Infrastructure Bonds

The Case of Brazil

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TECHNICAL NOTE Nº IDB-TN-2454

April 2022

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Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library

Borensztein, Eduardo.
Infrastructure bonds: The case of Brazil / Eduardo Borensztein, Eduardo Cavallo and Pablo Pereira dos Santos.
p. cm. - (IDB Technical Note; 2454)
Includes bibliographic references.
1. Infrastructure (Economics)-Brazil. 2. Infrastructure (Economics)-Capital investments-Brazil. 3. Infrastructure (Economics)-Finance-Brazil. 4. Financial instruments-Brazil. I. Cavallo, Eduardo A. II. Pereira dos Santos, Pablo. III. Inter-American Development Bank. Department of Research and Chief Economist. IV. Title. V. Series.
IDB-TN-2454

http://www.iadb.org

Abstract

Debêntures Incentivadas or incentivized bonds are securities first issued in 2012 whose interest and capital gains enjoy income tax exemption conditional on using funds to finance infrastructure expenditures. They have a minimum duration at issuance of four years, are denominated in *reais* and traded in local markets under national jurisdiction. In US dollar terms, the value of bonds issued reached a peak of $9.5 billion in 2019, and the overall number of bonds since inception of the program exceeds 400. The amount of infrastructure bonds issued every year rivals BNDES loans in terms of the total amounts of financing of infrastructure projects. The Brazilian experience with creating a market for incentivized bonds can be useful to other countries in the region seeking to develop long-term financing markets in local currency to finance infrastructure.

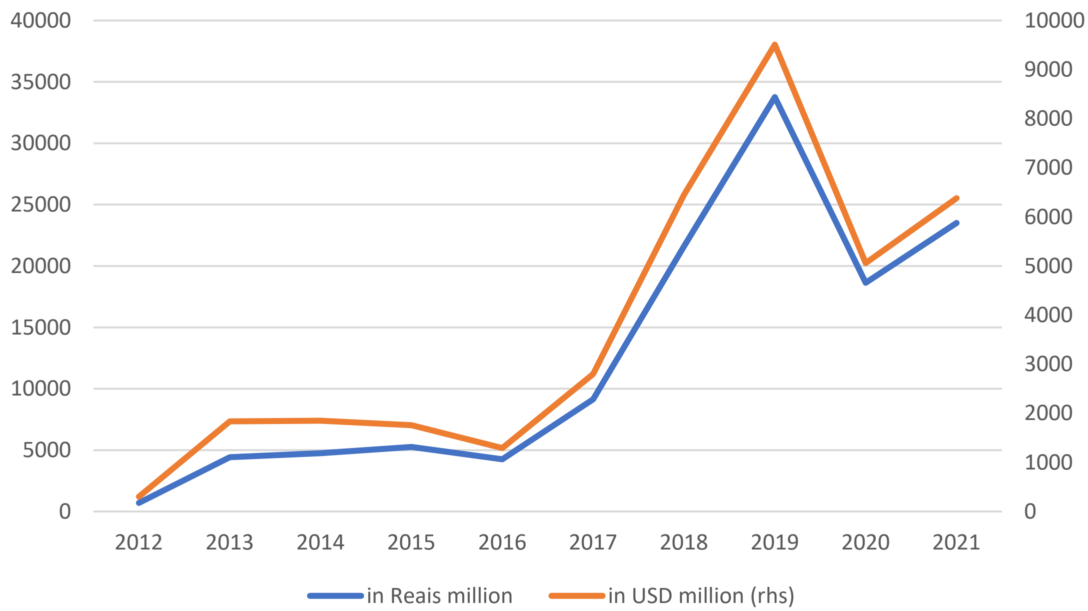
JEL classifications: E22, H44, H54
Keywords: Infrastructure bonds, Financing infrastructure

In 2011, the government of Brazil introduced a framework for the issuance of infrastructure bonds by private companies with the objective of promoting the development of long-term private capital markets and strengthening financing for infrastructure projects. The initiative responded to the higher capital costs imposed on bank loans by the Basel III regulations, and to the need to curb the dominant position of BNDES in providing infrastructure financing. The securities' interest and capital gains enjoy income tax exemption conditional on using funds to finance infrastructure expenditures, minimum duration at issuance of four years and currency denomination in *reais*. All bonds are traded in local markets under national jurisdiction. The income tax exemption helped build up their popularity among high-income Brazilian savers, because it applies to individual local investors as well as to nonresidents. Financial institutions that invest in these instruments benefit from a reduced tax rate of 15 percent compared to a standard rate of 25 percent. The favorable regime is reflected in the name given to the instruments: *Debêntures Incentivadas* or incentivized bonds. Benefits are due to expire in 2030.

