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Evaluating the impact of Public-Private Partnerships-Enabling Conditions on Infrastructure Development

Evidence from Latin America and the Caribbean

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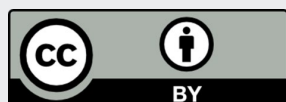
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Evaluating the Impact of Public-Private Partnerships-Enabling Conditions on Infrastructure Development:

Evidence from Latin America and the Caribbean

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Abstract

This paper investigates the impact of public-private partnership (PPP)-enabling conditions on infrastructure development in Latin America and the Caribbean (LAC). Using a unique longitudinal dataset, this study analyzes how institutional conditions in 26 LAC countries influenced PPP investment activity between 2009 and 2022. The findings indicate political and social will, along with institutional capacity, are significant predictors of PPP investment, while market reliability, transparency, governance mechanisms, and regulatory regimes, although important, are less impactful. These findings highlight the critical importance of political stability and strong institutional frameworks in driving PPP investment activity in the region.

Keywords: Infrastructure development; Public-private partnerships (PPP); Latin America and the Caribbean; Institutional capacity; Political and social will

Introduction

The provision of infrastructure services plays a fundamental role in fostering economic development, enhancing competitiveness, and promoting inclusive growth. Estimates show how investing in resilient infrastructure can result in a net benefit of four dollars for every dollar invested (Hallegatte et al. 2019). The significance of making sound investments in infrastructure is underscored by the substantial costs associated with failing to do so. In Latin America and the Caribbean (LAC), the failure to expand or adequately maintain existing infrastructure assets can lead to a potential loss of up to 15% of regional GDP growth over a 10-year period (Cavallo and Powell 2019).

The region faces a notable deficit in infrastructure assets, coupled with inadequate maintenance of existing ones, leading to the provision of low-quality services. This, in turn, has a direct impact on the quality of life for citizens and the overall competitiveness of economies in the region. Notably, low-income families in LAC allocate approximately 15% of their income towards paying for essential services such as water and public transport. This percentage is nearly 5 percentage points higher than that in emerging economies in Asia, highlighting the disproportionate burden faced by LAC households in accessing quality infrastructure services (Cavallo and Powell 2019).

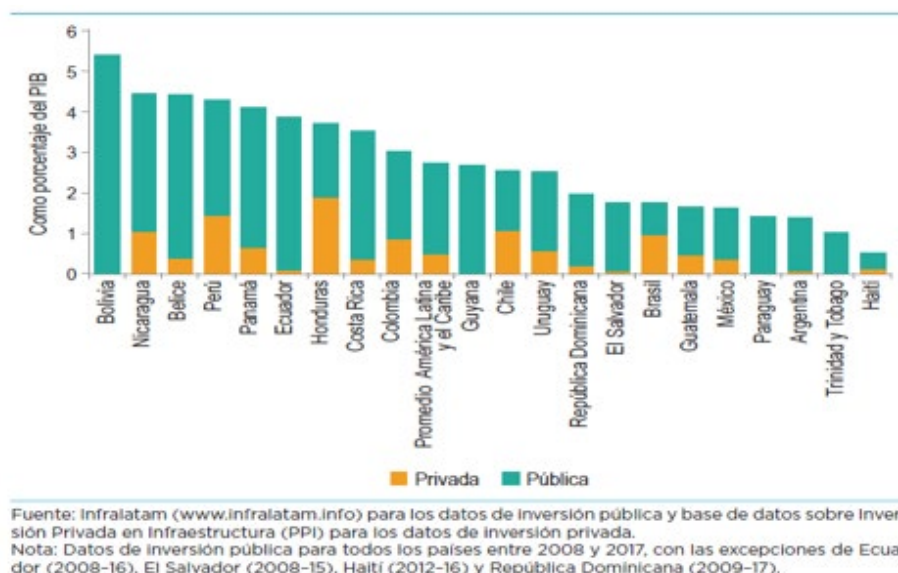
Insufficient and poorly maintained infrastructure assets and services have a detrimental effect on regional competitiveness. The quality of infrastructure services in Latin America and the Caribbean, on average, only exceeds that of Sub-Saharan Africa, falling behind the rest of the world (Cavallo, Power, and Serebrisky 2020; Suárez-Alemán, Serebrisky, and Perelman 2019). This subpar quality of infrastructure services in the region is not commensurate with the level of development and macroeconomic indicators of most LAC countries. Cerra et al. (2016) also demonstrated how the region's infrastructure quality diminishes the competitiveness of its economies in international trade.

Closing the sustainable infrastructure gap will necessitate an estimated investment of around USD 250 billion per year (Brichetti et al. 2021; Álvarez Pagliuca et al. 2022). Recognizing the direct and indirect positive effects of adequate infrastructure development, countries across Latin America and the Caribbean have made significant investments over the past few decades. From 2008 to 2021, average public investment in the region stood at 2.08% of Gross Domestic Product (GDP). Infrastructure investment figures in the region not only fall below the average for other developing economies but also translate into tangible deficiencies, such as inadequacies in transmission lines, roads, schools, hospitals, sanitation networks, water supply, ports, airports, and parks, among others.

So far, public investment in Latin America and the Caribbean has been insufficient to close the regional infrastructure gap. Historically, the public sector has accounted for two-thirds of total infrastructure investment in the region, with some economies having a greater private sector presence (see figure 1). However, public investment in infrastructure has been highly inefficient, with the region wasting one out of every two dollars allocated to public investment in infrastructure (Suárez-Alemán, Serebrisky, and Perelman

2019). Improving cost management, reducing time delays, and better maintenance planning could lead to significant savings.

Figure 1: Average public & private investment in LAC infrastructure as percentage of GDP (2008-2017)

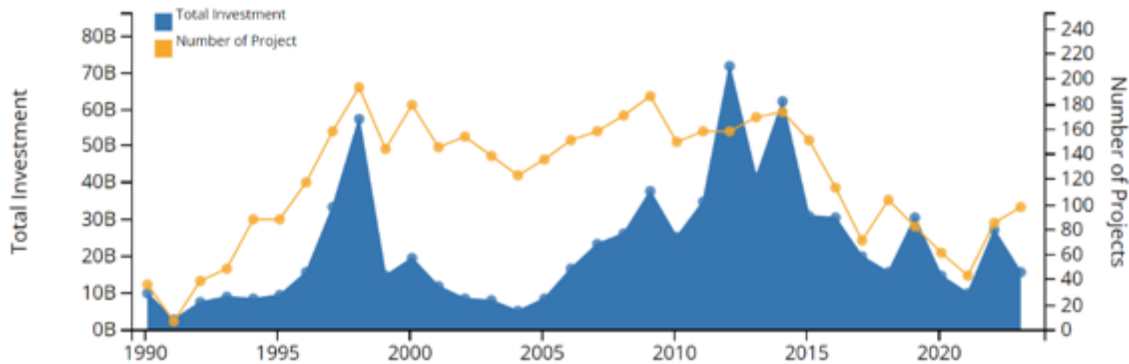


Source: Cavallo, Powell and Serebrisky (2020)

The COVID-19 pandemic put additional pressure on fiscal resources and expenditures, leading to sovereign debt exceeding 70% of GDP, well above estimated prudent debt levels for the region. The total debt in Latin America and the Caribbean nearly doubled after the pandemic, reaching around USD \$5.8 trillion (Powell and Valencia, 2023). Biases against public investment and fiscal challenges in the region limit the space for closing the infrastructure gap via public sector investment alone. In times of crisis, Latin American and Caribbean economies have historically shown a sharp reduction in capital spending, including infrastructure investment (Ardanaz and Izquierdo, 2022). Consequently, it is expected that there will be a significant contraction of public infrastructure investment, further deepening the economic crisis.

In the last 30 years, the LAC region has received close to USD \$750 billion from the private sector (see figure 2), almost 25% more than countries in East Asia and the Pacific, double investment levels in South Asia, three times more than developing countries in Europe and Central Asia, and almost eight times more than countries in Sub-Saharan Africa (World Bank 2024). However, gap analysis indicates there is still enormous potential for additional private participation in infrastructure financing to provide more and better-quality services (Álvarez Pagliuca et al. 2022).

