Regulatory reform in the Brazilian railway sector – a preliminary assessment

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Abstract - In this paper we analyze the impact of a reform in Brazilian railway regulatory framework proposed in 2012. According to our results incumbent firms may lose value and the state may experience increasing fiscal costs.

1. Introduction

The Brazilian economy is greatly dependent on primary commodities, mainly mineral and agricultural. These goods are also prevalent in terms of international trade for the country (Sampaio & Daychoum, 2015). Most of these commodities are produced in the rural side of the country. Hence, the need to transport it for long distances to ports located on the Atlantic coast renders freight a key cost component in the country’s competitiveness.

However, the Brazilian railroad system is still in its infancy in terms of the extension of the network and transportation capacity. This configuration is partially the result of public policies adopted in the second half of the last century that favored road transportation. Considering that several findings in the economic literature point to efficiency gains of rails, Brazil nowadays faces a major challenge due to its unbalanced transportation infrastructure matrix.

At first, the Brazilian government attempted to tackle this problem through a state-investor model launched in the 1980s (World Bank, 2007). Then, a privatization program followed in the 1990s. The relatively poor performance of such reforms motivated the government to reform the regulatory framework from a vertically integrated framework to a totally unbundled system.

In 2012 the federal government launched the National Integration Logistics Program (PIL). Among other goals, the Program aimed to foster investments in the railway system. The basic changes consist of unbundling infrastructure and service provision, introducing an Independent Railway Operators and a new role for a state-owned company, VALEC. According to the proposal the company would be required to purchase upfront all transportation capacity from infrastructure concessionaires, reselling it in the market through public auctions (Pinheiro, 2014).

Several discussions and criticisms followed the proposal, leading to a temporary halt. Additionally, severe fiscal constraints contributed to postpone the implementation of the 2012 proposal. However, since not even a single new railway was auctioned between 2012 and 2015, the discussions and challenges still remain; that is, what is the proper model for Brazil to induce investments and improved performance in the country’s railway system? This discussion is timely since in 2015 the Brazilian government launched the second stage of its logistics program – PIL 2.

The purpose of this paper is to discuss the potential implications of the proposed regulatory changes assessing its effects on a firm holding a concession. In order to achieve the stated goals, the article is structured as follows. First, we present the basic economic principles regarding regulation of railways. Then we discuss the current Brazilian regulatory framework and the changes proposed in 2012, which have not been implemented so far. Next, we present our case study that we based on different regulatory scenarios and their possible impacts on a concessionaire. Finally, we comment some initial findings and ideas for further research.

2. Regulatory Framework

2.1 Regulation of rail system - the basics

The rail system is a natural monopoly organized in a mate-
rial and continual network. Sectors with this structure are characterized by high fixed and sunk costs, with a technology exhibiting large economies of scale and scope, as well as network externalities. Such circumstances would, in principle, undermine competition. Hence, rail transportation would be a vertically-integrated market.

To overcome such issues, sector regulation may promote competition through unbundling schemes, which can be implemented by three alternative arrangements: (i) accounting separation, adopting different accounts to different activities within the same company in order to secure transparency and especially aiming at preventing cross-subsidies; (ii) legal unbundling, which forbids the same legal entity to be in charge of different segments of the value chain; and (iii) corporate structural unbundling, which prohibits an economic group (either through one or different companies) to perform different economic activities in the same sector.

A decision towards unbundling must consider a number of variables, which may also differ among distinct utilities. Shall the owner of the cargo be allowed to hold stakes in an infrastructure concessionaire? Shall the owner of the cargo be entitled to become service freight operator? Shall the infrastructure concessionaire be allowed to render services as a freight operator? Will the intended benefits of unbundling and competition in the railway sector overcome the economies of scale of a vertically-integrated structure and the transaction costs that are typical of unbundled public utility industries?

Most of the answers to these questions depend significantly on variables such as the size of the market, the range of products being transported, risks allocation, safety of operations. Additionally, Laperouza & Finger (2009) stress the need to balance short-term and long-term policy goals, such as developing the network and charging tariffs that would grant a proper return to investments.

2.2 The 1990 model

In the '90s Brazil decided to grant concession in the already-existing railways and transportation services to private through public procurement processes. The awarded concessions are vertically-integrated, including both infrastructure and services. According to Venckovsky (2005), all the consortiums entitled to such concessions comprise a commodity producer. Regulation was initially established by a Presidential Decree and acts from the Ministry of Transportation. Only in 2001, after the privatization process took place, the National Terrestrial Transportation Agency (ANTT) was created as an independent administrative body within the federal Public Administration.

2.3 The “new” model

The Brazilian railway system is going through a period of change regarding its institutional design. The resumption of the debate regarding Brazilian railroads was driven by the national Logistics Investment Plan (PIL), which aims to reinforce the role of this modal as a relevant logistics solution. This would be achieved by expanding the network and lowering tariffs.

