**ANNEX B-I**

**Regional**

**RG-T3175**

**INE/INE**

**Measuring infrastructure services using a Computable General Equilibrium Model**

**TERMS OF REFERENCE**

**Background**

Established in 1959, the Inter-American Development Bank (“IDB” or “Bank”) is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

The provision of infrastructure services presents enormous shortcomings in the region. The World Economic Forum’s survey on perceptions of infrastructure quality—the most cited and used survey worldwide—reveals that the quality of infrastructure in LAC is lagging, particularly compared with advanced economies and high-growth Asian economies (World Economic Forum, 2017).

The current insufficient investment and the low quality of the infrastructure services provided imply that LAC does not have the infrastructure it needs or deserves given its income level (World Bank, 2017). Intuitively, one would expect a positive relationship between infrastructure quality and income level, because when countries become richer, they can afford to invest more in infrastructure, or vice versa, countries with better infrastructure services tend to increase productivity and hence economic growth. The evidence shows that most countries in LAC score lower on infrastructure quality than one would expect given their level of development measured by income per capita. Countries such as Argentina, Bolivia, Brazil, Paraguay, or Venezuela show considerably lower-than-expected infrastructure quality scores given their income levels.

Why do infrastructure services have worse performance in LAC compared to other regions? There might be several possible explanatory variables. To a large extent, these shortcomings are explained by the lack of investment in infrastructure (Cavallo and Serebrisky, 2016). However, lack of investment is only part of the problem: the management of services, which is estimated to be up to 5 times more than investment in infrastructure, is a fundamental determinant for the availability and quality of services. Surprisingly the factors that determine its production and performance have received very limited attention.

The primary research produced through this consultancy will serve as input for the 2020 edition of the IDB flagship publication DIA: Improving LAC Infrastructure Services: for today and for the long term. The main question to answer in the DIA2020 is: When it comes to infrastructure services: How can Latin America and the Caribbean improve today and prepare for the future? To that end, the primary research produced through this ESW will collect information on different issues related to three main areas: 1) What do we mean by infrastructure services? 2) How do we measure infrastructure services and their role in LAC economies; and 3) Development of indicators to measure performance of infrastructure services in LAC. This consultancy will deliver major inputs in attempting to respond to these questions.

**Consultancy objective(s)**

The aim of this study is to estimate using a Computable General Equilibrium (CGE) model the infrastructure services of five Latin American economies and run scenarios that analyze the effects of policy or technological changes or other similar interventions on the overall economy, the different sectors/income groups, and their living standards, stress over infrastructure, etc.

**Main activities**

To do this, the contractual will undertake the following activities:

1. A first proposal of the structure of an analytical model to be simulated. It is expected that the model will be based on the methodology of Computable General Equilibrium models and will be calibrated for five LAC countries (the initially expected countries to integrate are Argentina, Chile, Peru, Bolivia, and Costa Rica but may be subject to change, depending on data availability and quality). The idea is to construct models that are able to (i) deliver estimates of the impact on the economies of infrastructure services, and (ii) simulate various policy and technological changes such as efficiency improvements, quality improvements, changes in tariff structures, taxes etc. The exact questions to be addressed will be defined and agreed upon between the consultant and the IDB/INE team in a first meeting after signing the contract.
2. An evaluation of the availability and quality of data to apply the model for the above-mentioned countries.
3. Data collection and construction of quantitative models for the 5 LAC economies pointed out above.
4. Transcription of the models in GAMS/MPSGE and simulations.
5. Writing a final report with the results of the analysis.

The work in this consultancy will be summarized and published in 5 working papers.

**Reports / Deliverables**

1. Report, database and simulations for LAC country 1
2. Report, database and simulations for LAC country 2
3. Report, database and simulations for LAC country 3
4. Report, database and simulations for LAC country 4
5. Report, database and simulations for LAC country 5

**Payment Schedule**

* 30% within 30 days of receipt by the Bank of the signed agreement.
* 30% within 30 days of receipt and approval by the Bank of a draft with the results of the first stage.
* 40% within 30 days of receipt and approval by the Bank of the final report.

**Qualifications**

* Academic Degree / Level & Years of Professional Work Experience: Master’s Degree or equivalent and a minimum of 10 years of experience in either an international organization or academic institution. PHD in economics would be preferred.
* Languages: English and Spanish.
* Areas of Expertise: Infrastructure Economics or related fields.
* Skills: The contractual must have a distinguished publication record on issues related to the research to be carried out.

**Characteristics of the Consultancy**

* Consultancy category and modality: Products and External Services Contractual, Lump Sum
* Contract duration: 9 months.
* Place(s) of work: Regional. External consultancy.
* Division Leader or Coordinator: Tomás Serebrisky, Principal Economic Advisor INE.
* Travel: The consultancy includes three missions of 5 days each to Chile, Costa Rica and Peru.

**Payment and Conditions:** Compensation will be determined in accordance with Bank’s policies and procedures. In addition, candidates must be citizens of an IDB member country.

**Consanguinity:** Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

**Diversity:** The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.