Figure 2: Private participation in LAC infrastructure investment



Source: World Bank (2024)

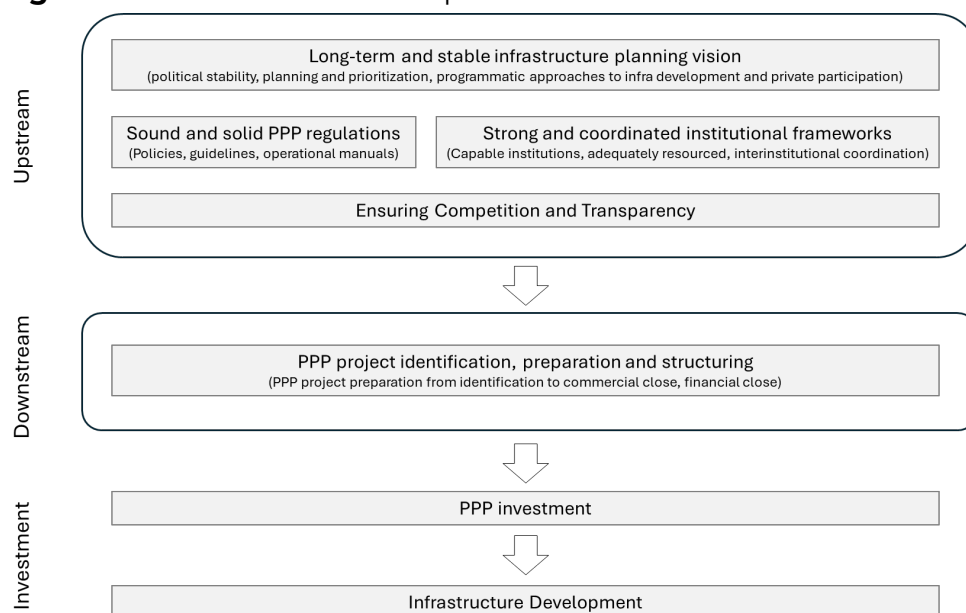
Over the past decade, fourteen countries in the region have developed or enhanced their public-private partnerships (PPP) markets. In 2009, only one country in the region had all the necessary institutions to properly design and supervise PPP projects in line with international standards. After ten years, sixteen countries had established specific agencies to promote, support, and monitor private participation in infrastructure projects. Most countries in the region now have political support for private investment in infrastructure development. However, it is widely recognized that the region still needs to address challenges related to institutional capacity, transparency, accountability, project preparation, and financing in order to facilitate efficient, high-quality, timely, and sustainable PPP projects that contribute to improved infrastructure services (Economist Impact and IDB, 2022b; Suárez-Alemán et al. 2021; Casady 2021, 2024).

While improvements have been made in legal and regulatory frameworks for PPPs, there are still significant deficiencies in institutional capacity (e.g., transparency, accountability, and project preparation facilities) and financing (e.g., capital markets, institutional investment, etc.). Private sector investment in sustainable infrastructure has also not reached its full potential due to a scarcity of suitable projects. The lack of bankable, shovel-ready, and well-prepared projects remains a primary constraint for infrastructure development in the LAC region (Economist Impact and IDB 2022b).

Numerous studies suggest that upstream improvements to the institutional environment can impact downstream PPP investments. Regulatory frameworks, risk allocation mechanisms, and financing arrangements are often critical determinants shaping the success and

attractiveness of PPP projects across different sectors and regions. Clarity and stability in regulatory environments, as highlighted by Estache and Garsous (2007), Yescombe (2007), Engel et al. (2014), and Casady (2021, 2024), play pivotal roles in reducing uncertainty and perceived risks, thereby attracting private investment. Institutional frameworks facilitate learning from successful PPP experiences, thereby informing policy reforms and institutional improvements that help foster an enabling environment for private investment. Furthermore, Marin (2009) underscores the significance of effective governance, stakeholder engagement, and transparent contractual arrangements in promoting sustainable investments and enhancing investor confidence. Legal certainty and regulatory transparency, as discussed by Farquharson and Yescombe (2011), also assure investors of contract sanctity and reduce investment risks, thereby encouraging greater participation in infrastructure projects. Overall, these studies collectively highlight the multifaceted impact of institutional conditions on PPP investments, underscoring the importance of robust regulatory, institutional, and contractual frameworks in attracting private capital and fostering sustainable infrastructure development (see figure 3).

Figure 3. Infrastructure PPP upstream – downstream framework



Source: Authors' elaboration.

However, while there is broad consensus on the importance of these institutional conditions, there remains very little empirical evidence on the

impact of such interventions on infrastructure development via PPP. Therefore, this study fills a gap in the extant literature by addressing the following research question:

- (1) What is the impact of PPP-enabling conditions on actual investment activity?

To investigate how these upstream interventions—i.e., long-term and stable infrastructure planning processes, the formulation of robust PPP regulations, the presence of well-coordinated institutional frameworks, and implementation of practices promoting competition and transparency, etc.—impact PPP investment and overall infrastructure development, the paper begins with a brief overview of institutional theory and PPPs, outlining the theoretical foundations guiding this analysis. Next, the research design, data sources, and methodology are described in detail, followed by a presentation and interpretation of the empirical findings. Then, practical insights and specific institutional developments in the LAC region are discussed for select countries. Lastly, this paper concludes with a summary of key insights, contributions, limitations, and future research directions.

Institutional Theory and PPPs: An Overview

Today, many scholars agree that the sustained growth and mobilization of private investment in infrastructure via PPPs depends largely on strong institutions and good governance. With the help of International Financial Institutions (IFIs), governments around the world have set out to improve key enabling institutional factors and regulatory conditions within their countries to bolster PPP investment activity. However, researchers have only recently begun to understand the true impacts of these reforms on PPP programmatic outcomes (Hodge, Greve, and Biygautane 2018; Casady et al. 2018; Casady et al. 2019; Casady et al. 2020).

One key area of concern is the relative sensitivity of PPP markets to broader institutional factors, namely how '[the absence] of institutional capacity, weak governance systems, and unclear or unsuitable rules and regulations . . . [make] PPI arrangements more ineffective in practice' (Pessoa 2010, 1). It has long been understood that the delivery of sustainable, long-term PPP projects is predicated on a robust PPP investment environment (PPIAF 2016). However, most scholars tend to focus on institutional reasons for past

PPP failures, such as inadequate public sector capacity, limited political will, and issues of perceived legitimacy and trust between the public and private sector (see, e.g. Mahalingam et al. 2011; Jooste, Levitt, and Scott 2011; Jooste and Scott 2012; Van den Hurk et al. 2015; Verhoest et al. 2015). Yet very little attention is often given to ‘establishing the explanatory factors and evaluating the extent of their contribution ... [to] the success of PPP projects’ (Muhammad and Johar 2017: 9130). More importantly, it is often not entirely clear how improvements to institutional capabilities enable PPP markets to ‘emerge’ and ‘stabilize’ towards maturity (Matos-Castaño et al. 2014) or how these factors affect ‘program permanence/continuity’ (Opara et al. 2017).

In recent years, efforts have been made to explore how different configurations of institutional factors create unique causal ‘pathways’ that improve PPP investment activity and market stability (Casady 2021, 2024, Han and Guo, 2022). Much of this work relies on classical conceptions of institutionalization and institutional change (North 1996; Scott 2013), especially the notion that markets tend to mature over time via the structuration of organizational fields (Scott and Meyer 1994; see also Jooste et al. 2011; Jooste and Scott 2012). Casady (2024) asserts that institutionalization may be the best theoretical lens for assessing changes in PPP market activity because it captures ‘the dynamics of institutional evolution through political contestation and contextual change’ as a means of identifying ‘previously neglected processes of incremental and endogenous institutional change’ (Conran and Thelen 2016, 51). In this way, one can come to understand, either through convergence (i.e., reinforcement and diffusion) or divergence (i.e., deinstitutionalization), how upstream institutional conditions affect downstream PPP investment activity over time (Scott 2013). Potential conditions supporting such infrastructure development are delineated below.

