

TERMS OF REFERENCE I

The Pricing of Infrastructure Services in Latin America and the Caribbean

The Pricing of Infrastructure Services in Latin America and the Caribbean **RG-T3784**

1. Background and Justification

Infrastructure pricing plays a crucial role in developing better infrastructure services in the region. Social protests in the region triggered by an increase in transportation fares in Brazil in 2013 and Chile in 2019 are clear examples of the difficulties of setting the infrastructure services' prices. Regulators have the challenge to balance the trade-off between allocative efficiency (setting prices equal to costs) and social equity. Additionally, pricing is also relevant from a private perspective. When pricing is set appropriately and utilities run efficiently, it attracts private financing (Fay et al., 2017). Together with quality standards and investment requirements, prices are one of the most powerful instruments that regulators dispose to improve services in the region (Cavallo et al. 2020).

Optimal pricing strategies has been widely studied by the literature (Ramsey 1927, Boiteux 1960, Laffont and Tirole 1994, Armstrong et al. 1996, Baumol and Sidak 1994). The analysis has also been focused on the infrastructure sector in general (Valletti and Estache 1999, Cave et al. 2001, Kariuki and Schwartz 2005, Estache et al. 2006), and at a sectoral level in particular, including transport (Haralambides 2002, Pels and Vehoef 2007, Verhoef et al 2008); energy (Ito 2014, Borenstein 2012, Hobman et al. 2016); and water and sanitation sectors (Rogers et al. 2001, Rosegrant and Cline 2002, García-Valiñas 2005, Pulido-Velazquez et al. 2013). Even though some studies have addressed infrastructure pricing in the region (Formiga-Johnsson et al. 2007, Serebrisky 2011, Donoso 2017), the literature remains incipient and focused on a specific sector and/or country. Moreover, although affordability is a problem, especially for the poor, few subsidy schemes exist in the region and have not been analyzed thoroughly by the literature from a regional outlook.

In particular, the infrastructure sector suffers from a notable lack of information regarding costing and pricing that impedes the formulation of proper policy recommendations. Given the limited attention that costing and pricing of infrastructure services have received in the literature in the past, there is an enormous lack of data that needs to be filled. In this context, it is extremely useful to identify and evaluate the impact of recent pricing reforms on distributive and allocative efficiency.

In this network project we seek to advance knowledge in these areas for Latin America and the Caribbean. Like other network projects, this one will be an exercise in joint learning with several teams working across different countries and sectors and with the

The Pricing of Infrastructure Services in Latin America and the Caribbean

opportunity to share common methods and exchange information on experiences and ideas. The results of the project will be a series of papers that will serve as inputs to the IDB flagship publication of Setting the Prices Right of Infrastructure Services in Latin America and the Caribbean. The teams will also have the opportunity to have their own individual papers published by the IDB and, depending on the outputs produced, we hope that there will be space for a separate publication such as a journal special issue, a separate book or other publication opportunities.

2. Objective

This network project has several related objectives. The first is to map the current pricing schemes of infrastructure services, policies and instruments in a set of countries and sectors. This information, which will be standardized across teams as far as possible, will then form a database (largely qualitative in nature) regarding the current state of pricing schemes across specified countries/sectors in LAC.

Second, this knowledge base will then be used to gain a good understanding to identify and evaluate the impact of recent pricing reforms on distributive and allocative efficiency, following three lines of research (not mandatory): impact of recent pricing reforms in the region, more transparent and competitive pricing of infrastructure services, and the link between use and charge for infrastructure services.

A final objective is to provide policy recommendations. One issue is to determine what policies should be pursued today in order to allow setting the prices right for infrastructure services.

