteriorating index results: Panama (-0.3), Haiti (-0.2), Paraguay (-0.1) and Argentina (-0.1). The region's countries with the worst results were the Plurinational State of Bolivia (2.4), Trinidad and Tobago (2.4), Cuba (2.2) and Haiti (2.0), with Haiti being the only country of the four to record a worsening of the component.

Figure 1

Latin America and the Caribbean (22 countries): logistics performance index (LPI) scores and variations by country, infrastructure and logistics components, 2018 and 2023



the efficiency of infrastructure use. New projects generally garner more political interest and, in many cases, are given priority over those that require infrastructure refurbishment or maintenance. In the political arena, in some cases, small interest groups can delay or block important projects; in others, regulatory inefficiencies that increase costs and delay project implementation schedules can arise. Reaching political consensus is even more difficult when infrastructure spans several jurisdictions.

A discounted cash flow cost-benefit analysis involves estimating the projected benefits of infrastructure's future uses and calculating the present value of those flows using an interest rate, such as the government's cost of funds adjusted according to its level of risk. Subsequently, the benefits are compared with the project cost and with future regular maintenance spending, which, as already noted, must also be predicted and discounted. Thus, cost-benefit analyses involve making projections, which allow the evaluator to exercise a degree of discretion; developing institutions that can make rigorous, non-partisan calculations is therefore essential. Institutional soundness and good governance are key elements not only for project preparation but also for sound analyses of efficiency results.

Glaeser and Poterba (2021) propose three solutions to incorporate this type of analysis more directly into the political process. First, they propose analysing infrastructure spending as a whole, rather than analysing the benefits of specific projects. They also recommend the creation of national infrastructure banks to receive a fraction of federal spending and independently allocate funds to projects that appear to offer particularly high benefits relative to their cost. A third option is to maintain a cost-benefit analysis with input from a federal agency that would allow the available funds to be allocated among projects once the total budget has been determined, thereby increasing the efficiency of capital allocation.

One essential element in implementing an infrastructure project is a clear understanding of the required investment amounts—which are generally very high—in order to determine whether the future benefits justify the current costs. The scope of the project, the functions required of it and the operation of the service after implementation must be taken into account, in order to assess in detail how cost, service, capacity and safety considerations vary among the project's main size, design and technology options.

Profitability is a key element, not only in absolute terms, but also when compared to other options for achieving non-monetary benefits. To increase efficiency, projects must also consider social, financial and economic issues, their resilience to natural disasters and the possible infrastructure adaptations needed to address environmental risks. In addition, they must measure the evolution of the planned systems in response to changes in future needs, technologies and financial capabilities.

While implementation challenges must still be addressed, cost-benefit analyses are key to improving the effectiveness of infrastructure projects because they enable both quantitative and qualitative aspects of physical infrastructure investment projects to be considered in a structured manner, thereby optimizing, for example, risk management and the decision-making process (see table 1).

In short, cost-benefit analysis is a very important tool for structuring infrastructure projects; its implementation, however, poses major challenges. To minimize those challenges, the issues identified above must be recognized, and clear assumptions—adapted to the objectives of each investment programme—must be established with transparency. Although the magnitude of the impacts considered in the analysis is uncertain, the process affords a better understanding of how the costs and benefits are distributed among the population, with positive impacts on project efficiency and therefore on the linkages between countries' infrastructure, productivity and economic growth.

Table 1

Key features and issues to be considered in a cost-benefit analysis for physical infrastructure projects