Institutional Conditions Supporting PPP Investment Activity

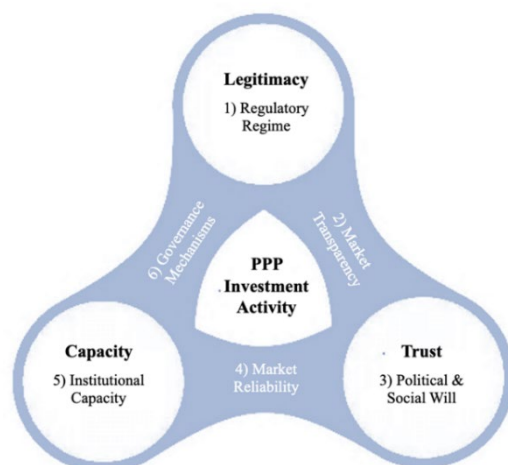
Institutional readiness to prepare, procure, and manage PPP projects is based on three essential pillars: *legitimacy*, *trust*, and *capacity* (Casady et al. 2020). For many, the primary indicator or proxy of legitimacy for a PPP market centers around a country’s regulatory framework (Casady 2022). Governments often prioritize the development of a conducive regulatory environment for PPPs to legitimize their programs (Brinkerhoff and Brinkerhoff 2011; Tvarnø and Denta 2022) since PPP investment activity tends to be influenced by the favorability of certain legal and regulatory provisions (Geddes and Wagner 2013; Geddes

and Reeves 2017; Albalade, Bel, and Geddes 2020; Liebe 2022). Trust, on the other hand, takes the form of norms and values that are socially enforced by the market, such as ‘committed political support by field actors’ (Opara et al. 2017, 77), public sentiment, perceptions of the business environment (Casady 2021), views on the markets, or financial accessibility standards (Yang, Hou, and Wang 2013). In short, trust often reflects the disposition or attitude of salient actors to willingly embrace and engage in PPPs. Lastly, capacity represents the institutional knowledge of collective actors situated in PPP-enabling fields (see, e.g. Jooste et al. 2011; Jooste and Scott 2012)—e.g., training, past expertise, adoption of best practices, utilization of PPP-enabling organizations (i.e., PPP units, project development funds, etc.). The presence or absence of this capacity often dictates how capable governments are in the design, execution, and stewardship of their PPP markets (Casady 2024; Vecchi et al. 2022).

It is also important to note that these institutional pillars are highly interdependent and complementary, especially in the process of PPP institutionalization (Casady et al. 2018; Mihov 2022). Casady (2021) notes, for example, that legitimacy and capacity are linked by governance mechanisms that ‘mitigate or solve societal and administrative problems that are legitimately recognized by the stakeholders’ (Van Gossum et al. 2010, 253). Transparency is also often cited as a key mediator between the regulative (i.e., legitimacy) and normative (i.e., trust) elements of PPP implementation (Reynaers and Grimmelikhuijsen 2015). Additionally, the conduciveness of the political/business environment surrounding PPPs is predicated on both capacity and trust.

When viewed collectively, this conceptual model of PPP market maturity offers six ideal institutional conditions to test the effects of such conditions on PPP investment activity. These conditions are pictured in figure 4.

Figure 4. Institutional conditions supporting PPP investment activity



Source: Adapted from Casady (2021)

Data

To operationalize these conditions, longitudinal data was collected from historical archives of the Infrascopes index.¹ Initially commissioned in 2009 and subsequently updated in 2010, 2012, 2015, 2017, 2019 and 2022, the Infrascopes methodology was designed by the Economist Intelligence Unit and the Inter-American Development Bank (IDB), and later extended to other developing regions with the support of the Millennium Challenge Corporation (MCC), and European Bank for Reconstruction and Development (EBRD) to serve as a:

benchmarking tool that evaluates the capacity of countries to implement sustainable and efficient public-private partnerships (PPPs) in key infrastructure sectors, principally transport, energy, water and sanitation, solid waste management, and social infrastructure. It aims to help policymakers identify the challenges to private-sector participation in infrastructure that, if overcome, could unlock the power of PPPs and support the broader development agenda (Economist Impact and IDB, 2022b).

In 2021, the Infrascopes methodology was refreshed once again—by expanding into new categories related to evaluation and sustainability, among others—to improve the overall coverage (26 countries) and accuracy of data captured in its latest 2021/22 report (see figure A1 in the annex).

¹ See <https://impact.economist.com/projects/infrascopes>.

Now in its seventh edition, the Infrascope utilizes a specialized blend of secondary sources of data, primary regulatory and legal texts, and interviews with experts and government officials to assesses the capacity of countries to carry out sustainable infrastructure PPPs, primarily along five categories:

- 1) Regulations and Institutions: A country's regulatory and institutional frameworks for private participation in infrastructure.
- 2) Project Preparation and Sustainability: The processes that guide project preparation and the incorporation of environmental and social sustainability considerations.
- 3) Financing: Financial frameworks and facilities that support infrastructure development, the bankability of projects and the maturity of the financial sector.
- 4) Risk Management and Contract Monitoring: Risk allocation (including disaster risk), contract monitoring and reporting, and risks from government action; and
- 5) Performance Evaluation and Impact (ExPost): Monitoring, ex-post evaluation and reporting of operational PPP projects; maturity and quality of infrastructure PPP outcomes; and impact on environmental and social outcomes (Economist Impact and IDB 2022c, 4).

Over the years, the index has featured expanded regional coverage in other areas such as Asia and the Pacific (2011, 2014 and 2018), Eastern Europe and the Commonwealth of Independent States (2012), Africa (2015), and Eastern Europe, Central Asia and the Southern and Eastern Mediterranean (2017). However, this research focuses only on editions pertaining to Latin America and the Caribbean (i.e., 2009, 2010, 2012, 2014, 2017, 2019, and 2022) because private investment in infrastructure through PPPs has been especially active in the region.

Additionally, data from these editions offer the most complete picture of longitudinal impacts on actual infrastructure development related to PPP-enabling conditions. More importantly, the granularity of information found in the Infrascope data offers a sufficient means of quantifying PPP investment activity and its supporting institutional conditions. The next section outlines how this data was utilized to construct the theoretical

constructs and analyze their effects on downstream PPP investment activity in 26 countries from 2009 – 2022.

Variable Construction

Creating a longitudinal dataset of upstream PPP institutional conditions and their resulting downstream effects on PPP investment activity first required careful reconciliation of differences in measurement and scoring of various sub-indicators present across different editions of the Infrascopes. The Infrascopes underwent major methodological revisions after the 2014 and 2019 editions respectively, yielding three distinct timeframes of measurement for PPP-enabling environments in Latin America and the Caribbean—i.e., 2009-2014, 2017-2019, and 2022-present. Constructing theoretically consistent variables across various versions of the Infrascopes thus involved logically grouping sub-indicators based on their thematic content to generate new macro-institutional conditions (Berg-Schlosser and De Meur 2009; Casady 2021, 2024). Starting with generic categories contained in older editions (i.e., 2009-2014), sub-indicators with more granular data in latter editions (i.e., 2017-2019 and 2022-present) were aggregated and re-coded into new variables (see table A1 in the annex).² Sub-indicators made up of continuous variables with measures stretching the entire longitudinal time frame (2009-2022) were used in place of more qualitative measures, when appropriate. In places where data was missing from earlier editions of the Infrascopes, efforts were made to fill any gaps by consulting other secondary data sources provided by the World Bank, Economist Impact, IJGlobal, World Economic Forum, International Monetary Fund, etc.

With these initial regroupings complete, the new variables were aggregated again and normalized³ to create the required ‘super conditions’ for further analysis. This procedure is theoretically robust and mirrors the same process employed by Casady (2021, 2024). One of the benefits of this

² The methodological report of the Infrascopes provides detailed information on the indicators used to construct the variables developed in this paper. For more details, see EI-IDB [Infrascopes methodological report](#) (2024).

³ Ordinal variables (e.g., 0-2, 0-4, etc.) were converted into equivalent normalized scores ranging from 0-100. For other specific continuous variables (e.g., PPP investment / GDP), the following normalization equation was applied: $x_{norm} = (x - \text{Min}(x)) / (\text{Max}(x) - \text{Min}(x))$, where $\text{Min}(x)$ and $\text{Max}(x)$ are respectively the lowest and highest values across the Infrascopes’s country sample for any given indicator in a specific year.

approach is it mitigates potential biases and erroneous groupings that could arise from using the Infrascopes's default categories and weightings to operationalize the very narrowly defined theoretical constructs used in this research. Additionally, the normalized scores generated from this procedure align with best practices found in other PPP benchmarking reports (see, e.g. World Bank 2017, 2018, 2020, 2023) where 'the highest scores, nearing 100, are considered . . . closely aligned with international PPP good practices. By contrast . . . scores at the bottom (nearing 0) have considerable room for improvement because they do not adhere to international PPP good practices' (World Bank 2018, 22). Due to the constraints of time and space, it is not possible to provide a complete documentation of all the sub-indicator definitions and scores here. This information can be found in EIU (2014), EIU (2019), and Economist Impact and IDB (2022c).

