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Public-Private Partnership Projects in Canada: A Case Study Approach

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***Abstract*—**Public-private partnerships (PPP) arrangements have been extensively used in Canada, where the participation of private companies in financing and managing infrastructure projects has increased significantly in the last decade, particularly in the transportation sector. This paper analyses the evolution of the PPP market for transportation projects in Canada and examines the participation of Spanish developers in this market, which have been particularly successful in winning PPP contracts during the last decade.

***Keywords*—**PPP, concession, infrastructure, construction.

I. Introduction

IN the context of building and maintaining infrastructure assets, public-private partnerships (PPPs) can be defined as 'an agreement between the government and one or more private partners (which may include the operators and the financers) according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners' [1]. The very notion of PPP thus builds on the principle of risk transfer and integration of key project characteristics including design, finance, construction, operation and maintenance into a single (and long-term) contract between a public sector organization and a so-called Special Purpose Vehicle (SPV) [2].

Public-private partnerships (PPP) arrangements have been extensively used in Canada, where the participation of private companies in financing and managing infrastructure projects has increased significantly in the last decade, particularly in the transportation sector. In this country the Spanish companies have been particularly successful in winning PPP contracts during the last decade. This paper analyses the evolution of the PPP market for transportation projects in Canada and examines the participation of Spanish developers in this market.

The article's empirical base consists of data taken from databases as well as information collected through face-to-face interviews with managers of the some concession companies and experts in the toll road industry. Unstructured in-depth interviews have been adopted as a means of investigation for this study because of its powers to achieve honest and robust responses and to ensure realism in the collection of an overall impression of stakeholders' perspectives.

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II. Literature Background

There are many previous studies that carry out a comparative analysis of traditional procurement versus PPP projects [3]-[6]. According to these scholars, a key characteristic of PPP projects is that the tasks of building an infrastructure and subsequently operating and maintaining it are bundled and thus delegated to a single private contractor, while under traditional procurement schemes, separate contractors are in charge of these tasks. Moreover, PPP projects usually include the planning/design of the infrastructure and private finance acquired through banks or other investors.

The motivations of governments for embarking on PPPs for the delivery of public infrastructure are manifold, and include on-time and on-budget delivery and access to private project management experience [7], [8]. By integrating key project elements into a single contract structure, optimizing long-term incentives and by letting each of the partners do what they do best, PPPs are often seen as a panacea to avoiding time- and budget overruns in large-scale infrastructure projects. Indeed, one of the key arguments underlying PPP compared to traditional procurement methods is that an efficient risk transfer and task integration provides the private partner with a clear incentive to develop innovative solutions that can deliver more infrastructure with fewer resources in the long-run: for instance, by designing infrastructure assets that are cheaper or more cost-effective to operate and maintain [2].

Many studies consider that in PPP projects, risks are shared or transferred between the public sector and the private sector [9], [10], but in most cases do not analyze specifically how the various risks are allocated within the private sector. Some of these studies point out that the main advantage of bundling the tasks of building the infrastructure and managing it is that the construction company has a strong incentive to invest more during the construction phase in order to reduce the costs incurred in the subsequent operating stage. The literature that compares traditional procurement and PPP projects in most instances assumes that in PPP projects the construction and the operation are linked. Some studies, such as [11] and [12] also highlight that the PPP model encourages a 'whole life' approach to construction since long-term costs can be reduced by building to higher standards.

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III. Evolution of PPP for Transportation Projects in Canada

Canada is one of the countries of the world that has been most active in the PPP market, particularly in transportation projects [13]. As shown in Table I, this country is ranked in the 9th place according to the volume of investment (it is ranked in the 6th place according to the number of projects). The PPP formula has also been extensively used in this country in other sectors, such as hospitals, justice and energy. Indeed the range of PPP projects in Canada is very broad and it includes very different sectors, as shown in Table II.

TABLE I
Cumulative Cost of Transportation PPP Projects

Country	Cost (US$ Mill.)	Rank (of 32)
United States	201,855	1
United Kingdom	129,818	2
Italy	93,339	3
France	68,254	4
Spain	66,441	5
South Korea	58,250	6
Portugal	51,865	7
Australia	46,779	8
Canada	44,422	9

TABLE II
Project Value by Sector of All PPP Projects in Canada, 1991-2013

Sector	# projects	Value (CAN $ Million)
Transportation	44	26,420
Hospitals & Healthcare	78	21,484
Justice/Corrections	19	5,422
Energy	5	4,250
Education	10	1,880
Recreation& Culture	17	1,379
Real State	3	944
Defence	1	867
Environmental	22	655
Facilities for Gov.	5	172

Canada has been particularly active in the PPP market of transportation projects [13]. Table III presents a breakdown of the number and cost of the Canadian transportation PPP projects over the period 1985-2013 by type of transportation. It shows that road transportation PPP projects accounted for the largest proportion of the total both in terms of number of projects and investment. Following road, most transportation PPP projects were in the rail category.