Feature	Issues to consider in the analysis
Cost-benefit analysis involves estimating the future usage and benefits of the infrastructure	Benefits to users are often deemed more important than access costs, which often leads to analysis bias. Consideration must also be given to the potential conflict of interest in the fact that the companies that stand to benefit from constructing the infrastructure are the entities reporting on the benefits and costs of that infrastructure.
Measuring systemic impacts	The construction of new infrastructure—in the transport sector, for example—implies potential impacts on the use of other alternatives, such as other routes and modes of transport. Estimating the linkages between different modes, or even different routes used by a given mode, usually involves detailed analytical work that goes beyond the scope of the proposed project.
Assessing ancillary benefits and costs	Investment in new infrastructure can impact infrastructure use patterns, and the direction of the effect is likely to depend on the degree of substitution between the old infrastructure and the new. The magnitude of the benefits in well-being associated with new infrastructure is a matter of debate and conjecture.
Estimating macroeconomic effects (uncertainty about potential social benefits)	While infrastructure spending generally provides social benefits, such as job creation, uncertainty exists about the number and social value of those new jobs, among other issues. The ratio of jobs per infrastructure dollar is likely to vary depending on the type of project and the prevailing broader economic conditions when it is undertaken.
Measuring impacts on GDP and productivity	The productivity benefits of new infrastructure are linked primarily to the use made of the project; accurately assessing potential usage is therefore particularly important. New infrastructure can also lead to a relocation of economic activity; this can generate local externalities, such as agglomeration effects, which are benefits that accrue when businesses and people locate near each other, thus reducing transport costs. However, if infrastructure projects simply move people and activities from one area to another, then the agglomeration losses in the declining location will be offset, which must be weighed against the benefits of agglomeration in the expanding area. There is little economic certainty about the magnitude of these different effects.
Distributional impacts (distribution of the project's costs and benefits among the population)	The standard approach is to treat the benefits for one group as equivalent to the benefits for another and to add together the net benefits of both groups. However, losses suffered by vulnerable populations can be considered much more serious than benefits for the prosperous. Group-based weighting must of course reflect moral and political values and not economic estimates, but cost-benefit analysis can always provide a variety of estimates depending on the weights assigned to different populations. The cost-benefit framework is flexible and can be adapted to a wide range of social values.

Source: Prepared by the author on the basis of E. Glaeser and J. Poterba, “Economic Perspectives on Infrastructure Investment”, *Rebuilding the Post-Pandemic Economy*, M. S. Kearney and A. Ganz (eds.), Washington, D.C., Aspen Institute Press, July, 2021 [online] <https://www.economicstrategygroup.org/publication/poterba-glaeser>.

III. Management of public investment

Public infrastructure is a key driver of growth, inclusive economic development and the reduction of inequalities. The need for stronger infrastructure governance to ensure investment quality is widely recognized, but achieving this remains an ongoing challenge. Losses and waste in public investment are often systemic (IMF, 2022).

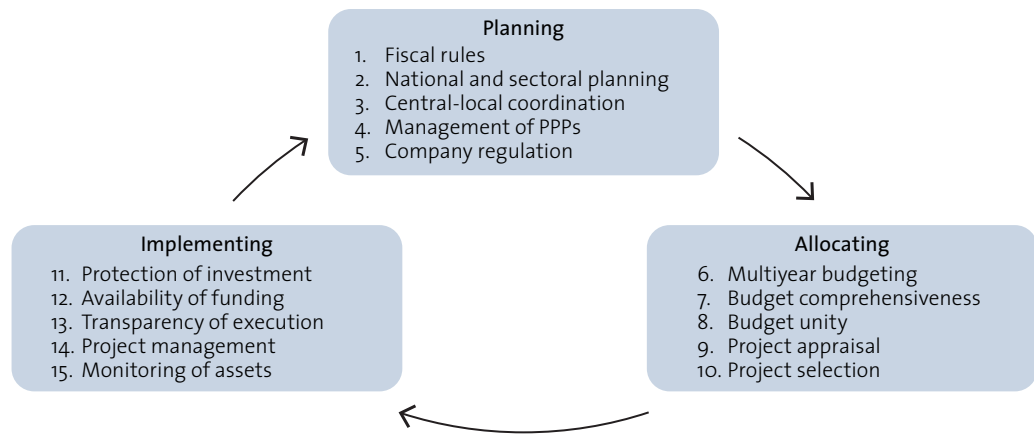
The public-private partnership (PPP) and infrastructure evaluation and rating system (PIERS) is a methodology, based on the criteria of the SDGs, that aims to address this challenge. PIERS was developed in 2020 and 2021 by a global team of experts under the leadership of the Economic Commission for Europe. This objective of the tool is to ensure that projects create “value for people” and “value for the planet” by including considerations of resilience, sustainability and circularity (UNECE, 2024). The methodology, which is currently available online and free of charge to conduct efficient self-assessments, is designed to mobilize the efforts of governments, the private sector and civil society in pursuit of the 2030 Agenda for Sustainable Development.