Methodology

To test the effects of these institutional conditions on PPP investment activity, this study utilized multiple linear regression (MLR), a widely used statistical method for estimating relationships between an outcome and several explanatory variables. MLR is advantageous because of its theoretical foundations, ease of interpretation, computational efficiency, and robustness. Below is the mathematical representation for the model used in this analysis:

$$IA = \beta_0 + \beta_1 MR + \beta_2 PSW + \beta_3 GM + \beta_4 RR + \beta_5 IC + \beta_6 MT + \sum_{i=7}^8 \beta_i Region_i + \sum_{i=9}^{10} \beta_i Income_i + \sum_{i=11}^{16} \beta_i Year_i + \epsilon$$

where:

- *IA* = Investment Activity
- *MR* = Market Reliability
- *PSW* = Political & Social Will
- *GM* = Governance Mechanisms
- *RR* = Regulatory Regime
- *IC* = Institutional Capacity
- *MT* = Market Transparency
- *Region_i* = Control variables for regional classification (Central America, South America)

- $Income_i$ = Control variables for country income classification (Lower-middle, Upper-middle)
- $Year_i$ = Control variables for specific years (2010, 2012, 2014, 2017, 2019, 2022)
- $\beta_0, \beta_1, \dots, \beta_{16}$ = Coefficients
- a = Error term

Table 1 summarizes key statistics for the dependent, independent, and control variables.

Table 1. Summary statistics for all variables

Variable	Count	Mean	Std	Min	Max
Market Reliability	182	40.42	13.45	6.67	65.83
Political & Social Will	182	46.97	37	0	100
Governance Mechanisms	182	40.59	33.83	0	100
Regulatory Regime	182	41.99	35.61	0	100
Institutional Capacity	182	36.2	32.28	0	100
Market Transparency	182	38.6	33.09	0	100
Investment Activity	182	21.44	22.78	0	86.22
Year (dummies)	182	2014.71	4.48	2009	2022
Income*					
<i>High Income</i>	35	9.04	19.24	0	75
<i>Lower-Middle Income</i>	42	19.56	23.19	0	75
<i>Upper-Middle Income</i>	105	26.32	22.21	0	86.22
Region*					
<i>Caribbean</i>	42	10.63	15.14	0	62.5
<i>Central America</i>	56	28.17	20.54	0	75
<i>South America</i>	84	22.35	25.47	0	86.22

*For income and region, the mean is investment activity.

To check the model's robustness, a range of diagnostic tools and techniques were used to assess the validity of its assumptions and guide any necessary adjustments. For instance, while the Breusch-Pagan Test yielded a low p-value of 0.006 (less than 0.05), indicating the presence of heteroscedasticity, the p-value for White's Test was greater than 0.05 (p-value = 0.104), suggesting no heteroscedasticity. Because of these inconclusive results, robust standard errors were applied to the model to address any potential issues with heteroscedasticity in the regression. A Hausman specification test yields $\chi^2(16) = 6.7$ ($p = 0.47$), also indicating no systematic endogeneity. When testing for autocorrelation, the Durbin-Watson Test produced a statistic of 1.948. Since this value is close to 2, there is no significant autocorrelation in the residuals. As for multicollinearity, the mean Variance Inflation Factor (VIF) is 5.59. Because this value is below 10, multicollinearity is not a severe problem for the model itself. However, the VIF for the Regulatory Regime variable exceeds 10 (VIF = 11.03) while all other VIF values are below this threshold. This is not necessarily surprising, given the nature of the data and this variable's theoretical relationship to the other institutional conditions. To fully rule out the potential influence of multicollinearity, ridge regression was applied to the six institutional variables (controls unchanged); the best penalty was picked by five-fold cross-validation. All signs and relative magnitudes mirror the original model. An alternative specification using a Principal Components Analysis (PCA)-based Market-Quality Index (MQI) was also tested. Using the full set of controls, MQI only slightly improves the statistical fit, but the gain is negligible (see Table 2):

Table 2. Multicollinearity Diagnostics for Market Quality Index (MQI)*

Specification	Adj. R ²	AIC	Note
Original Model	0.418	1572.1	Baseline
PCA – MQI (RR+MR+MT)	0.422	1568.8	Δ Adj. R ² = +0.004; Δ AIC = -3.3

*The first component explains 71 % of joint variance of Regulatory Regime (RR), Market Reliability (MR), and Market Transparency (MT). These “market quality” variables form the MQI.

Although collapsing three highly collinear market-quality variables into a single PCA component (MQI) also trims the parameter count by two and

helps with overfitting⁴, conceptual completeness outweighs the marginal gains from parsimony. Because the MQI specification is largely dissimilar in interpretation—it conceals the distinctive legal role of the Regulatory Regime, the full six-variable model is retained in the main text for conceptual clarity. The robustness tests confirm this is not problematic for the estimations; even when Regulatory Regime is removed from the model, there are little to no changes in the significance of the parameters. Overall, the model is robust.

Results

Table 3 displays the regression results for institutional factors affecting PPP investment activity.

Table 3. Regression analysis for PPP investment activity

	<i>Coefficients</i>	<i>Elasticities</i>
<i>Independent Variables</i>		
Market Reliability	-0.1773 (0.137)	-0.334
Political & Social Will	0.1481** (0.055)	0.324**
Governance Mechanisms	0.2220 (0.129)	0.420
Regulatory Regime	-0.0449 (0.148)	-0.088
Institutional Capacity	0.3824*** (0.103)	0.646***
Market Transparency	-0.1833 (0.098)	-0.330
<i>Control Variables</i>		
<i>Income dummies (ref. = High Income)</i>		
Income = Lower-Middle	19.0203*** (5.262)	0.651***
Income = Upper-Middle	16.4361*** (4.608)	0.656***

⁴ With list-wise deletion, we retain 182 country-year observations and estimate 17 coefficients (institutional variables + income, region, and year dummies + intercept). This yields roughly 11 observations per parameter, comfortably above the usual 5–10 rule of thumb for panel OLS.

<i>Region dummies (ref. = Caribbean)</i>		
Region = Central America	2.4141 (3.873)	0.113
Region = South America	2.0770 (3.358)	0.097
<i>Year dummies (ref. = 2009)</i>		
Year = 2010	-0.8793 (4.977)	-0.041
Year = 2012	-4.7437 (5.198)	-0.221
Year = 2014	-5.5978 (5.063)	-0.261
Year = 2017	-12.8525* (5.377)	-0.599*
Year = 2019	-12.2720* (5.460)	-0.573*
Year = 2022	-21.6655*** (5.909)	-1.011***
Constant	0.4672 (4.915)	0.0218
Observations	182	
R-squared	0.469	

Note: Standard errors in parentheses are heteroscedasticity robust. Coefficients are linear regression coefficients. * p < .05, ** p < .01, *** p < .001.

For a more intuitive interpretation of the regression coefficients, the table also includes elasticities⁵ representing the percentage point change in PPP investment activity from a one percentage point increase in each independent and control variable, holding all other variables constant in the model.

Starting with the main institutional conditions, the results show *political and social will* (PSW) and *institutional capacity* (IC) significantly

⁵ Elasticities (E) in the regression model for the independent variables were calculated using the following expression: $E = \beta \frac{\bar{X}}{\bar{Y}}$ where: β is the regression coefficient of the independent variable; $\bar{X}$ is the mean value of the independent variable; and $\bar{Y}$ is the mean value of the dependent variable (Investment Activity). For dummy variables, a modified elasticity calculation was used: $E = \frac{\beta}{\bar{Y}}$.

influence PPP investment activity. For the former, a one percentage point increase in PSW is associated with a 0.32 percentage point increase in PPP investment activity, holding all other variables constant. This relationship is statistically significant at the 1% level (p -value < 0.01). As for IC, a one percentage point increase is associated with a 0.65 percentage point increase in PPP investment activity, holding all other variables constant. This relationship is highly statistically significant ($p < 0.001$). These findings correspond with theoretical expectations. For instance, strong political will ensures policies related to PPPs remain consistent over time, reducing investor uncertainty. Additionally, stable governments are more likely to honor long-term contracts, which is crucial for the success of PPP projects. Likewise, robust institutional frameworks supported by strong public sector capacity can significantly enhance PPP investment activity. Not surprisingly, strengthening these institutions is often a key strategy for governments to increase such investments (Trebilcock and Rosenstock 2015).