Three institutional players are in charge of the governance of the sector: the independent regulatory body, ANTT; the Planning and Logistics Company (EPL), which provides services regarding to projects, studies and research to support the planning of logistics and transportation in the country; and VALEC - Engineering, Construction and Logistics S.A.. This last company was restructured several times in its history. Nowadays VALEC provides various types of services in the railway sector, such as managing railway infrastructure, operations’ programming, industrial efforts’ coordination, development of sectorial studies and of transportation systems.

The structural reform underlying the proposal of the 2012 PIL aimed at increasing investments in the railway infrastructure by means of competition. The program established a new concession model, requiring segregation of the sectoral activities; that is, separating infrastructure construction and maintenance from the activity of capacity management and from transportation service provision. It can be argued that this goal departs from the 1990 reform that resorted to privatization to modernize the already-existing railways.

The initial setting of the proposed model requires VALEC to annully purchase all the operational capacity of the railway infrastructure concessionaire reselling it through competitive bidding procedures to companies willing to provide freight services. The auctions would grant access to the infrastructure along the whole railway system. According to ANTT, the object of the new concession agreements would comprise construction, operation, maintenance, monitoring and management of infrastructure. However services’ activities and trains maintenance would be performed by the Independent Rail Operators (OFIs). OFIs are legal entities authorized by ANTT to provide rail transportation services. Hence under the proposed framework open access would be granted to the rail network.

According to the proposal, VALEC would manage the grid capacity, purchasing it upfront from infrastructure concessionaires. The subsequent allocation of this capacity is to be held through auctions to: (i) users willing to carry their own cargo; (ii) independent rail operators (OFI); and (iii) vertically-integrated railway concessionaires - the same ones privatized in the 1990s. Therefore, VALEC would be in charge of an organized market to match providers of
rail infrastructure and those in need of transport services. Instead of interacting directly, transactions among these counterparts would be mediated by VALEC – the vendors selling their full capacity and the users purchasing capacity from Valec.

Since the beginning of 2015, however, this new framework has been loosing support even at the government level. Severe fiscal constraints currently faced by Brazil coupled with preliminary analysis and investigations held by the Federal Audit Court (TCU) and the Ministry of Finance point to a potential government failure that may result from the new role to be assumed by VALEC. Additionally, it seems that such new unique regulatory model may be plagued by technical flaws. It has been also undermined by the lack of public scrutiny and regulatory oversight.

In this context, the following section presents a case study assessing the impact of the proposed reform in an incumbent firm operating in the railway sector in Brazil.

3. The ALL Case Study

In order to assess the potential impact of the proposed reform in an incumbent firm, we present the results of an exercise that calculates the present value (PV) of (i) a railway facility belonging to a real concessionaire today (Scenario 1); (ii) the effect of turning this firm into an infrastructure provider for VALEC while remaining an operator through the same economic group, (Scenario 2); or (iii) in case the regulatory framework mandates full open access without the intermediation of VALEC to induce competition in the railway (Scenario 3).

The selected company for the analysis is América Latina Logística (ALL), the largest company in the Brazilian railway sector that is publicly traded. The model considers the method of discounted cash flow. Also the assessment is restricted to railway networks directly operated by ALL.

3.1 Main results

Considering the role of VALEC as the sole capacity buyer, the value estimated for the concession is 42% smaller than the scenario where the firm continues to operate vertically integrated. Hence if regulation changes towards unbundling and with VALEC operating as an intermediary, the incumbent firm would be seriously impaired.

The entry of a new competitor would have a higher impact on the concession’s PV when compared to scenario 2 (VALEC). For some scenarios, the best decision for the firm is to abandon the concession. This is the case whenever a very large competitor enters the market reaching a share at least as high as 50%. The resulting price war leads to a price drop of 35%. Also, in the event of growth lower than expected, a 40% fall in price would render the concession economically inviable. It is worth noting that this is a very likely scenario.

4. Concluding Remarks and Further Research

We conclude that the reform in the Brazilian Railway regulation proposed in 2012 may lead to a decrease in an incumbent firm’s value. It may also disincentivize established entrepreneurs and/or newcomers when compared to vertically-integrated schemes. For some specific scenarios, the change may be beneficial to the firm. However, such scenarios are potentially associated to higher costs to VALEC and, hence, to the Brazilian government.

Even though the model launched in 2012 is currently loosing support, the main questions underlying its initial conception remain: is the proposed unbundling scheme likely to foster investments in the railway system leading to lower logistics costs? Would the current vertically-integrated model coupled with open access rules lead to improved performance in the sector? Can a scheme under which the government, through a State-owned company, acts as an intermediary between capacity owners and transportation service companies be successful in mitigating investors’ risks and improving the use of railways as a means to cargo transportation? These are the questions we are willing to answer with a broader research agenda regarding Brazilian railway regulation, including some extensions in the financial model to better introduce risk-sharing mechanisms.

References