3. Scope, Methodology and Data

Scope: Each study is likely to focus on one country and on one or more related sectors. The sectors we wish to cover in the project as a whole are energy, transport and/or water and sanitation. Each team may propose to analyze one sector or more than one, especially where there is a close relation between them. Other sectors may be proposed with suitable justification. Broadband or other internet network services, for example, may be of interest, but we do not anticipate sponsoring work on telecoms. In exceptional cases, teams may wish to consider one or more related sectors across countries. This might be appropriate for considering smaller countries in Central America and/or the Caribbean and/or where there are significant cross-country interactions in the sectors under consideration. As discussed above, for every country/sector chosen, each study should consider the impact of recent pricing reforms on distributive and allocative efficiency.

Methodology: While descriptive accounts backed by data are very useful, we are

The Pricing of Infrastructure Services in Latin America and the Caribbean

particularly interested in proposals assessing pricing reforms. Of particular interest would be proposals on analyzing recent pricing reforms of infrastructure services with unpublished data.

Data: Each team will be expected to assemble a dataset on the country (or countries) and sector(s) chosen. This dataset may include basic information regarding the sector(s) and information regarding the current pricing scheme(s).

We are looking for research teams who will detail the current institutional and pricing schemes and challenges in a selected sector or sectors. The teams should be knowledgeable in the sector(s) chosen. Reference to developments in other countries or regions in the world that are at the leading edge of the chosen sector(s) may be useful in this regard.

4. Possible Outline of the Studies

1. Brief review of the sector(s) chosen to be studied and the pricing of infrastructure services (i.e., institutions, policies and instruments).
2. Analysis of a recent pricing reform on distributive and allocative efficiency.
3. What is the appropriate pricing scheme to improve distributive and allocative efficiency? What changes are required? What is the sequence of those changes? Can we learn from experiences in other regions?
4. Does allowing for more competition in the sector(s) mean that less reliance on regulation would be required?

5. Content of the Research Proposals

To participate in the project, research institutions must submit a proposal detailing the following:

- Each team should select one or more sectors in one or more countries which will be the focus of their study. Priority may be given to teams that consider more than one sector and where those sectors may be related (e.g., energy and transport).
- Relevance of the case: what are some specific insights that the case will bring to the overall project? Why should we include the case in the study? What particular features of the regulatory game will be highlighted by the case study? In other words, why is the case of interest for this project?
- Brief discussion of the main actors and institutions, and the workings of the regulatory process in the case proposed.
- Each team should state what pricing reform they will be considering.

The Pricing of Infrastructure Services in Latin America and the Caribbean

-
- Each team should review the current relevant pricing schemes pertinent to the sector(s) chosen and detail the challenges in the short and longer term.
 - List of proposed interviews, as well as a statement regarding the degree of access to the main interviewees.
 - Potential relevance of the lessons and conclusions to be extracted for the regulatory policy debate in the country.

In addition, proposals must include:

- The name of the research leader and a list of the researchers who will be involved in the project. The center should justify the choice of the research team, highlighting their capacity to meet the objectives of the project, including relevant prior experience. Curricula vitae of the researchers may appear in a separate annex. Subsequent substitutions for researchers originally specified in the proposal may be made with prior approval from the IDB Network coordinator, but the project leader should lead the entire project to completion.
- A budget (in a separate annex) indicating the time and resources that will be used within the context of the research work plan. The budget proposed by the research center should disaggregate items financed by the IDB contribution and those financed by the research center. The budget should distinguish between amounts assigned to professional honoraria, data collection, overhead and other major categories of research expenditures. The proposal and corresponding budget must be sent in separate files.
- Institutions need to provide the name and contact information of their legal representative, with authority to sign contracts with the IDB, if selected to conduct the study.
- An indicative proposal for the diffusion strategy of the final version of the paper and its policy implications.

Note: Proposals must be submitted in English.

5. Selection Criteria

Only research institutions (including think tanks) may present proposals. Research teams will be selected according to three main factors:

- i) **Relevance.** Research teams must spell out in detail the relevance of the country case and the episodes chosen to meet overall project objectives stated above, and how they will contribute to the understanding of prices setting.
- ii) **Data and Methodology.** The proposals should explain in as much detail as possible how they will approach the subject under study. Data collection

The Pricing of Infrastructure Services in Latin America and the Caribbean

issues should be spelled out in detail (what sources of data will be used, what interviews the team plans to conduct, the chances of success in obtaining such data/interviews, the channels they are planning to use to obtain data, etc.).