However, contrary to the conceptual model, the coefficients for *market reliability* (MR), *governance mechanisms* (GM), *market transparency* (MT), and the *regulatory regime* (RR) are not statistically significant. This may be partially explained by the fact that the variables representing interactions amongst these institutional conditions lack explanatory power, relative to the pillars themselves. For instance, any impacts on PPP investment activity attributed to market reliability are more likely explained by the effects of institutional capacity and political and social will. Similarly, while mature governance mechanisms may be sufficient (although not necessary) for improving the overall maturity of a PPP market (Casady 2021), the findings indicate institutional capacity is a primary statistical driver of additional investment activity. On the other hand, market transparency may lack influence on investment activity because its absence may also be advantageous for PPP programmatic outcomes. Lastly, the insignificance of regulatory regimes on PPP investment activity is less surprising than one might assume. Although many scholars and practitioners alike stress the importance of conducive regulatory regimes for PPP market maturation (see. e.g., Estache and Garsous 2007; Yescombe 2007; Engel et al. 2014; Casady 2021, 2024), PPP-enabling legislation is alone not sufficient to spur additional investment activity. For example, the African Legal Support Facility's (ALSF) (2024) recent survey of legal and institutional frameworks for PPPs shows 'while

three out of four countries in Africa have implemented PPP legislation, the number of financially closed PPP projects on the continent remains limited' (Vallée and Stucchi 2024). This suggests establishing a conducive regulatory regime is often a necessary first step for any PPP market but alone inadequate to spur further investment unless other institutional conditions are in place.

For the control variables, the results suggest economic development levels also affect PPP investment activity. *Lower-middle* and *upper-middle income* countries in LAC see approximately 65.1% and 65.6% higher levels of investment activity respectively, relative to *high income* countries. These relationships are highly statistically significant ($p < 0.001$) and indicate lower-income countries are becoming attractive destinations for investment in the region. Although disparities between high-income countries and lower income countries persist globally, with high-income nations attracting much larger shares of global private infrastructure investment (GI Hub 2023), a combination of high infrastructure needs, attractive investment opportunities, government incentives, development assistance, and market potential are pushing more private capital into these markets. Multilateral development banks (MDBs), like the IDB, also play a critical role in these countries and help crowd-in private investment into infrastructure as well (see also Casady, Sharma, and Monk 2024).

Lastly, while there are no significant differences in PPP investment activity across LAC regions, there are significant negative coefficients for certain years (i.e., 2017, 2019, 2022). This indicates normalized investment activity⁶ measured in these time periods was much lower than the reference year (2009). For instance, PPP investment activity is approximately 60% lower ($p < 0.05$) than the reference year in 2017, 57.3% lower ($p < 0.05$) in 2019, and 101.1% lower ($p < 0.001$) in 2022. These observed effects can be attributed to both major economic events and historical trends of global PPP investment activity.⁷ Following the Asian financial crisis in 1997-1998, 'a wave of structural reforms, favorable growth policies, and a global economy that picked up steam in the mid-2000s resulted in a second growth phase that witnessed a seven-fold increase in total commitments. Indeed, this eight-year expansion from 2005 to 2012

⁶ As shown in table 2, the normalized score for PPP investment activity consists of a 5-year rolling average for both the number of PPP projects and PPP investment as a percentage of GDP.

⁷ Trends in LAC mirror those experienced globally, as depicted in figure 2.

culminated in record investment of \$158 billion' (World Bank 2016, 8). Even in the wake of the 2007-2008 global financial crisis, total PPP investment only began to decline significantly in 2013, with investments as a percentage of GDP dropping to levels not seen since 2004 (i.e., 0.6% to 0.3% year-over-year). The World Bank (2016) notes investments then grew slowly in absolute terms (7% annual growth rate compared to 27% during the 2004-2012 period) after 2013 but there was little to no increase in investment activity as a percentage of GDP. While the overall trajectory of investments in emerging markets and developing economies (EMDEs) was improving prior to the COVID-19 pandemic, delays, cancellations, and changes to PPP projects during the pandemic significantly affected overall investment activity (Casady and Baxter 2020). After roughly a decade of stagnation, private investment in infrastructure finally experienced a post-COVID-19 recovery in 2022 (GI Hub 2023), and post-pandemic recovery is still ongoing in Latin America and the Caribbean.

Discussion and Policy implications

Taken together, these findings demonstrate and quantify the impact of institutional conditions on investment activity in Latin America and the Caribbean over the past few decades. Specifically, the results highlight how political stability, reforms aimed at improving institutional capacity, and (re)building public trust in PPPs help countries mobilize additional private investment in infrastructure. The following subsections delve more into these policy implications using specific case examples.

Political Stability: Evidence from Brazil and Chile

The most successful PPP programs in the LAC region are found in Brazil and Chile, which are also the two most recent leaders in the Infrascopes index. These countries are known for their consistent support of their PPP programs, as well as the stability of their regulatory and institutional framework. Political backing for PPPs has been observed from parties across the political spectrum, indicating that political affiliation does not solely determine the use and establishment of PPPs (in line with Prats Cabrera et al. 2021).

In Chile, both progressive and conservative governments have pursued a PPP/concession agenda over the last 30 years (see table 4). Chile began exploring PPPs in the early 1990s as part of its economic liberalization policies.

Initial frameworks were established to allow private sector involvement in infrastructure projects, particularly in sectors such as transportation and utilities. Since then, different governments have implemented regulatory changes to improve the concession system while continuing the existing PPP program. Recently, the government announced a new concession program for 2024-2028, amounting to about USD \$12.6 billion. This program expands beyond traditional sectors like roads and airports to include others such as desalination and rail, among others.⁸

Table 4. Political stability of Chile's PPP program

Years	President – Political Spectrum	
1990-1994	Patricio Aylwin – Left	
1994-2000	Eduardo Frei – Left	
2000-2006	Ricardo Lagos – Left	
2006-2012	Michelle Bachelet – Left	
2010-2014	Sebastián Pinera - Right	
2014-2018	Michelle Bachelet – Left	
2018-2022	Sebastián Pinera - Right	
2022 –	Gabriel Boric - Left	

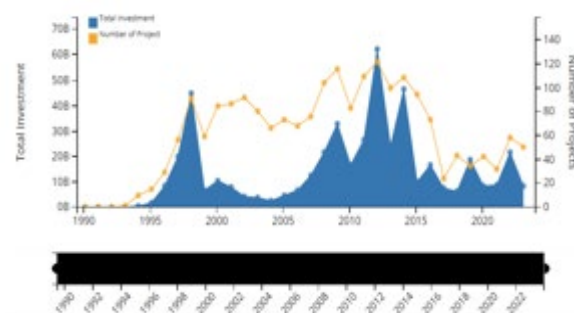


Source: Authors' elaboration from MOP Chile (2020)

In Brazil, PPP and concession programs have continued under governments from different ends of the political spectrum as well (see table 5). Notably, the country is the most active PPP market in Latin America and the Caribbean, mobilizing close to USD \$500 billion solely in economic infrastructure sectors over the past 30 years.

Table 5. Political stability of Brazil's PPP program

Years	President – Political Spectrum	
1990-1992	Fernando Collor – Right	
1992-1994	Itamar Franco – Center	
1995-2002	F. Henrique Cardoso – Center-right	
2003-2010	Luiz Inácio Lula da Silva- Left	
2011-2016	Dilma Rousseff – Left	
2016-2018	Michel Temer – Center-right	
2019-2023	Jair Bolsonaro - Right	
2023 –	Luiz Inácio Lula da Silva- Left	



Source: Authors' elaboration from World Bank (2024).

⁸ <https://www.bnamericas.com/es/noticias/mop-licitara-entre-2024-y-2028-cartera-de-concesiones-por-us17602mn>

Both cases show how countries can successfully create PPP-enabling environments. Our results indicate that political will and stability have been crucial in this regard.

Building Institutional Capacity: Evidence from Panama, Paraguay, and Jamaica

In late 2019, Panama passed its Public-Private Partnership Regime (Law 93). Subsequently, it enacted regulations and, over the next two years, established and equipped the necessary institutions to comply with the law. Key entities such as the Governing Body and the APP Units of the Ministry of Economy and Bonds and the Ministry of Public Works were particularly pivotal in this process. Panama has also exemplified a collaborative approach in recent years. It is remarkable that, within the same administration, its regulatory and institutional progress in PPPs has already resulted in the conception, preparation, and competitive award of its first projects. In early 2024, Panama marked a significant milestone by achieving its first project under the new PPP model—the Panamericana Este highway. Additionally, efforts are underway for other projects such as Panamericana Este, Costanera I and II, or Avenida Centenario, with plans to include new projects that will drive investments in the country. Panama's PPP project portfolio extends beyond the road sector. Drawing from other experiences, these first major projects under the new PPP framework may soon be complemented by additional sectors such as ports, airports, energy (electrical transmission), and waste management, along with a wide range of social infrastructure projects such as schools or hospitals.