Efficiency in public investment management is also a crucial element in securing the benefits of growth from additional infrastructure investments. Accordingly, IMF has created the PIMA framework to evaluate the efficiency, effectiveness and sustainability of countries' management systems. The PIMA framework is a comprehensive and standardized tool to assess public investment management for countries at all levels of economic development.

Specifically, the PIMA framework assesses infrastructure governance using 15 key institutional characteristics in the three stages of the public investment cycle: planning sustainable investment in the public sector; allocating resources to the right investments and projects; and implementing projects on time and on budget (IMF, 2023). It also evaluates three general cross-cutting factors: the legal and regulatory framework, information technology systems and general staff capacity (see diagram 2).

Diagram 2

Public investment management assessment (PIMA) framework



Source: International Monetary Fund (IMF), "Making public investment more efficient", *IMF Policy Paper*, June 2015 [online] <https://www.imf.org/external/np/pp/eng/2015/061115.pdf>.

This evaluation model corroborates results from other studies that underscore the importance of transparency and well-governed institutions at all three stages for better public investment performance, which is associated with stronger institutions (IMF, 2015). In the PIMA framework, each institution is evaluated in terms of both its strength (organization, policies, rules and procedures) and its effectiveness (the degree to which its intended purpose is achieved in practice or whether a useful impact clearly exists).

The methodology rates each of the 15 necessary institutional characteristics as fully met, partially met or not met. Countries receive a score of between 0 (when the characteristics were not identified or were not present) and 10 (when the characteristics are fully implemented) for each criterion, as revealed by questionnaires using structured queries. Then, on the basis of the indicators calculated for each characteristic, diagrams of good practices are drawn up to compare countries or groups of countries in terms of their efficiency in implementing infrastructure investment projects.

The institutional characteristics of the PIMA framework constitute a road map for improving investment performance. One of the methodology's benefits is that it provides policymakers with a formal mechanism for identifying strengths and weaknesses in their management systems and in the processes needed to undertake public investments. This helps to prioritize areas for improvement in the adoption of reforms to increase efficiency and effectiveness.

The PIMA framework also enables comparisons to be drawn between different institutional structures and best practices. The analysis by groups of countries, for example, identifies different priorities for strengthening PIMA institutions. In advanced economies, the priority is to ensure that fiscal and budgetary frameworks provide stable and sustainable foundations for investment planning at all levels of government. Emerging markets, in contrast, should

focus on adopting more rigorous and transparent arrangements for the evaluation, selection and approval of investment projects. Similarly, low income developing countries should focus on strengthening institutions related to the financing, management and monitoring of project implementation. This prioritization ultimately contributes to better resource allocation, improved project performance and sustainable economic development (IMF, 2015).

IV. G20 principles for quality infrastructure investment

Another very important framework for effectiveness in infrastructure is provided by the G20 principles for quality infrastructure investment. The six voluntary and non-binding principles, established at the G20 summit held in Japan in 2019, provide strategic guidance for promoting investment in quality infrastructure. The principles are based on the consensus that infrastructure is a driver of economic prosperity and provides a solid basis for strong, sustainable, balanced and inclusive growth and sustainable development (G20, 2019).

The improved quality of infrastructure investment would allow better results to be achieved from the resources invested, which also have the potential to stimulate greater mobilization of financing from various sources, in particular the private sector and institutions, including multilateral development banks. With this, the quality and quantity of investments can contribute in a complementary way to closing the infrastructure gap, developing infrastructure as an asset class and maximizing the positive impacts of infrastructure investment according to country conditions (G20, 2019).

