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PPIs and transport infrastructure: Evidence from Latin America and the Caribbean

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ABSTRACT

In the recent past, several governments tried to promote infrastructure investments using different policies and funding schemes. Strategies have been differentiated over time, among regions, and in relation to specific political choices. The paper focuses on Latin America and the Caribbean in which different political approaches have been developed together with a quite different geographical level of characterisation, representing a significant case study to better understand how political and institutional intervention might incentivise local and/or foreign investors, shaping the organisation of the infrastructure network. Therefore, the current research analyses the transport-related projects included in the World Bank database on private participation in infrastructure (from 1980 to 2015) highlighting main patterns in terms of institutional, social and economic characteristics that might influence the investment in transport infrastructure in the Latin America and the Caribbean. Our panel analysis – that includes data collected from the International Monetary Fund, the World Bank and local government websites – shows a clear link between government strategies and the related outcome in terms of transport investments. In particular, in addition to the size of the investment, a positive (and significant) impact of being part of a regional organisation emerges, as well as the involvement of private companies.

1. Introduction

The transport system is a key factor in the developing strategy of a country (Banister and Berechman, 1999). As part of the fixed capital, it favourably contributes, together with macroeconomic stability, openness and the quality of institutions, to determine the investment climate (Stern, 2001). This is important to continuously attract investments and foster economic growth that, under certain circumstances, might determine higher gross domestic product (GDP) per capita and hopefully a more equal distribution of GDP among the population, hence a real social and economic development.

The research for rapid economic development, able to foster efficiency in the domestic industries, has led several developing and emerging economies to attract private (foreign) companies to speed up the modernisation of the main economic sectors. The potential positive effects of attracting both the know-how and the capital of private operators have been widely documented either by literature (e.g., Aschauer, 1989; Araujo and Sutherland, 2010) or official international reports (e.g., IMF – International Monetary Fund, 2016). Therefore, many countries have opened local markets to foreign companies to attract new capitals or build up joint ventures to transfer not only funds but also technologies and know-how (Roumboutsos, 2016).

Despite a general agreement on the positive effects of this process, some authors (e.g., Bogliaccini and Juan, 2013) argued that market openness in certain world regions, such as Latin America, had a downward effect in increasing internal inequalities. Despite this, Wacziarg and Welch (2008) demonstrated that, from 1950 to 1998, market openness and capital investment determined average annual growth rates higher than before liberalisation. The debate on the effects of market liberalisation and economic openness on a certain region has been investigated only partially and linked to the economic structure of many developing countries. Since many of these countries base their economy on export-oriented industries, the regional endowment of infrastructures impacts their international trade. For this reason, Wilmsmeier et al. (2006) emphasise how the presence of specific transport infrastructure (i.e., seaports) may influence the international transport connectivity and the role of a region into the international trade network. Apart from specific benefits related to the openness to international markets, economic literature deeply discussed the beneficial role of infrastructure endowment on the local or domestic

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economy (e.g., Ottaviano, 2008; Crescenzi and Rodriguez-Pose, 2012) in terms of cost savings or increased productivity. Moreover, there is the possibility of achieving spillover effects on wider areas (e.g., Holtz-Eakin and Schwartz, 1995; Bottasso et al., 2014); similar results are also coherent with the New Economic Geography approach (e.g., Krugman, 1991).

In general, transport investments are considered a leverage to foster international trade and provide a basis for promoting internal growth. This issue is even more important for developing countries that, due to a lack of funding, have been promoting different and innovative kinds of investment policies in accordance with specific institutional choices. In fact, while literature has often investigated the causal relation between transport choices and government prescriptions (e.g., Verhoef, 2000), the effects of institutions (e.g., governments and regional authorities) on transport investments and transport network have been considered only recently. An example of this issue is represented in Europe by the Trans-European Network-Transport TEN-T framework (e.g., Gutierrez et al., 2011).

Nevertheless, while the link between the role of institutions in transport development has been addressed (at least partially) in many industrialised regions (e.g., Gutierrez et al., 2011; Kemmerling and Stephan, 2008), showing the beneficial role the institution can have in terms of promoting transport system integration and planning, not many studies focused on the effects of institutions on transport investments and how these investments can foster regional economic wellness in developing regions (e.g., Banister and Berechman, 1999; Short and Kopp, 2005). The current study contributes to filling this gap by studying a geographical region, Latin America and the Caribbean (LA-C), hat experienced different forms of governments and institutional influences in the past decades. Thus, being able to understand the role of different national and international institutions in promoting a regional transport project can help in generating improvements in both planning activities and the efficiency of the overall resource allocation. These two elements can positively affect the overall level of regional integration.