- iii) Team Experience. The relevance of the team's experience for the proposed project will be a very important criterion in the selection process. Previous experience in economic regulation of public utilities, or research showcasing the team's ability to clearly describe policymaking processes using qualitative sources of information, would be a plus.

6. Proposal Submission

Interested research institutions should submit a proposal no later than **November 23, 2021** using the web submission form that is provided in the Call for Proposals announcement. If you are unable to submit the form electronically, please send an e-mail to red@iadb.org.

Proposing research institutions should be registered as Research Network members (red@iadb.org) and should be based in the Latin American and Caribbean region. US and European institutions do not qualify as members of the Research Network. However, researchers from the United States and Europe can participate in research teams from proposing institutions.

7. Coordination and Schedule

The project will be administered by Infrastructure and Energy Sector (INE), under the technical coordination of Tomás Serebrisky (IDB/INE).

The tentative schedule of activities is as follows:

- **November 23, 2021:** Due date for **proposal submissions**. Institutions should make sure to submit complete documentation to the evaluation committee. Complete documentation includes: registration form with all requested information, the research proposal, budget, and curricula vitae (CVs up to three pages long).
- **December 15, 2021:** Announcement of **selected research proposals**.
- **February 5 and 6, 2022: First Discussion Seminar** in Washington, D.C., with the technical directors of the projects and the coordinating committee for the purposes of discussing methodological issues, as well as presenting a preliminary analysis of some of the main issues to be explored in each study.
- **February 21, 2022:** Due date for receiving an **annotated outline** of the research paper, incorporating the changes associated with the comments

The Pricing of Infrastructure Services in Latin America and the Caribbean

received in the discussion seminar.

- **May 15, 2022:** Due date for receiving a **first draft** of the research paper.
- **June 18, 2022: Second Discussion Seminar** in Washington, D.C. with the technical directors of the projects and the coordinating committee to discuss the first draft of the research papers.
- **August 11, 2022:** Deadline for a **final version** of the research papers, including a summary that discusses policy lessons. Data should be submitted by this date. Deadline for presenting a list of the most relevant dissemination activities (e.g., events, seminars, workshops, etc.) to discuss the main policy lessons of the country study with local authorities. Research papers must follow the **IDB Manual of Style for working papers**.

Studies that are of good quality will be considered for publication in the IDB working paper series.

A selection of the best papers may be included in a special issue of an academic journal or in an edited volume on The Pricing of Infrastructure Services in Latin America and the Caribbean.

8. Financial Contribution and Payment Schedule

The IDB will contribute up to **US\$35,000** (or domestic currency equivalent) to the total budget of each study, depending on the scope of work proposed. The payment schedule is as follows:

- 20 percent within 30 days of signing the formal agreement between the IDB and the respective research center.
- 10 percent within 30 days of presenting and approval by the IDB of the annotated outline following the first seminar.
- 35 percent within 30 days of presenting and approval by the IDB of the first draft of the research paper.
- 35 percent within 30 days of presenting and approval by the IDB of the final research paper and upon delivery of the datasets utilized by the study to the IDB.