Examining the data on Canadian transportation PPPs highlights that the number of transportation PPP projects has increased over time. However, there are big differences among the provinces within the country. The number and cost of Canadian transportation projects vary dramatically by provincial and territorial location. Notably, the majority of projects are concentrated in two provinces: British Columbia and Ontario.

TABLE III
Cumulative Number and Cost of Canadian Transportation PPP Projects, by Type of Transportation (1985-2013)

	# projects	Value (US$ Million)
Road	39	29,892
Rail	14	11,415
Airport	5	2,915
Port	1	200

One of the most relevant features of the Canadian market for transportation PPP projects is that in most cases the payments to the concessionaire are based not on the demand but on the availability of the infrastructure. Thus, the risk transferred to the concessionaire is much lower than when the concessionaire's revenue is dependent on the demand. Another relevant future of this market is that most projects have a substantial public contribution, which obviously make them much more attractive for the private sector and makes much easier to get financing for the projects. Finally, a third feature is that in most cases the external financing comes from bonds and not from bank loans.

Another relevant aspect of the Canadian market of transportation PPP projects is that the Spanish companies have been awarded a significant amount of projects, as shown in Table IV. This is particularly relevant because there is not any cultural advantage for the companies of this country and because there is not any historical tradition of Spanish companies being successful in any industry in the Canadian market.

TABLE IV
PPP Transportation Projects in Canada

Project	Financial close	Company
407-ETR	1999	Ferrovial
Autoroute A25 Extension PPP	2007	
Autoroute A30 - Chateauguay-Vaudreuil-Dorion	2008	ACS
Canada Line - RAV Rapid Transit Line	2005	
Confederation Bridge	1993	
Evergreen Line Rapid Transit Project	2013	
Fredericton-Moncton Highway	1998	Dragados
Golden Ears Bridge - GEB	2006	
Highway 407 Extension Phase 1	2012	Ferrovial
Kicking Horse Canyon Highway Upgrade - Phase 2	2005	
Lachine Rail Maintenance Facility	2012	
Northeast Anthony Henday Drive	2012	ACS
Northwest Anthony Henday Drive	2008	
Ottawa Light Rail Transit	2013	ACS
Sea-to-Sky Highway Improvement Project	2005	
Sierra Yoyo Desan Road - SYD	2004	
South East Calgary Ring Road	2010	Acciona
South East Edmonton Ring Road - Anthony Henday Drive	2005	
South Fraser Perimeter Road	2010	ACS
Stoney Trail North East Calgary Ring Road	2007	
Trans - Canada Highway	2005	
Waterloo to Kitchener Light Rail	2014	
William R.Bennett (Okanagan Lake) Bridge	2005	
Windsor-Essex Parkway P3	2010	ACS

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IV. Participation of Spanish Developers in PPP for Transportation Projects in Canada

Based on the review of the literature and on the interviews conducted for the purpose of this research we have identified that a crucial factor for the successful expansion of the Spanish companies in the Canadian make of PPP transportation projects is the risk management carried out by them. According to the interviews conducted for this research, the Spanish companies were able to better manage the risks of the PPP transportation projects because of: 1) the large experience of the Spanish companies in PPP projects, particularly in the transportation sector, compared to the local companies; 2) the bundled model used by the Spanish developers which is very different from the model used by the Canadian companies; 3) the Spanish developers tend to innovate in the design, which allows them to be more aggressive in the investment costs and in O&M costs; 4) the financial expertise and the track-record of the Spanish developers.

A. The Large Experience of the Spanish Companies in PPP Projects

Arguably, one of the elements of the competitive advantage of the Spanish companies in the Canadian PPP market for transportation projects has been that they had an extensive experience in this kind of projects. The expertise accumulated by the Spanish developers dates back to their early experience–when the international toll road market started to develop in the early 1990s only two countries had an extensive experience in this business: Spain and France. The Spanish program began in 1967, and from 1967 to 1975 the government granted twelve concessions, totalling almost 2,000 km. The goal was to help reduce the huge infrastructure deficit the country had at that time. From 1975 to 1995, almost no new concessions were offered. The Socialist Party, which ruled for many of those years (1982-96), decided to build untolled motorways instead, both as an ideological break from the old policy and because controlling the public deficit was not an urgent concern at the time. From 1996 to 2008, however, an additional 2,126 km in private toll road concessions were granted and built, roughly doubling the size of the toll motorway system. Most of the new toll roads were awarded and built in the period 1996-2004, under the government of the conservative Popular Party. Approximately half of the length of toll motorways awarded in Spain from 1996 to 2008 was offered by regional governments [14], [15].

For many years, the only other country which had a private toll road program was France, which started to offer motorway concessions in 1971. Three of the four main concessionaires had to be nationalised in the early 1980s, however, because the oil shocks of the mid-1970s had increased their costs and reduced their traffic, and the government was reluctant to provide relief by allowing them to raise toll rates. The firms were reprivatized in 2005. In total, 8,522 km of private toll roads were in operation in France as of 2008.