The first bonds were issued in 2012, and the growth of the market took off in 2017 (see Figure 1). The COVID epidemic slowed activity, however, with the volume issued in 2020 reaching only some 55 percent of the previous year's level. The slowdown seems to have been temporary, as the first half of 2021 saw issues that surpassed those of 2020. In US dollar terms, when calculated using a constant, trade-average based real exchange rate, the value of bonds issued in 2019 reached $9.5 billion, and the overall number of bonds since inception of the program exceeds 400. The increase in issuances until 2020 was supported by the virtual elimination of direct Treasury funding to BNDES and the loosening of the monetary policy stance since 2016 (see Figure 2). Scarce bank financing along with lower yields drove supply. On the demand side, tax breaks provided an attractive incentive to local investors in search of yield, as traditional fixed income investments were offering unprecedented low returns. On the policy side, most new infrastructure concessions are now tapping the infrastructure bond market to fulfill their financing needs.

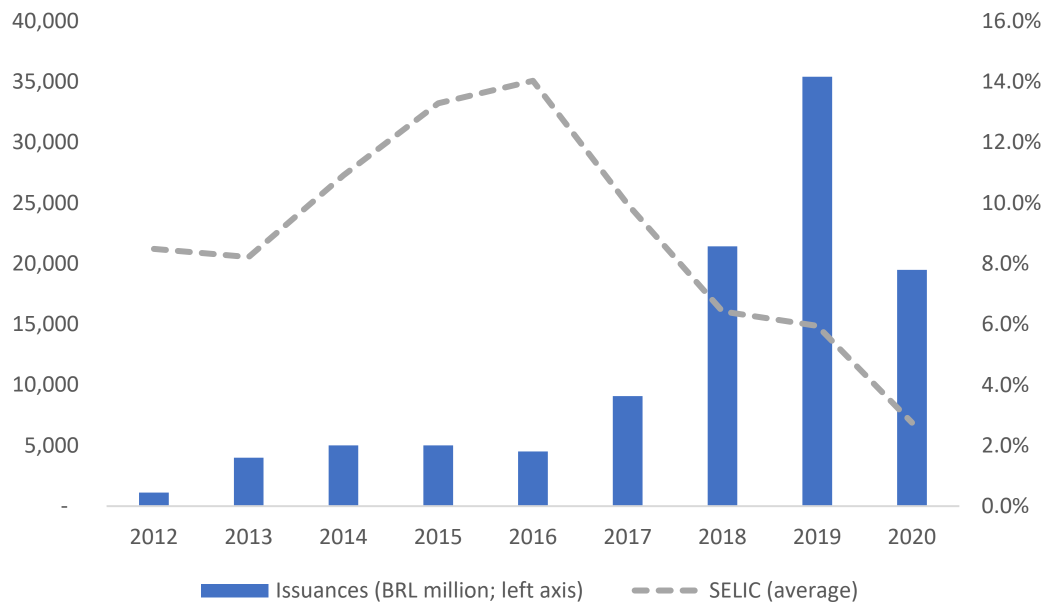
Nearly all the bonds are indexed to the Extended Consumer Price Index IPCA, which is the index used in government inflation-linked securities and the target of the central bank's monetary policy. At real rates of 6 to 8 percent, the infrastructure bonds carry moderate spreads of 100 to 200 basis points over similar-duration Brazilian Treasury bonds. As reforms introduced in 2017 started to phase out implicit subsidies to BNDES's lending rates, the all-in cost of funds of infrastructure *debêntures* approached that of the development bank's loans. BNDES, however, offers more favorable terms, as loan maturities can extend to 25-30 years. Bond maturities have gradually increased to an average of just over 10 years, and average duration is 5 to 7 years depending on the industry. The amount of infrastructure bonds issued every year rivals BNDES loans in terms of the total amounts of financing of infrastructure projects. Private bank financing has been mostly focused on providing bridge loans during the construction phase and mitigating completion risks, which bond investors are usually disinclined to take.