The Pricing of Infrastructure Services in Latin America and the Caribbean

9. References

- Armstrong, M., Doyle, C., & Vickers, J. (1996). The access pricing problem: a synthesis. *The Journal of Industrial Economics*, 131-150.
- Baumol, W. J., & Sidak, J. G. (1994). The pricing of inputs sold to competitors. *Yale J. on Reg.*, 11, 171.
- Boiteux, M. (1960). Peak-load pricing. *The Journal of Business*, 33(2), 157-179.
- Borenstein, S. (2012). The redistributive impact of nonlinear electricity pricing. *American Economic Journal: Economic Policy*, 4(3), 56-90.
- Cavallo, E. A., Powell, A., & Serebrisky, T. (2020). *From Structures to Services: The Path to Better Infrastructure in Latin America and the Caribbean*. IDB Publications (Books).
- Cave, M., Majumdar, S., Rood, H., Valletti, T., & Vogelsang, I. (2001). The relationship between access pricing regulation and infrastructure competition. Report to OPTA and DG Telecommunications and Post.
- Donoso, G. (2017). Urban water pricing in Chile: Cost recovery, affordability, and water conservation. *Wiley Interdisciplinary Reviews: Water*, 4(2), e1194.
- Estache, A., Laffont, J. J., & Zhang, X. (2006). Universal service obligations in LDCs: The effect of uniform pricing on infrastructure access. *Journal of Public Economics*, 90(6-7), 1155-1179.
- Fay, M., Alberto Andres, L., Fox, C., Narloch, U., Straub, S., & Slawson, M. (2017). *Rethinking infrastructure in Latin America and the Caribbean: Spending better to achieve more*. The World Bank.
- Formiga-Johnsson, R. M., Kumler, L., & Lemos, M. C. (2007). The politics of bulk water pricing in Brazil: lessons from the Paraíba do Sul basin. *Water Policy*, 9(1), 87-104.
- García-Valiñas, M. Á. (2005). Efficiency and equity in natural resources pricing: A proposal for urban water distribution service. *Environmental and Resource Economics*, 32(2), 183-204.
- Haralambides, H. E. (2002). Competition, excess capacity, and the pricing of port infrastructure. *International journal of maritime economics*, 4(4), 323-347.
- Hobman, E. V., Frederiks, E. R., Stenner, K., & Meikle, S. (2016). Uptake and usage of cost-reflective electricity pricing: Insights from psychology and behavioural economics. *Renewable and Sustainable Energy Reviews*, 57, 455-467.
- Ito, K. (2014). Do consumers respond to marginal or average price? Evidence from nonlinear electricity pricing. *American Economic Review*, 104(2), 537-63.
- Kariuki, M., & Schwartz, J. (2005). Small-scale private service providers of water supply and electricity: A review of incidence, structure, pricing, and operating characteristics. The World Bank.
- Laffont, J. J., & Tirole, J. (1994). Access pricing and competition. *European Economic Review*, 38(9), 1673-1710.
- Pels, E., & Verhoef, E. T. (2007). Infrastructure pricing and competition between modes in urban transport. *Environment and Planning A*, 39(9), 2119-2138.
- Pulido-Velazquez, M., Alvarez-Mendiola, E. D. U. A., & Andreu, J. (2013). Design of efficient water pricing policies integrating basinwide resource opportunity costs. *Journal of Water*

The Pricing of Infrastructure Services in Latin America and the Caribbean

Resources Planning and Management, 139(5), 583-592.

Ramsey, F. P. (1927). A Contribution to the Theory of Taxation. *The Economic Journal*, 37(145), 47-61.

Rogers, P., De Silva, R., & Bhatia, R. (2002). Water is an economic good: How to use prices to promote equity, efficiency, and sustainability. *Water policy*, 4(1), 1-17.

Rosegrant, M. W., & Cline, S. (2002). The politics and economics of water pricing in developing countries. *Water Resources Impact*, 4(1), 6-8.

Serebrisky, T. (2011). Airport economics in Latin America and the Caribbean: Benchmarking, regulation, and pricing. The World Bank.

Valletti, T. M., & Estache, A. (2001). The theory of access pricing: an overview for infrastructure regulators (Vol. 2133). World Bank Publications.

Verhoef, E., Bliemer, M. C., Steg, L., & Van Wee, B. (2008). Pricing in road transport: A multi-disciplinary perspective. Edward Elgar Publishing.

TERMS OF REFERENCE II

Consultoría en Apoyo Técnico a la publicación “Estableciendo los precios correctos en los servicios de infraestructura”

Contexto de la búsqueda: Establecido en 1959, el Banco Interamericano de Desarrollo (“BID ” o “ Banco”) es la principal fuente de financiamiento para el desarrollo económico, social e institucional en América Latina y el Caribe. Proporciona préstamos, subvenciones, garantías, asesoramiento sobre políticas y asistencia técnica a los sectores público y privado de sus países prestatarios.