G20 principles for promoting quality infrastructure investment

- Principle 1. Maximizing the positive impact of infrastructure to achieve sustainable growth and development
- Principle 2. Raising economic efficiency in view of life-cycle cost
- Principle 3. Integrating environmental considerations in infrastructure investments
- Principle 4. Building resilience to natural disasters and other risks
- Principle 5. Integrating social considerations in infrastructure investment
- Principle 6. Strengthening infrastructure governance

One very important characteristic of the infrastructure sector is its potential to strengthen local and regional productive chains and to encourage the creation of a virtuous circle of economic activities. Infrastructure quality plays a very important role in that context, in that it allows for a greater impact on different sectors.

Principle 1 establishes that investment in quality infrastructure aims to maximize positive multisectoral impacts while ensuring fiscal responsibility and promoting economic growth and sustainability. That includes creating jobs, building economies and promoting technology transfers and capacity-building. Investments must be aligned with the SDGs, national, regional and global development strategies and international commitments, ensuring inclusiveness and accessibility. Improved connectivity at all levels is crucial and must be supported by domestic resource mobilization to address the infrastructure financing gap and by capacity-building assistance in developing countries. Investment strategies must also be adapted to local conditions and comply with the applicable regulations.

Principle 2 refers to the need to attain value for money and to ensure the investment's affordability relative to the total project life cycle costs. This broad and comprehensive approach considers project costs and benefits from the start of preparations through planning, design, financing, construction, and operation and maintenance. In this context, it is crucial to identify strategies that mitigate the risks of delays and cost overruns, including those that may arise after project delivery, and to take advantage of innovative technologies to improve economic efficiency and infrastructure monitoring.

According to the G20 principles, the elements necessary to achieve this objective may include: (i) broad stakeholder engagement throughout the project; (ii) expertise in planning, operations and risk allocation/mitigation; and (iii) application of appropriate safeguards and instruments (G20, 2019). The cost-benefit approach also makes it possible, for example, to establish criteria to improve the process of choosing between repairing or upgrading existing infrastructure and undertaking a new project. However, it must be remembered that implementation poses significant political challenges, as discussed in section II of this bulletin, which also explored possible solutions to insert cost-benefit analyses more directly into countries' political processes.

Principle 3 states that promoting quality also requires the inclusion of environmental considerations in the infrastructure investment process. Positive and negative environmental impacts should be internalized over the entire life cycle of the infrastructure investment process, including better disclosure of environmental information, which would expand the potential to use green finance instruments. Transparency must be ensured for all stakeholders and the impact of infrastructure investments on the environment (e.g. natural ecosystems, biodiversity, climate and resource use) must be continuously assessed, which would improve perceptions of projects and raise awareness of the related risks. Infrastructure investment projects should also take account of countries' circumstances and strategies and their nationally determined contributions for the transition to long-term low carbon strategies.

Principle 4 underscores the urgent need to ensure long-term adaptability and to build the resilience of infrastructure to natural disaster risks. First, disaster risk management should influence the design of infrastructure (e.g. taking steps to adapt to climate risk). Second, disaster risk financing and insurance mechanisms can also help to incentivize infrastructure by funding preventive measures to increase resilience.

Infrastructure development must also prioritize economic participation and social inclusion. Economic and social impacts should be assessed throughout the project's life cycle, ensuring open and non-discriminatory access to infrastructure services through inclusive decision-making and consultations with affected communities.

According to **principle 5**, inclusion must be incorporated into all project stages, from design to delivery and management; human rights must be respected; and the needs of vulnerable groups must be addressed. In that context, equal employment opportunities and safe working conditions, including for women, are essential for economic empowerment and the success of projects.

Lastly, **principle 6** states that good infrastructure governance is essential in ensuring the long-term cost-effectiveness, accountability, transparency and integrity of investments. Clear rules, solid institutions and coordination between the public and private sectors are required. Transparency in procurement and decision-making encourages profitable and safe projects. Multi-stakeholder participation and financial sustainability assessments are essential. In addition, anti-corruption measures must be adopted and access to information for decision-making must be guaranteed.