Figure 1. Brazil: Issuance of Infrastructure Bonds



Source: Ministério da Economia, Brazil (2021).

Figure 2. Brazil: Infrastructure Bond Issuances and Monetary Policy Interest Rate (SELIC), 2012 – 2020



Source: Ipeadata, Anbima and Ministério da Economia.

Since the start of this market, primary market investors have included individuals (27 percent), mutual funds and other investment funds (20 percent), arranger banks (19 percent), other banks and financial intermediaries (22 percent), corporations (6 percent), and foreign investors (4 percent). Banks find this investment advantageous from the point of view of income tax and capital requirements associated with holding these securities.

Over 80 percent of bonds are rated at issuance by at least one of the three major international rating agencies (Moody's, Standard & Poor's and Fitch). Of the 363 rated issuances, only nine fell in the speculative grade category in the long-term credit rating scale. This is consistent with the low default rate that has been observed since the introduction of these bonds; there have been only three default events so far. The overall good credit standing of infrastructure bonds results in part from implicit or explicit guarantees provided by sponsors, collateralization of receivables, and, in a few cases, by multilaterals. Over half of the outstanding bonds fund projects are sponsored by large corporations,[1] who provide coverage for construction risks along with

[1] Economática (2021, August 26), "Debêntures incentivadas – Quais são os gestores com maior alocação? Quais são as mais alocadas?". Retrieved from https://insight.economatica.com/debentures-incentivadas-quais-sao-os-gestores-com-maior-alocacao-quais-sao-as-mais-alocadas/.

private banks. More than two-thirds of the bonds fund projects in the energy sector, which enjoy a stable flow of revenues through power purchase agreements.

IDB Invest has been involved in supporting the development of infrastructure bonds with favorable climate impact through credit enhancements. In 2018, IDB Invest provided a guarantee for a bond issued by a wind farm for the equivalent of $28 million[2] and another guarantee supporting a bond issued by a solar power plant for the equivalent of $84 million.[3] The guarantees permitted to obtain longer maturities and higher ratings for the bonds. Both instruments received a triple-A local currency rating by Fitch.

The secondary market is active, and infrastructure bonds tend to have a turnover rate somewhat higher than other types of private bonds. The limited participation of foreign investors in the Brazilian infrastructure bond market is surprising considering the relatively high participation of such investors in the domestic Treasury bond market. There seems to be two factors underlying this outcome. First, abundant liquidity and relatively lower costs of reaching out to domestic investors render the effort of seeking international funding unattractive to project developers. Second, the tax structure makes the after-tax yield differential of infrastructure bonds more attractive for domestic investors. The latter effect is illustrated in Table 1. Treasury bond returns are tax-exempt for foreign investors only.[4] Thus, the after-tax yield spread of infrastructure bonds can be three times higher for a domestic investor than for a foreign investor, as the latter is subject to taxation in its home country.

[2] https://www.idbinvest.org/en/news-media/idb-invest-provides-r125-million-total-credit-guarantee-santa-vitoria-do-palmar-wind-farm.

[3] https://www.idbinvest.org/en/news-media/idb-invest-provides-r315-million-total-credit-guarantee-pirapora-solar-project-brazil.

[4] Except when the investor is resident of a jurisdiction listed as a tax haven by the Brazilian authorities, in which case a 15 percent withholding income tax rate applies.