Like Panama, Paraguay has also made similar strides in its PPP program. Paraguay officially implemented its PPP framework through the enactment of Law No. 5,102 in 2013. This law aimed to encourage private investment in public infrastructure and services. Subsequently, key regulations such as Decree No. 1350/2014, Decree No. 4487/2015, Decree 4183/2022 were issued to establish procedures for project identification, procurement, and contract management. The government also established the Inter-Institutional Committee and the PPP Unit within the Ministry of Finance to oversee and manage PPP projects. The country strengthened their project planning and prioritization capabilities, identifying the first pilot projects to be implemented as PPP in the country: the development of Route 2 (Asunción-Coronel Oviedo) and Route 7 (Coronel Oviedo-Ciudad del Este). Despite facing challenges such as capacity building, ensuring political and economic stability, and increasing

public awareness, Paraguay has continued to refine its PPP framework. Recent developments include expanding the PPP approach to sectors such as energy, water, and sanitation, demonstrating a wider application of PPPs to address the country's infrastructure needs.

As for Jamaica, its PPP program began in the early 2000s with a focus on developing a strong legal and institutional framework to attract private investment in infrastructure. A pivotal moment came in 2012 with the launch of the formal PPP policy framework, designed to ensure transparency, accountability, and value for money. In 2013, the Development Bank of Jamaica (DBJ) established a dedicated PPP Unit to oversee the process, providing essential technical support and ensuring regulatory compliance. Key projects developed under Jamaica's PPP program include the Norman Manley International Airport (NMIA) concession in 2019, the phased development of Highway 2000, and the lease of Kingston Container Terminal (KCT) in 2016. The NMIA project aimed to improve airport infrastructure and operations under a 25-year concession. The Highway 2000 project, particularly the North-South link completed in 2016, significantly enhanced road connectivity. The KCT lease transformed Kingston into a major transshipment hub in the Caribbean, with Kingston Freeport Terminal Limited managing operations for 30 years (Suárez-Alemán et al, 2019). The success of these projects underscores the effectiveness of Jamaica's PPP program. Establishing a dedicated PPP unit, a clear legal and regulatory framework, careful project selection, and robust stakeholder engagement were crucial factors. These successes highlight the importance of structured approaches, strong institutional capacity, and continuous monitoring and evaluation in achieving development outcomes.

(Re)Building Public Trust in PPPs: Evidence from Peru

Lastly, the Odebrecht corruption scandal, which came to light in the mid-2010s, had a profound impact on Peru's PPP program. Odebrecht, a Brazilian construction conglomerate, admitted to paying substantial bribes to secure public contracts in several Latin American countries, including Peru. This scandal severely undermined public trust in the PPP process and led to the delay or cancellation of numerous major infrastructure projects, causing significant legal and financial repercussions for the Peruvian government.

In response to the scandal, Peru introduced a series of reforms aimed at enhancing transparency and competition in its PPP program to build back trust in the model. In 2018, the government enacted Law No. 30737, which

focused on ensuring that companies involved in corruption paid civil reparations and were prevented from participating in public tenders. The creation of the General Directorate of PPP (DGPPIP) within the Ministry of Economy and Finance (MEF) was also a critical institutional change. DGPPIP was tasked with overseeing PPP projects and ensuring compliance with the new regulations.

To improve things further, Peru implemented several additional reforms. These included mandatory disclosure of project-related information and the publication of contract details online to enhance transparency. Competitive bidding processes were emphasized to prevent favoritism and ensure projects were awarded based on merit and value for money. Additionally, specialized anti-corruption prosecution offices were established to investigate and prosecute corruption cases, and independent oversight bodies were created to monitor PPP projects and conduct audits. These measures collectively aimed to restore public trust, prevent future corruption, and promote a more transparent and competitive environment for PPP projects in Peru. Since then, Peru's PPP program has evolved, with projects spanning all social and economic infrastructure sectors. Between 2023 and 2024, 16 new PPP projects were awarded, totaling a USD \$6.1 billion investment. Additionally, 21 PPP projects were prepared for award before the end of 2024, representing an additional investment of USD \$4 billion. The country has also developed a pipeline for PPP projects for 2025-2026, comprising 71 PPP projects with a potential capital expenditure of USD \$16 billion.⁹

Conclusions

Public-private partnerships (PPP) now serve as attractive means of financing and delivering infrastructure projects worldwide. However, the success of PPPs depends on various enabling conditions, particularly in developing regions such as Latin America and the Caribbean (LAC). Although scholarship dedicated to PPPs has grown in recent years, relatively little attention is still given to the institutional drivers supporting PPP markets. This study delves into the impact of PPP-enabling conditions on infrastructure development in the LAC region and offers several significant theoretical and practical contributions.

⁹ <https://www.investinperu.pe/es/app/proyectos-con-contrato-suscrito/estadisticas>

Theoretically, this research expands the existing literature on PPPs by empirically demonstrating the critical role of institutional conditions in fostering PPP investment. By employing a unique longitudinal dataset and regression analysis, this study establishes a strong correlation between improvements in political and social will, institutional capacity, and increased PPP investment activity. These findings underscore the importance of stable and supportive policy environments for the successful implementation of PPPs. Additionally, the findings highlight the relative insignificance of regulatory regimes on PPP investment activity. While scholars and practitioners alike often recognize the importance of establishing a conducive regulatory regime as a necessary first step for any PPP market's development, improving the legal and regulatory environment is alone insufficient to spur further investment unless other institutional conditions are in place.

Practically, this research also offers valuable insights for policymakers and stakeholders in the LAC region. The identification of key institutional factors influencing PPP investment activity can guide governments in prioritizing reforms to attract private capital into infrastructure projects. For instance, enhancing institutional capacity through targeted training and establishing dedicated PPP units (see, e.g. Casady and Geddes 2019) can improve project preparation and implementation. Additionally, fostering political stability and public trust can build investor confidence which is crucial for mobilizing private sector participation in infrastructure development.

Despite its contributions, this study has several limitations. First, the analysis relies heavily on data from the Infrascopes index, which, despite its comprehensiveness, may not capture all nuances of PPP-enabling environments. The methodology used to reconcile different editions of the Infrascopes may have also introduced some biases. Secondly, the study's focus on the LAC region limits the generalizability of its findings to other regions with different socio-economic and political contexts. Thirdly, the research does not fully explore the interplay between different institutional factors, potentially overlooking their combined effects on PPP investment activity.¹⁰

Future research should address these limitations by expanding the scope of analysis to include other regions and employing more diverse datasets to validate the findings. Additionally, further studies could investigate

¹⁰ Figure 4 highlights specify interactions that capture plausible complementarities. But initial testing of the data yielded no evidence of interactive effects. This suggests our main conclusions remain intact.

the dynamic interactions between various institutional factors to uncover synergistic effects that might influence PPP outcomes. Finally, comparing longitudinal case studies of specific PPP projects and programs could offer deeper insights into the practical challenges and successes of implementing PPP-enabling policies in different contexts.

Overall, this research highlights the pivotal role institutional conditions play in driving PPP investments and lays the foundation for future studies aimed at optimizing infrastructure development through enhanced public-private collaboration. By understanding the enabling conditions necessary for successful PPPs, policymakers and stakeholders can create an environment conducive to sustainable infrastructure development, unlocking the potential for economic growth and improved quality of life in the LAC region and beyond.