La elaboración del DIA 2020 “De estructuras a servicios: el camino a una mejor infraestructura en América Latina y el Caribe” intenta cambiar el foco del debate de política pública. De una visión muy centrada en la inversión en activos para cerrar brechas físicas de infraestructura a una visión más holística que contemple las condiciones en que los servicios de infraestructura son provistos, y en particular los efectos que éstas tienen sobre la calidad y cantidad de los servicios recibidos por los hogares y empresas. En este contexto, surge la necesidad de tener un diagnóstico sobre cómo se establecen los precios de los servicios.

Los precios son un instrumento regulatorio clave para alcanzar distintos objetivos: eficiencia productiva, eficiencia asignativa y también resultan centrales para la asequibilidad de los servicios. El esfuerzo de recolección de información realizado para el DIA 2020 reveló la falta de información organizada de forma periódica, sistemática y homogénea sobre la fijación de precios de los servicios (servicios de agua potable, transporte y energía eléctrica) en la región. Resulta sorprendente que no exista información pública fácilmente accesible sobre cómo se fijan los precios (proceso regulatorio para determinar su estructura, nivel y periodicidad de cambio) y su nivel a lo largo del tiempo.

Dando continuidad a la agenda de conocimiento en infraestructura y a las recomendaciones de política presentadas en el DIA2020, el Sector de Infraestructura y Energía ha priorizado la fijación de precios como una de sus prioridades de agenda. Se espera realizar una serie de estudios que analicen en profundidad cómo se fijan los precios de los servicios en mercados regulados y las variables que los determinan en mercados no regulados. Esta agenda, que se denomina “Estableciendo los precios correctos en los servicios de infraestructura (Setting the prices right for infrastructure services)” se desarrollará en el trienio 2020-2023.

La misión del equipo: El Sector de Infraestructura y Energía (INE) es responsable de conceptualizar, preparar, apoyar la ejecución y supervisar las operaciones del Banco relacionadas con la infraestructura, energía, transporte y agua y saneamiento. INE está encargado de preparar políticas, estrategias, lineamientos operativos y programas sectoriales sobre infraestructura y medio ambiente; realizar estudios de investigación y trabajo analítico pertinentes, mejores

HRD Términos de Referencia Para consultorías modo PEC

prácticas y estudios de casos en el sector; y brindar apoyo técnico sectorial especializado a las actividades y operaciones en países miembros prestatarios.

Lo que harás: Para el desarrollo de esta consultoría es necesario llevar a cabo por demanda las siguientes actividades, las mismas no excluyen alguna otra que sea necesaria durante la realización del trabajo requerido.

- (1) Producción del índice anotado ("annotated outline") del informe insignia (flagship) sobre la temática de fijación de precios correctos para los servicios de infraestructura en América Latina. El índice anotado debería contener la estructura del informe y realizar una identificación de los insumos para su elaboración.
- (2) Identificación de trabajos de investigación a desarrollar y bases de datos a utilizar, seguimiento de avance en la elaboración de dichos contenidos y preparación de capítulos en estrecha colaboración con especialistas de las divisiones de INE.
- (3) Autoría (y/o co-autoría) de capítulos del libro insignia y notas que alimentarán los capítulos a definir por el Asesor Económico Principal.
- (4) Revisión de insumos generados por especialistas del BID y consultores externos en áreas de investigación del libro (incluyendo papers generados por una Red de Centros).
- (5) Participar en llamadas vía Teams u otra plataforma a definir con el equipo de especialistas de INE que participarán en el flagship. Se espera que el consultor participe en un mínimo de una reunión mensual.

