Doctor of Business Economics

Essays in PPP Financing. An analysis of financial aspects of Public-Private Partnerships

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Abstract

Worldwide, there is a need to invest more in infrastructure. Most Western economies face a crumbling infrastructure as infrastructure investment has fallen over the past decades. Also, trends such as population growth, urbanisation, population ageing, globalisation, stricter environmental regulation and climate change are spurring need for infrastructure investments worldwide. McKinsey Global Institute (2013)\(^1\) estimates the investment needs at US$ 3.7 trillion annually to close the infrastructure gap. On top of that, austerity curbs public spending, which is problematic given the critical role infrastructure plays in an economy. Authorities are increasingly calling on the private sector to narrow this infrastructure gap.

There is an enormous potential among institutional players for infrastructure investing. Infrastructure has several attractive characteristics (insensitivity to the economic cycle, stable cash flows, long asset life cycle) which explain the appetite for infrastructure investing among institutional investors. Their appetite in infrastructure investments has been growing over the past decade and accelerated since the Great Recession. The turbulence during the financial crisis led to increased risk sensitivity, pushing institutional investors toward alternative means, such as infrastructure, of diversifying their portfolios. Further, the prolonged low-yield environment has encouraged institutional investors to look for assets with higher returns. Despite the expanding appetite of institutional investors in infrastructure assets, allocations to infrastructure still fall below potential. Infrastructure represents only a tiny fraction of the portfolios of institutional investors. Chapter 2 deals with the characteristics and optimal level of infrastructure in portfolios of institutional investors.

There is considerable variation in the deal size of PPPs. Although mega-infrastructure projects generate most value, concerning numbers, most projects are situated in the lower end of the size spectrum. Small projects fit the needs of cities, municipalities and regional authorities which often lack the expertise and funding for their infrastructure needs. The growth of small-scale projects is expected to continue as urban areas are expanding worldwide. The popularity of small-scale PPPs marks a paradox between literature and reality. Previous research indicates that the PPP model is not feasible for projects under a certain size as transaction costs outweigh the benefits (Solheim-Kile et al., 2014). Since they should deal with a similar level of documentation and due diligence as big projects, transaction costs are prohibitively high for small-scale PPPs. High transaction costs negatively affect value-for-money, discouraging private investors to leverage money for small-scale infrastructure. On the other hand, reality shows that the number of small PPPs recently recorded strong growth figures. Several players are very active in the lower-end of the PPP market which seems to overrule the economic concern (Koch & Jensen, 2009; Solheim-Kile et al., 2014). The popularity of small PPPs seems to indicate that these are a unique subgroup having distinct characteristics which should be studied separately (World Bank, 2014).

Chapter 3 gives a general overview of the distinctive features of small-scale PPPs and identifies overarching concerns. Small-scale PPPs are distinguished from large projects, and these features should be explored separately. Although the number is actively growing, relatively few studies focused on small PPPs. Analysing subsets of the PPP market, broken down according to deal size, is necessary to optimally structure the project, both from a financing, investing and operational perspective. The strong growth in small-scale PPPs underlines the need to develop new structures tailored to small PPPs. For small projects, it is often difficult to find sufficient funding as the costs of conducting due diligence are relatively high for small projects.

Chapter 4 identifies in which countries and sectors small projects are typically realised. Identifying the nations that are very active on the lower-end of the PPP area provides as a first step to analyse and compare best practices for small projects across countries. A critical observation is that the sectors in which small projects are mainly closed varies across countries and that small projects are often realised in non-traditional sectors of which relatively little is known. This observation raises the question why some countries realise a lot of small-scale PPPs in one sector, while other countries are very active in other areas. Therefore, it seems that the PPP model is applied on an ad-hoc basis. Are some countries using small PPPs in the wrong sectors or are there differences in framework conditions why small PPPs in some sectors are more applicable in one country than another? The reason why some countries are very active in the lower-end of the PPP market while others remain aloof might indicate that transaction costs and the constitutional and legal context differ across countries. PPP practices strongly vary across countries (Demirag et al., 2009; Argento et al., 2010; Norton and Blanco, 2009). English and Skellern (2005) note that different socio-economic, political and administrative experiences explain the diversity of PPP arrangements across countries. To ensure that PPP constructions are used for the right projects, the value for money potential should be analysed for different sectors. Defining the value for money potential is not an easy task as the optimal size of a project might vary over countries and sectors. We do not attempt to define what a small-scale PPP is. Chapter 3 precedes this complex exercise by reviewing the size-dependent features. Future research could explore more nuanced ways of defining "small-scale-like" projects based on these size-dependent features.

Project finance transactions are typically highly leveraged transactions, with debt financing representing up to 70%–90% of the capital structure while the equity share is usually limited to 10%–30%. As infrastructure projects generally are highly leveraged, the lending policy of banks is an essential parameter in the feasibility of infrastructure projects. When banks grant project finance loans, they have two main decision variables: the spread and tenor which determine the cost and stability of the debt funds. Uncovering the lending policies of banks for PF loans is beneficial for practitioners and government officials who aim to improve the feasibility of their projects. The question is also to which extent external factors, including the political and economic context drive the lending conditions of banks. Is the structuring of the project essential to get favourable loan conditions or is it just a matter of timing? In the latter case, we just should wait for the right economic conditions to launch infrastructure projects. This question is analysed in Chapters 5 and 6.