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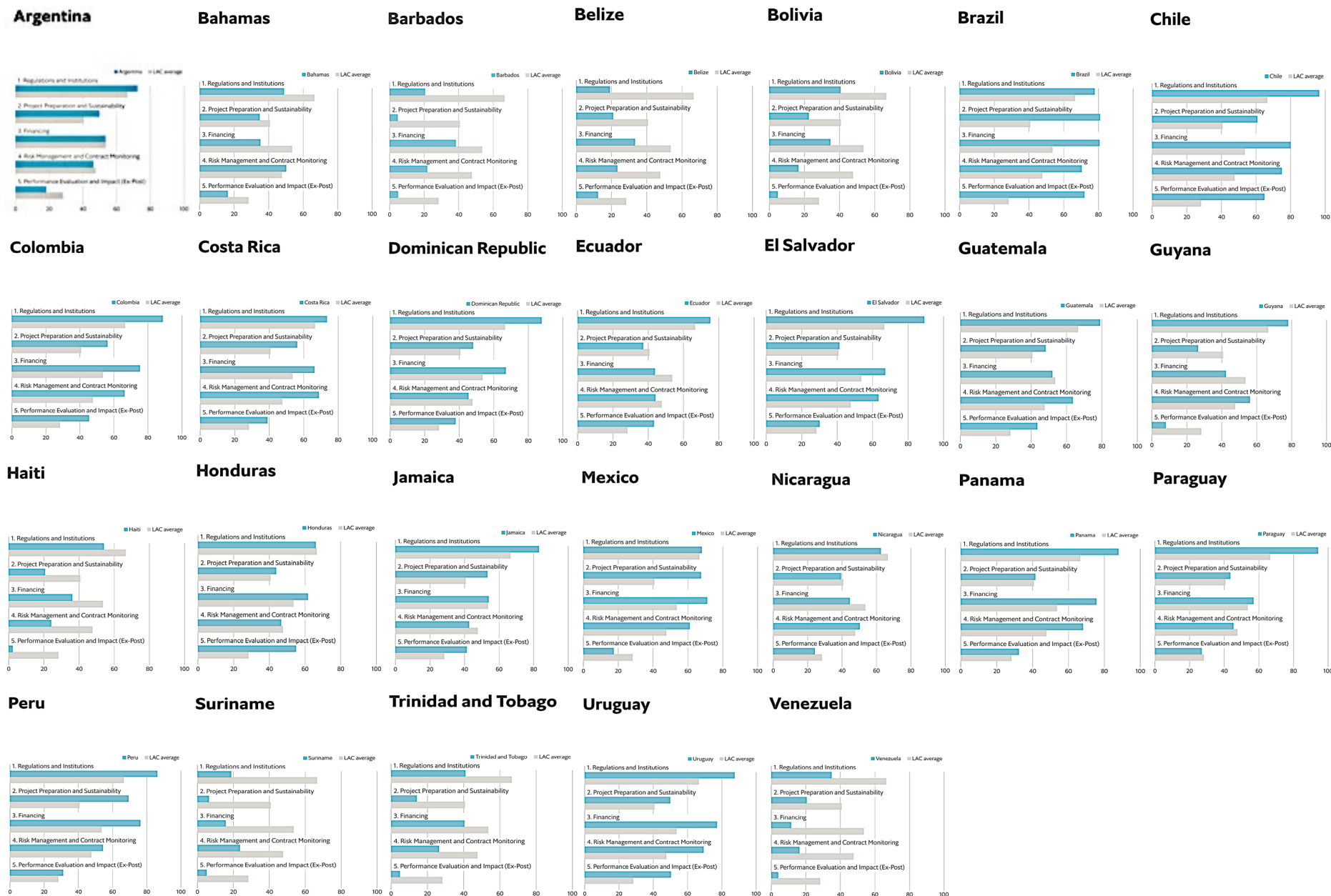
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Figure A1. Infrascopes 2021/2022 – Country summaries



Source: Economist Impact and IDB (2022a)

Table A1. Construction of institutional conditions using Infrascopes data (2009-2024)