The goal of this paper is to investigate the effects that regional institutions had on the transport network and how these institutions influenced the attractiveness of the region for private operators and external partners influencing the regional transport system. In order to achieve the abovementioned goal, data from international organisations and local governments have been collected for the past 36 years (1980–2015) from Latin American and Caribbean countries. In order to collect the dataset, the World Bank database on Private Participation in Infrastructure will be used because it is the main international information source for infrastructural PPIs in developing countries. Other public sources (e.g., the IMF and government websites) have been used to collect main macroeconomic (e.g., import, export, GDP and population) and political (e.g., government and international cooperation agreements, such as Mercosur and World Trade Organization (WTO) data. The analysis will consist of a panel regression aiming at investigating the effects of institutions on transport investments and on the development of the transport network in the studied region. The geographical scope of the research focuses on Latin America and the Caribbean for both the different political experiences made during the period (with military and right- and left-wing governments) and the countries' participation at regional and international trade organisations.

The paper is organised as follows: After this brief introduction, Section 2 focuses on the main issues related to PPIs and government choices, and Section 3 describes the geographical scope of the paper. Section 4 discusses PPIs in Latin America, while Section 5 introduces the regression analysis. Section 6 presents the results of the research. Finally, Section 7 addresses the conclusive remarks and discusses potential future research.

2. Background

Infrastructure investments can be fostered through different policies, including public initiative, private intervention and international collaborations. Given the fact that many developing economies need funds and know-how, several international reports (e.g., Makovsek et al., 2014; OECD, 2013) have suggested PPIs as an important instrument to develop public infrastructure and exploit the economic potential of a region.

According to the World Bank definition (WB, 2007) public–private partnerships (PPPs) (often another name to define PPIs) are agreements or contracts between the public and private sectors to jointly operate and/or own infrastructure projects. These partnerships relate to several sectors (e.g., telecommunications, energy and transport) and may be addressed to the management and/or construction (/renewal) of an infrastructure. As suggested by Hall et al. (2003), the fact that PPIs can also involve already built infrastructure makes PPPs a substitute of the more traditional privatisation processes (mainly for political and ethical reasons) to allow the private sector to enter the management of public infrastructure. For this reason, several reports (e.g., WB, 2007; Araujo and Sutherland, 2010; UNESCAP, 2011) often neglect the distinction among PPP, PPI, private finance initiative (PFI) and private sector participation (PSP); all of these terms are used to describe the same situation. Specific distinctions among the abovementioned terms are due to different contractual obligations of either the public or private party and on the need to just manage or build the related infrastructure. For the purpose of our study, and also as mentioned in the World Bank database (WB, 2007), we will use the term PPIs (and PPPs) as a broad set of collaborations between public authorities that aim to involve private actors in the management and/or the construction of an infrastructure.

Moreover, the kind of private involvement in the projects may differ in several contexts and so the infrastructure may be either completely private or public at the end of the "partnership". It is important to distinguish PPIs from foreign direct investments (FDIs): PPIs might be included in the FDIs if (at least) a private partner is represented by a foreign company, even if this is not always the case.

Furthermore, several authors (e.g., Chou et al., 2015; Chou and Pramudawarhani, 2015; Aerts et al., 2014; Tang et al., 2010; Medda, 2007) discussed potential critical issues related to the PPIs, such as investment risk management and the relationship among the investors and the project governance organisation. For this reason, different sectors are characterised by different structures of PPIs, having different elements of characterisation (e.g., Gangwar and Raghuram, 2015; Panayides et al., 2015; Meersman et al., 2014). Nevertheless, since the most important role of PPIs is fostering regional investments, this investment tool seems appropriate as a proxy to investigate transport network development within a specific region.

Concerning the regional transport network, different studies pointed out the potential benefits of improving the role of certain nodes (or regions) within international networks (e.g., Ducruet, 2013). Additionally, according to Cherif and Ducruet (2016) and Wang and Ducruet (2014), regional institutional and industrial backgrounds affect both local planning and the presence in international or local network. Thus, transport policy can affect regional development and presence in international trade. The importance of considering regional aspects in contemplating transport investment has been underlined also by Wilmsmeier and Monios (2016) when discussing the port policy of a sample of Latin American countries and how path dependency can affect transport and economic development. For this reason, the current study will focus on transport investments (in terms of PPIs) and some socioeconomic regional characteristics in order to better understand the role of regional and national institutions in fostering the local transport network.

Latin America and Caribbean have been also studied in relation to their involvement within the main trade routes that recently fostered