Table 1. Infrastructure bonds after-tax spread over treasury bonds (Local currency yields)

	Domestic Investor (15% tax rate)			Foreign Investor (25% tax rate)‡		
	before-tax	after-tax	after-tax spread	before-tax	after-tax	after-tax spread
Infrastructure bond*	10.0%	10.0%	2.8%	10.0%	7.5%	1.1%
Treasury bond†	8.5%	7.2%	-	8.5%	6.4%	-

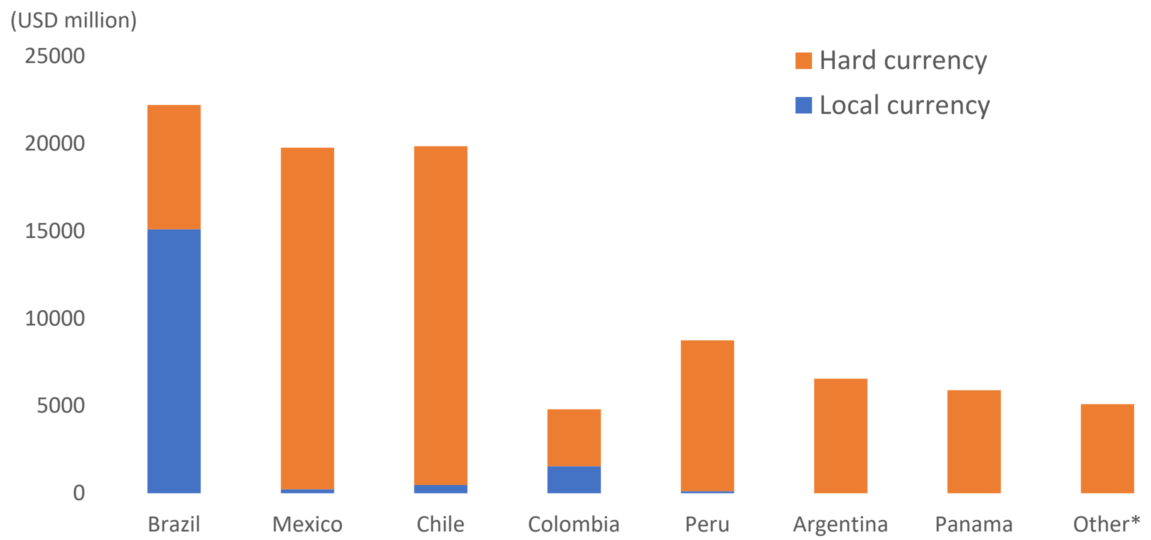
Source: Authors' calculations.
* Considers an average yield of 6% and long-term inflation of 4%.
† Considers an average spread over treasury of 1.4% rounded up for simplicity.
‡ Considers an average OECD corporate income tax rate of 23.5% rounded up for simplicity.

The Brazilian government has sent a bill to Congress creating a new modality of infrastructure bond targeted at attracting international funding.[5] The proposal provides the tax exemption to the bond issuers, instead of the bond buyers, which would result in higher returns for all types of investors equally. The bill also allows the instruments to be denominated in US dollars. In parallel, the authorities are working to include in some concession agreements clauses that index part of the concessionaires' revenues to the US dollar, instead of the current practice of indexing all concession revenues to consumer prices. Such clauses may encourage sponsors to issue bonds denominated in US dollars. Underlying these initiatives is the view that local funding alone will fall short of Brazil's infrastructure needs going forward as the country's concession program expands to other sectors, such as water and sanitation.

Infrastructure bonds are also used extensively to finance projects in other countries. In fact, about 50 percent of project debt financing in the region is channeled through bonds, which is a notable shift from the first half of the 2010s, when commercial and official loans prevailed. Still, Brazil, Mexico and Chile account for two-thirds of the bonds issued in the region over the past 10 years (Figure 3).

[5] https://www.camara.leg.br/noticias/782651-camara-aprova-projeto-que-cria-debentures-de-infraestrutura

Figure 3. Infrastructure Bond Financing by Country and Currency 2012-2021 (Excludes Oil & Gas and Mining)



Source: IJ Global.
* Includes cross-border transactions

None of the other countries in the region, however, have established a regime similar to Brazil's to promote infrastructure bonds. It is evident from Figure 3, moreover, that Brazil stands out in terms of the prevalence of local currency finance. Colombia is the only other country where infrastructure bonds issued in local currency account for a significant share of issuances, but it is largely restricted to transport projects. Countries may wish to consider the successful case of Brazil in developing the market for infrastructure bonds denominated in local currency to match the currency of revenues from the projects, especially in sectors such as transportation, water and telecom. From the point of view of investors, local currency bonds may also be attractive because they embed lower risk of default.

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