

## THE COMPETITIVE ADVANTAGES OF THE SPANISH COMPANIES IN THE INTERNATIONAL TOLL ROAD INDUSTRY

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**Abstract.** Private toll roads have experienced a notable worldwide expansion in the last two decades. In the early 1990s, many countries began to offer motorway concessions to private investors, most notably in Latin America, Central and Eastern Europe. In the late 1990s and 2000s, the innovation spread to countries in Asia, North America and Western Europe. The Spanish construction companies have been awarded many more concessions than their main rivals together, and they have become prominent in many of the countries with the most significant toll road programs. This paper analyses the competitive advantages that the Spanish companies have enjoyed in the international toll road industry in the last two decades. We argue that they have benefited from the fact that their home country was a pioneer in offering motorway concessions; from a cultural advantage in dealing with Latin America; and from their decision to integrate construction, concession, and investor functions in a single company. The paper also analyses to what extent the road concessions the Spaniards have won are generally profitable.

**Keywords:** International construction, concession, BOT, toll road, competitive advantage, vertical integration.

### 1. Introduction

During the last decades many developed, middle-income and developing countries began to offer concessions to private companies to build, finance, maintain, and toll limited-access high-performance highways, called motorways in Europe and expressways in the United States. The countries that pioneered private toll roads were Spain and France, which started their programs in the late 1960s and in the early 1970s, respectively (Gómez-Ibañez, Meyer 1993). In the late 1980s and early 1990s, a number of other countries began to offer private toll road concessions. The most active countries at that time were in Latin America, and to a less extent Central and Eastern Europe. Other countries that started private toll road programs in those years include the United States, Australia and Malaysia. In the decade that followed from the late 1990s and 2000s, other countries in Western Europe and Asia also launched motorway concessions, while Latin America remained a prominent region (FHWA 2009; Yescombe 2007).

Spanish companies have been the leaders of this market since it began, winning many more motorway concessions abroad than all of their main rivals put together. By 2009, Spanish companies had won 82 foreign motorway concessions while their competitors had won only 62 concessions abroad (Table 1). In addition, Spanish companies are prominent in many of the Latin American and Western Europe countries with significant toll road programs, including Chile, Mexico, Brazil, Portugal,

Ireland and Greece, as shown in Fig. 1. Two exceptions are Central and Eastern Europe and Asia, where Spanish companies have not participated in motorway concessions. Spain's dominance is somewhat surprising given that it was internationally quite isolated until the mid-1970s, and was even a recipient of international aid until 1981.

The objective of this paper is to explore the competitive advantages the Spanish companies have enjoyed in the international toll road industry since this market started to develop in the early 1990s. The analysis is based on 32 personal interviews by the author of members and observers of the international toll road industry, a comprehensive worldwide list of toll concession projects gathered predominantly from two existing databases (Public Works Financing and Infra-News), an examination of the corporate situation and corporate strategy of the 16 biggest concession companies in the world, an assessment of the financial performance of selected concession companies, and a review of the existing literature. The interviews were conducted by the author from May to September 2009, and they included managers of: Spanish concession and construction companies (15) and their foreign competitors (4), international investment banks (2), Spanish financial institutions (3), international consulting companies (3), other Spanish stakeholders (2), as well as scholars (3). The list of the people interviewed is in the appendix.

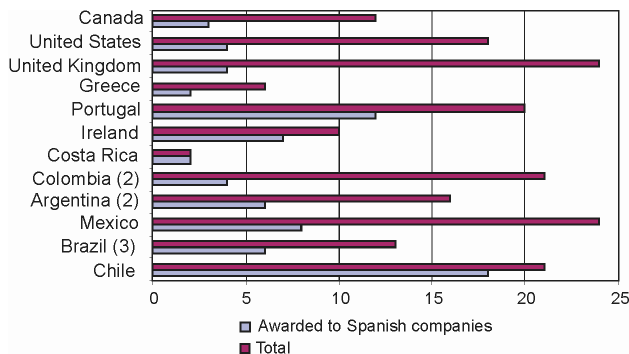
**Table 1.** Companies with highest number of toll motorway concessions awarded in the world, 1985–2009 (No of concessions) (\*)

	Spanish companies			Other countries' companies			
	In Spain	Abroad	Total	In their countries	Abroad	Total	
Iridium	21	27	51	Vinci/Cofiroute (France)	27	13	40
Itinere	15	18	34	Bilfinger Berger (Germany)	2	12	14
Cintra	7	18	22	Macquarie (Australia)	1	8	9
OHL	3	11	14	Hochtief (Germany)	2	9	11
Global Via	12	9	21	Impregilo (Italy)	0	6	6
Acciona	4	5	9	Atlantia (Italy)	24	3	27
Isolux Corsan	2	3	5	Bouygues (France)	2	5	7
Comsa		1		Laing (United Kingdom)	6	6	12
				Skanska (Sweden)	0	5	5
				Transurban (Australia)	6	2	8
				Brisa (Portugal)	17	1	18
<b>TOTAL (**)</b>	<b>60</b>	<b>82</b>	<b>142</b>	<b>TOTAL (**)</b>	<b>86</b>	<b>62</b>	<b>148</b>

(\*) The number corresponds to the concessions awarded. As of December 2009, some of those concessions have been sold to other companies.

(\*\*) The total sums do not correspond to the sum of the concessions because in some concessions two companies of the list are involved.

Source: Public Works Financing (2009) and the companies' web pages.



- (1) Countries with only one concession awarded to a Spanish company are not included: Ecuador, Puerto Rico, Andorra, India, Israel and South Africa.
- (2) Most concessions in Argentina and Colombia were for rehabilitating and maintaining already existing roads or motorways.
- (3) It does not include the concessions awarded by the state governments in Brazil because in practice it's not an international market.