Complying with these quality principles is key to guaranteeing good overall project performance, so that investments can be effectively converted into improvements in infrastructure and productivity for users. Improved performance allows greater efficiency in logistics operations and, as indicated above, positively affects productivity, increasing project attractiveness and, thus, the potential to attract investment, in a virtuous circle of economic development in the countries and regions involved.

V. Conclusions and recommendations

The transformation of the Latin American and Caribbean development model to achieve a more productive, inclusive and sustainable future, as stated in the slogan adopted for the seventy-fifth anniversary of ECLAC, requires not only more investment in infrastructure but higher levels of quality to achieve better project performance. As noted in this bulletin, higher quality can be secured through better project preparation and increased effectiveness in the services offered. The challenges facing the region in this regard are primarily economic, such as high construction costs and the spending needed to overcome logistical bottlenecks. At the same time, there are social, environmental and—in many cases— political challenges due to pressure from interest groups, which can lead to blockages or delays.

Improved project performance resolves challenges in both categories. Compliance with quality criteria may initially involve increased implementation times and expenditure (e.g. due to stricter regulatory requirements or higher material costs); however, improved investment performance reduces risks which—in addition to increasing financing opportunities— may influence a project's debt structure through more flexible collateral requirements, and can even generate additional opportunities. Accordingly, the G20 principles outlined above provide a framework for maximizing the positive impact of infrastructure on project preparation and execution and emphasizing the link between quality and efficiency, with more effective results.

Cost-benefit analysis, which involves estimating the future usage and benefits of infrastructure, is a key element in project performance. As explained in this bulletin, physical infrastructure projects generally have basic characteristics that make this type of analysis difficult, including: potential bias, uncertainty about future systemic impacts, changes in infrastructure use patterns and the direction of impact, uncertainty about social benefits and about effects on GDP and productivity, and the difficulty of estimating the distribution of project costs and benefits among the population. However, the use of analysis methodologies can standardize and optimize estimates of this type, which also facilitates the public sector's important role in explaining the practical benefits of quality infrastructure to the public.

This bulletin examines the PIMA framework, an IMF methodology with 15 key institutional characteristics for optimizing the public investment management process and improving investment performance. The model provides policymakers with a formal mechanism for analysing the management systems and processes needed to implement public investments with higher standards of quality, which enables the prioritization of reforms, for example. Accordingly, it reflects the recognition that the economic structure, including its governance and rules, can also be an important determinant of productivity (IMF, 2023).

The preparation and presentation of infrastructure investment projects with better performance potential and solid efficiency and effectiveness criteria that are widely endorsed by multilateral institutions enable greater synergies among stakeholders in the investment process. They also increase the attractiveness and robustness of projects and expand funding options, thereby helping to attract capital. Once infrastructure services are operational, a higher investment quality also increases the effectiveness and efficiency of logistics. Accordingly, improved infrastructure investment performance is key, not only for the project planning stage, but also for operation and the provision of services. It thus contributes in several ways to optimizing local production processes in Latin America and the Caribbean and, consequently, to increasing the region's competitiveness.

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VII. Publications of interest



FAL Bulletin No. 399

Trade facilitation in Latin America and the Caribbean: formalities, infrastructure and logistics

Sebastián Herreros
Miryam Saade Hazin

This issue of *FAL Bulletin* provides an overview of progress by the region's countries in implementing their respective trade facilitation agendas and of the main challenges still to be met in this area.

Available in:

English

Spanish



FAL Bulletin No. 400

Proposals to expand river connectivity in South America

Leonel Temer
Ernani Muraro
Juan Carlo Paz

This *FAL Bulletin* presents opportunities for physical river integration in South America that could mark an important step in the design of a sustainable river navigation system for the region. It also examines the opportunities that intermodal transport offers for regional logistics.

This document is part of ECLAC analyses on infrastructure and connectivity. The study was carried out with the support of the regular programme of technical cooperation of ECLAC, in the framework of the activities of the United Nations Development Account project entitled "Transport and trade connectivity in the age of pandemics: contactless, seamless and collaborative United Nations solutions"

Available in:

English

Spanish