Condition	Normalized Scores	2009-2022			2009-2014			2017-2019			2022-Present		
		Recorded Indicators	New Scoring	Source	Original Indicator	Old Scoring	New Scoring	Original Indicator	Old Scoring	New Scoring	Original Indicator	Old Scoring	New Scoring
Market Reliability (MR)	0-100	Currency risk	0-100	EU Country Risk Service	N/A	N/A	0-100	5.4.1.) Currency risk	0-100	0-100	3.3.1.b) Country risk (currency risk)	0-100	0-100
		Marketable debt	0-100	EU Operational Risk Model	5.3.) Marketable debt	0-100	0-100	5.2.1.) Marketable debt	0-100	0-100	3.3.2.a) Financial maturity (marketable debt)	0-100	0-100
		Business environment	0-100	EU Market Opportunities rating and Macroeconomic Risk measurements	4.2.) Business environment	0-100	0-100	4.2.1.) Business environment	0-100	0-100	3.3.2.b) Financial maturity (market environment)	0-100	0-100
		Sovereign risk	0-100	EU Country Risk Service	5.1.) Government payment risk	0-100	0-100	5.1.1.) Sovereign risk	0-100	0-100	3.3.1.a) Country risk (sovereign risk)	0-100	0-100
		Political effectiveness	0-100	EU Political Stability Risk and Government Effectiveness Risk measurements	4.1.) Political distortion	0-100	0-100	4.1.1.) Political effectiveness	0-100	0-100	1.1.4.d) Political will and support for PPPs (political effectiveness)	0-100	0-100
Political & Social Will (PSW)	0-100	Private infrastructure finance	0-2	Infrascopes	5.2.) Capital market: private infrastructure finance	0-4	0-2, (0 > 0; 1 > 1-2; 2 > 3-4)	5.3.1.) Participation of institutional investors in PPPs 5.2.3.b.) Development impact bonds issued 5.2.3.a.) Green bonds issued	0-2 0-1 0-1	0-2*, (0 > 0; 1 > 1; 2 > 3)	3.1.6.a) Sources of financing (institutional investors) 3.1.4.a) Sources of financing (sustainable financing)	0-2 0-1	0-2*, (0 > 0; 1 > 1; 2 > 2)
		Political will	0-3	Infrascopes	4.3.) Political will	0-3	0-3	4.3.1.a.) High-level political support for PPPs 4.3.1.b.) Bipartisan or multi-party support for PPPs 4.3.2.) Attitudes towards PPPs: opposition to PPPs	0-2 0-1 0-2	0-3, (0 > 0/5; 1 > 1-2/5; 2 > 3-4/5; 3 > 5/5)	1.1.4.a) Political will and support for PPPs (high-level support) 1.1.4.b) Political will and support for PPPs (bipartisan/ multi-party support) 1.1.4.c) Political will and support for PPPs (opposition)	0-2 0-1 0-2	0-3, (0 > 0/5; 1 > 1-2/5; 2 > 3-4/5; 3 > 5/5)
Governance Mechanisms (GM)	0-100	Dispute resolution mechanisms	0-4	Infrascopes	1.4.) Dispute resolution mechanisms	0-4	0-4	1.1.3.a.) Procedures for appeals in regulations 1.1.3.b.) Maximum time requirements for arbitration rulings 1.4.2.a.) Access to international arbitration 1.4.2.b.) Existence of independent arbitration tribunal	0-1 0-1 0-1 0-2	0-4, (0 > 0/5; 1 > 1-2/5; 2 > 3-4/5; 3 > 4/5; 4 > 5/5)	1.4.1.a) Contract disputes and arbitration (appeal procedures) 1.4.1.b) Contract disputes and arbitration (time for ruling) 1.4.1.c) Contract disputes and arbitration (international arbitration) 1.4.1.d) Contract disputes and arbitration (independent tribunal)	0-1 0-1 0-1 0-2	0-4, (0 > 0/5; 1 > 1-2/5; 2 > 3-4/5; 3 > 4/5; 4 > 5/5)
		Contract termination procedures	0-4	Infrascopes	2.2) PPP contract, hold-up and expropriation risk	0-4	0-4	3.3.1.a.) Appeals in case of contract termination 3.3.1.b.) Expedited contract transfer for project exit 3.3.1.c.) Fair compensation for early termination 3.3.1.d.) Termination procedure in PPP contract	0-1 0-1 0-1 0-1	0-4, (0 > 0/4, 1 > 1/4; 2 > 2/4, 3 > 3/4, 4 > 4/4)	4.4.2.a) Contract termination (investor appeal) 4.4.2.b) Contract termination (contract transfer) 4.4.2.c) Contract termination (indemnities) 4.4.2.d) Contract termination (procedure)	0-1 0-1 0-2 0-1	0-4*, (0 > 0/4, 1 > 1/4; 2 > 2/4, 3 > 3/4, 4 > 4/4)
Regulatory Regime (RR)	0-100	PPP regulatory quality	0-4	Infrascopes	1.1.) Consistency and quality of PPP regulations	0-4	0-4	1.1.1.) PPP contracts supported by public procurement 1.1.2.a.) Existence of manuals or policies for PPP procurement 1.1.2.b.) Online manuals or policies for PPP procurement 1.6.2.a.) Existence of coordination mechanisms 1.6.2.b.) Guidance for interaction amongst agencies 2.2.3.) PPP procurement process coordination guidelines	0-1 0-1 0-1 0-1 0-1 0-1	0-4, (0 > 0/6; 1 > 1/6; 2 > 2-3/6; 3 > 4-5/6; 4 > 6/6)	1.1.1.a) Public procurement and PPP contracts (laws) 1.1.2.a) Codification (existence) 1.1.2.b) Codification (availability) 1.1.3.a) Inter-agency coordination (processes) 1.1.3.c) Inter-agency coordination (standards) 1.1.3.b) Inter-agency coordination (jurisdictions)	0-1 0-1 0-1 0-1 0-1 0-1	0-4, (0 > 0/6; 1 > 1/6; 2 > 2-3/6; 3 > 4-5/6; 4 > 6/6)
		PPP appraisal and liabilities	0-4	Infrascopes	1.2.) Effective PPP selection and decision making	0-4	0-4	1.2.3.a.) Cost-benefit analysis required 1.2.3.b.) Options analysis and value for money assessment required 1.5.1.a.) Regulations on contingent liabilities 1.5.1.b.) Measurement of contingent liabilities	0-1 0-1 0-1 0-1	0-4, (0 > 0/4, 1 > 1/4; 2 > 2/4, 3 > 3/4, 4 > 4/4)	2.1.2.a) Economic principles for project selection (cost-benefit analysis) 2.1.2.c) Economic principles for project selection (value for money) 4.1.2.a) Contingent liabilities (regulation) 4.1.2.b) Contingent liabilities (risk framework)	0-4 0-4 0-2 0-1	0-4*, (0 > 0/4, 1 > 1/4; 2 > 2/4, 3 > 3/4, 4 > 4/4)
		Competitive bidding	0-4	Infrascopes	3.2.) Methods and criteria for awarding projects	0-4	0-4	1.2.1.) Competitive bidding required by regulations 1.2.2.) Selection criteria outlined in regulations 1.3.2.a.) Policies and procedures for unsolicited proposals 1.3.2.b.) Consultation for unsolicited proposals	0-1 0-1 0-1 0-1	0-4, (0 > 0/4, 1 > 1/4; 2 > 2/4, 3 > 3/4, 4 > 4/4)	1.3.1.a) Competitive bidding regulations 2.1.2.b) Economic principles for project selection (fiscal affordability) 1.3.2.a) Unsolicited bids/proposals	0-2 0-4 0-2	0-4*, (0 > 0/4; 1 > 1/4; 2 > 2/4; 3 > 3/4; 4 > 4/4)
Institutional Capacity (IC)	0-100	PPP agency	0-4	Infrascopes	2.1.) Quality of institutional design	0-4	0-4	1.6.1.a.) Existence of a national infrastructure plan 1.6.1.b.) PPP prioritisation in national infrastructure plan 2.4.1.) Existence of a public PPP registry 2.4.2.a.) Reports on PPP projects 2.4.2.c.) Publication of needs assessments 2.4.2.b.) Reports on PPP project phases 2.4.4.) Agency for evaluation of PPP project results 2.4.3.) Monitoring and reporting 2.4.5.) Publication of PPP results evaluation 2.3.1.a.) Existence of project preparation facilities 2.3.1.b.) Budget for project preparation facilities 2.3.2.) Project development fund	0-1 0-1 0-2 0-1 0-2 0-1 0-1 0-1 0-1 0-1 0-1	0-4*, (0 > 0/12; 1 > 1-3/12; 2 > 4-6/12; 3 > 7-9/12; 4 > 10-12/12)	2.1.1.a) Selection and prioritization (national infrastructure plan) 2.1.1.b) Selection and prioritization (prioritization strategy) 1.3.3.a) PPP registry 4.2.2.a) Published reports (ongoing projects) 2.1.1.c) Selection and prioritization (needs assessments) 4.2.1.b) Project performance data 5.1.1.a) Agency and requirement 5.1.1.b) Project evaluations (implementation) 2.2.1.a) Preparation facilities (standard processes) 2.2.1.c) Preparation facilities (budgeting) 2.2.2.a) Project support (project development fund)	0-2 0-2 0-2 0-2 0-1 0-2 0-4 0-2 0-1 0-1 0-2	0-4*, (0 > 0/12; 1 > 1-3/12; 2 > 4-6/12; 3 > 7-9/12; 4 > 10-12/12)
		Public sector capacity	0-4	Infrascopes	3.1.) Public capacity to plan and oversee PPPs	0-4	0-4	1.6.1.a.) Existence of a national infrastructure plan 1.6.1.b.) PPP prioritisation in national infrastructure plan 2.4.1.) Existence of a public PPP registry 2.4.2.a.) Reports on PPP projects 2.4.2.c.) Publication of needs assessments 2.4.2.b.) Reports on PPP project phases 2.4.4.) Agency for evaluation of PPP project results 2.4.3.) Monitoring and reporting 2.4.5.) Publication of PPP results evaluation 2.3.1.a.) Existence of project preparation facilities 2.3.1.b.) Budget for project preparation facilities 2.3.2.) Project development fund	0-1 0-1 0-2 0-1 0-2 0-1 0-1 0-1 0-1 0-1 0-1	0-4*, (0 > 0/12; 1 > 1-3/12; 2 > 4-6/12; 3 > 7-9/12; 4 > 10-12/12)	2.1.1.a) Selection and prioritization (national infrastructure plan) 2.1.1.b) Selection and prioritization (prioritization strategy) 1.3.3.a) PPP registry 4.2.2.a) Published reports (ongoing projects) 2.1.1.c) Selection and prioritization (needs assessments) 4.2.1.b) Project performance data 5.1.1.a) Agency and requirement 5.1.1.b) Project evaluations (implementation) 2.2.1.a) Preparation facilities (standard processes) 2.2.1.c) Preparation facilities (budgeting) 2.2.2.a) Project support (project development fund)	0-2 0-2 0-2 0-2 0-1 0-2 0-4 0-2 0-1 0-1 0-2	0-4*, (0 > 0/12; 1 > 1-3/12; 2 > 4-6/12; 3 > 7-9/12; 4 > 10-12/12)
Market Transparency (MT)	0-100	Transparency in bidding, contract changes, and renegotiation	0-4	Infrascopes	1.3.) Fairness/openness of bids, contract changes	0-4	0-4	1.3.1.a.) Publication of bidding documents required 1.3.1.b.) Publication of bidding materials (contracts) 1.3.1.c.) Publication of changes in contracts required 1.7.1.a.) Transparent renegotiation system 1.7.1.b.) Termination in project agreement 1.7.1.c.) Compensation mechanisms for renegotiations 1.7.2.) Transparency: renegotiations disclosed by law 1.7.3.) Independent oversight of renegotiations	0-1 0-1 0-1 0-1 0-1 0-1 0-1	0-4, (0 > 0-1/8; 1 > 2-3/8; 2 > 4-5/8; 3 > 6-7/8; 4 > 8/8)	1.3.4.a) Publication of bidding materials (bidding/Q&A documents) 1.3.4.b) Publication of bidding materials (contracts) 1.3.4.c) Publication of bidding materials (evaluations/debrieffs) 1.4.2.a) Renegotiation procedures (transparent system) 1.4.2.b) Renegotiation procedures (grounds for termination) 1.4.3.a) Transparency and oversight (disclosure of renegotiations) 1.4.3.b) Transparency and oversight (signoff)	0-2 0-2 0-1 0-1 0-1 0-1 0-2	0-4*, (0 > 0-1/8; 1 > 2-3/8; 2 > 4-5/8; 3 > 6-7/8; 4 > 8/8)
Investment Activity (IA)	0-100	Number of PPP projects	# of PPP projects in last 5 years: 0 = No evidence 25 = up to 10 50 = 11 - 99 projects 75 = 100 - 250 100 => 250 projects	WB PPI Database; U Global	3.4.) Experience with transport, water and electricity projects	0-4	# of PPP projects in last 5 years: 0 = No evidence 25 = up to 10 50 = 11 - 99 projects 75 = 100 - 250 100 => 250 projects	3.1.1.) Number of PPP projects in the past 5 years	0, 25, 50, 75, 100	25 = up to 10 50 = 11 - 99 projects 75 = 100 - 250 100 => 250 projects	2.3.1.a) Financial close	Ratio (# of PPPs in past 10 years / total tendered PPPs in past 10 years); higher is better	# of PPP projects in last 5 years: 0 = No evidence 25 = up to 10 50 = 11 - 99 projects 75 = 100 - 250 100 => 250 projects
		PPP investment / GDP	% (PPP investment / GDP; averaged over the past 5 years)	U Global, WB PPI Database, World Bank	N/A	N/A	% (PPP investment / GDP; averaged over the past 5 years)	3.1.2.) PPP investment size relative to GDP	%	% (PPP investment / GDP; averaged over the past 5 years)	5.2.2.a) Value of PPP investment	% (PPP investment / total infrastructure spending) averaged over the past 10 years	% (PPP investment / GDP; averaged over the past 5 years)