No other countries would offer toll road concessions until the late 1980s, more than two decades after the Spaniards began their program. A big surge started around 1989 in many developing countries, particularly in Latin America and Asia – the most active countries were Mexico, Argentina, Chile and Malaysia. Later on, in the late 1990s and 2000s, other countries also launched toll road programs, particularly in North America and Western Europe, most notably the United Kingdom, the United States, Canada, Portugal and Ireland.

B. The Bundled Model Used by the Spanish Developers

Another relevant point that has allowed the Spanish developers to better manage the risks of PPP projects in the Canadian market has been the organizational model used by them. Every PPP project revolves around a Special Purpose Vehicle (SPV) established to implement a PPP project (the concessionaire). It may be organized in various ways depending on the level of vertical integration of the SPV, the construction company and the maintenance company. There are two main models. One of them (bundled model) integrates these functions within the same corporation. This happens when there is a company that has a majority stake in the concessionaire and this company is in charge of both the engineering, the construction and the maintenance. In the other model (unbundled model), the engineering, the construction and the maintenance are carried out by different companies. They may have a stake in the concessionaire but neither of them has total control over it.

In both models, the construction of the infrastructure and its maintenance are linked in the sense that the concessionaire is ultimately in charge of both of them. The difference between both models is that in the bundled model, there is one company that has control (decision power) over the all the stages of the project (design, construction and maintenance). However, in the unbundled model, both the construction company and the operator company have a stake in the concessionaire but neither have control over it. Therefore, both of them participate in the decision-making process of the project during all the three mentioned stages but neither have decision power by itself.

C. Innovation in the Design

Arguably, another relevant point is the fact that the Spanish developers have large in-house engineering departments, which makes easier for them to innovate in the design, the construction method and other aspects of the construction process. This capacity allows them to figure out ways of saving money during the construction stage For example, a tunnel can sometimes be built excavating underground or with a cut-and-cover method. But this capacity also allows them to save money during the operation stage, for example, using materials that require less care and are more durable. This innovation related to the design phase provides the Spanish companies with room to innovate which allows them to be more aggressive in the construction cost and in the maintenance cost.

However, in many cases, the Canadian construction companies hire engineering companies to elaborate the design. In this case, there is less chance of figuring out innovations

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that would allow the company to be more aggressive in the price of construction and maintenance.

D.The Financial Expertise and Track-Record

Finally, another relevant element that has allowed the Spanish companies to be very competitive in the Canadian market is their financial expertise and track-record. The reason is that, from the very beginning, the Spanish construction companies got involved in the financial management of the early concession projects they were awarded in their country. From then, these companies have developed a significant expertise in this field. Moreover, these companies have developed a close relationship with the financial institutions that are most active in the PPP infrastructure industry. At first, this relationship was established with some Spanish banks, but over time it became much broader and included many financial institutions from many countries.

These close relationships date back to the early concessions Spanish concessions. The construction companies developed strong relationships with Spanish banks to finance the debt for these projects. The banks were not owned by the construction companies or vice versa – the only exception was a 20% stake of Dragados that Banco Central (later part of Banco Santander) owned until 2002. But the banks worked closely with the companies on concessions, at first in Spain and later abroad. According to industry observers, this long history of collaboration has contributed to the development of a good rapport between the biggest Spanish financial institutions and the main construction companies. In almost all cases, the consortiums of financial institutions responsible for arranging the financing for the concessions awarded to Spanish companies abroad have included at least one Spanish bank, if not several. The involvement of Spanish banks in motorway concessions abroad was facilitated by the banks' increasing size and international expansion. During the 1990s, the main Spanish banks went through a process of concentration through mergers and acquisitions, thus creating two of the largest banks in Europe (Santander and BBVA).

In recent years, however, the role of the banks in the PPP projects in Canada has not been so relevant because most projects have been financed through bonds instead of loans. The financial institutions most active in this kind of bonds are the pension funds [16].

V.Conclusions

Canada has been particularly active in the PPP market during the last decade, particularly in the transportation sectors. This paper analyzes some relevant features of this market and examines why the Spanish companies have been so successful in winning contracts. We have identified a number of factors that arguably have allowed the Spanish developers to better manage the risks of these projects and thus be able to be more aggressive in their bids: 1) the large experience of the Spanish companies in PPP projects; 2) the bundled model used by the Spanish developers; 3) the Spanish developers tend to innovate in the design, which allows them to be more aggressive in the investment costs and in O&M costs; 4) the financial expertise and the track-record of the Spanish developers.

Further research should be carried out in the future, however, to analyze to which extent the projects awarded to these companies are profitable in the medium and long term. Only over time it will become clear whether or not the Spanish concession companies have been too aggressive when bidding in the Canadian PPP market.

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