Entregables y Cronograma de pagos: La consultoría operará en una modalidad por demanda de los temas que le sean consultados (tipo retainer). Los productos serán identificados durante el transcurso de la consultoría, incluyendo informes de avance, así como notas técnicas, informes analíticos, entre otros, según las actividades descritas en la sección anterior. El Asesor Económico Principal autorizará la realización de los productos específicos.

El contractual entregará un informe cada dos meses que deberá contener el detalle de las actividades desarrolladas durante el respectivo período y los días de esfuerzo consumido. Los pagos se realizarán cada dos meses, por un monto equivalente a los días de trabajo (máximo 16 días por mes), contra la entrega a satisfacción del informe correspondiente al periodo de pago. Los pagos se harán en dólares, por ser una consultoría internacional.

Todo informe debe ser sometido al Banco en un archivo electrónico. El informe debe incluir una carátula, documento principal, y todos los anexos. Archivos en formato Zip no serán aceptados como informes finales debido a los reglamentos de la Sección de Administración de Archivos.

La supervisión de los trabajos del consultor estará a cargo del Asesor Económico Principal, quién acordará, antes de iniciar cada serie de actividades, la dedicación y duración de los trabajos, el número de misiones, las fechas de entrega de los productos esperados y la

HRD Términos de Referencia Para consultorías modo PEC

dedicación del tiempo estimado.

Las misiones serán aprobadas por el Banco de manera previa a su iniciación.

Lo que necesitaras.

- **Ciudadanía:** Eres ciudadano/a de uno de nuestros 48 países miembros.
- **Consanguinidad:** No tienes familiares (hasta el cuarto grado de consanguinidad y segundo grado de afinidad, incluido el cónyuge) que trabajen en el Grupo del BID.
- **Educación:** PhD en economía y especialización probada en el sector de infraestructura.
- **Experiencia:** Más de 15 años de experiencia en las siguientes áreas: experiencia sectorial en sectores de infraestructura, regulación de servicios públicos y/o organización industrial.
- **Idiomas:** español e inglés.

Resumen de la oportunidad:

- **Tipo de contrato y modalidad:** Contractual de Productos y Servicios Externos (PEC), Retainer.
- **Duración del contrato:** Máximo 80 días de consultoría en un plazo de 12 meses a partir de la fecha en la que se firma el contrato.
- **Ubicación:** País de residencia del contractual, con hasta 3 viajes a los países que sea requerido.
- **Persona responsable:** Asesor Económico Principal - INE/INE.
- **Requisitos:** Debes ser ciudadano/a de uno de los 48 países miembros del BID y no tener familiares que trabajen actualmente en el Grupo BID.

Nuestra cultura: nuestra gente está comprometida y apasionada por mejorar vidas en América Latina y el Caribe, y hacen lo que les gusta en un entorno de trabajo diverso, colaborativo y estimulante. Somos la primera institución de desarrollo de América Latina y el Caribe en recibir la certificación EDGE, reconociendo nuestro fuerte compromiso con la equidad de género. Como empleado, puedes ser parte de grupos de recursos internos que conectan a nuestra comunidad diversa en torno a sus intereses comunes.

Alentamos a las mujeres, los afrodescendientes, las personas de origen indígena y las personas con discapacidades a postularse.

Sobre nosotros: En el Banco Interamericano de Desarrollo, estamos dedicados a mejorar vidas. Desde 1959, hemos sido una fuente importante de financiamiento a largo plazo para el desarrollo económico, social e institucional en América Latina y el Caribe. Sin embargo, hacemos más que prestar. Nos asociamos con nuestros 48 países miembros para proporcionar a América Latina y el Caribe investigaciones de vanguardia sobre temas de desarrollo relevantes, asesoramiento de políticas para

HRD Términos de Referencia Para consultorías modo PEC

informar sus decisiones y asistencia técnica para mejorar la planificación y ejecución de proyectos. Para ello, necesitamos personas que no sólo tengan las habilidades adecuadas, sino que también sean apasionadas por mejorar vidas.

Nuestro equipo de Recursos Humanos revisa cuidadosamente todas las aplicaciones.