Source: Public Works Financing (2009), Infra-News (2010) and information provided by the countries' Ministries of Transport.

**Fig. 1.** Motorway concessions awarded out of Spain to consortiums led by Spanish companies as of 2009 (No of concessions by countries) (1)

The review of the literature carried out for this research includes studies of international construction, transportation as well as international management. Some previous studies have examined the evolution, both domestic and international, of Spanish construction companies (Gutierrez de Vera 2009; Villar Mir 1999). Other studies have analysed the factors influencing the international expansion of construction companies (Chen, Messner 2009; Chan, Tse 2003). The internationalization of Spanish companies of all types has been analysed in many studies, including OEME (2009), Santiso (2007) and Guillén (2005). Finally, there are many studies which examine the evolution of private toll roads in specific countries, including Vassallo and Izquierdo (2010), FHWA (2009), World Bank (2009), Carpintero (2010), Yescombe (2007), Izquierdo and Vassallo (2004) and Perez (2004). But no previous study has examined the international expansion of

Spanish concession developers and their competitive advantages in the private toll road business.

The paper argues that the Spanish companies enjoyed three main competitive advantages. The first was the early experience gained at home by both the Spanish companies and financial institutions. Second, the Spanish companies enjoyed a cultural advantage in Latin America – the region with the most extensive toll road programs in the last two decades. Finally, the Spanish companies benefited from their decision to integrate construction, concession management, and some investment banking functions in a single company. The extent to which these competitive advantages were the reasons why the Spanish companies came to dominate the international toll road industry is hard to prove, and is out of the scope of this paper. It is plausible, however, that the three factors contributed strongly to the successful international expansion of the Spanish concession developers.

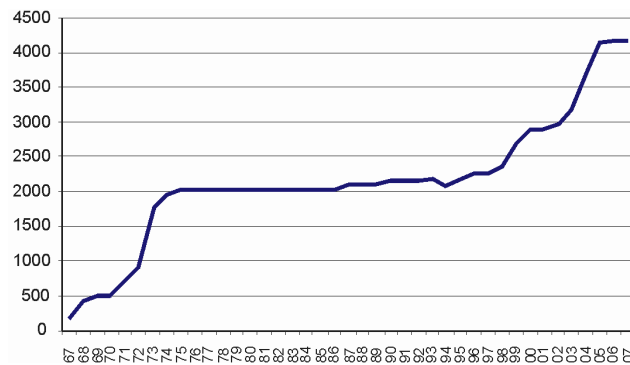
## 2. Early experience gained at home

One of the elements of the competitive advantage of the Spanish companies was 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 (Fig. 2). The goal was to help reduce the huge infrastructure deficit the country had at that time. Turning to private finance, it was argued, would provide the funding for infrastructure that the state itself could not afford. In the two decades following the death of General Francisco Franco in 1975, almost no new concessions were offered<sup>1</sup>. The Socialist Party, which ruled for many of

<sup>1</sup> The main reasons were: *i*) the Spain's economic crises of 1977–1985, and 1993–1995 (Villar Mir 1999); *ii*) the unstable political situation in Spain after General Franco's death; *iii*) the political decision by the socialist government (1982–1996) to build only untolled motorways (Perez 2004; Izquierdo, Vassallo 2004); *iv*) the receipt by Spain, starting in 1993, of relevant EU grant funds.

those years (1982–1996), 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. Offering concessions was once again seen as a way of increasing infrastructure investment without affecting the budget deficit – an important concern at the time because reducing the deficit below 3% of GDP was a requirement for Spain to join the euro zone in 2000. Approximately half of the length of toll motorways awarded in Spain from 1996 to 2008 were offered by regional governments<sup>2</sup> (Acerete *et al.* 2007; López Corral *et al.* 2006a).

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 (Perez 2004). The firms were reprivatized in 2005. In total, 8,522 km of private toll roads were in operation in France as of 2008.



(\*) Data don't include the ten brownfield concessions awarded in 2007. Source: Annual Reports of the Delegation of the Ministry of Public Works in the toll motorway concessionaires (Spain). As of late 2010, official data for 2008 not yet available.

**Fig. 2.** Evolution of private toll motorways in Spain (km), 1967–2007 (\*)

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, Portugal and Ireland (FHWA 2009; Perez 2004; World Bank, Ministry of Construction of Japan 1999).

Being a pioneer was not easy for the Spanish companies or the government, as many of the early domestic projects encountered financial problems. Construction costs were often higher and traffic volumes lower than anticipated because many road users preferred to use the parallel free roads to avoid paying tolls. Spain's economic and exchange rate crisis during the late 1970s and early 1980s (following the rise in oil prices in 1978–1979) further undermined the financial viability of the early concessions by increasing the financing costs and reducing traffic. Three concessions had to be taken over by the state in 1984 (thus creating ENA, a public company), a large number of the foreign loans had to be renegotiated, state loans were made available, the remaining contracts had to be renegotiated, and in some cases public subsidies were given. Some years later, in 2003, ENA was reprivatized, generating an income of 1.6 billion euros for the state. Since then, the sector has been entirely privately managed (Acerete *et al.* 2007; Albalade *et al.* 2009; López Corral *et al.* 2006b).

The Spanish companies experienced problems in part because concession contracts were substantially more complex and generated different risks than the conventional construction contracts the companies were used to. With construction contracts, responsibility and liability largely ends when the construction is completed. The companies mainly bear construction risk, but little else. Concession contracts, by contrast, involve a long-term investment, in which a special purpose company is set up to manage the concession (Zavadskas *et al.* 2010; Tiong 1995). And the performance of the concession is sensitive to a variety of factors besides construction cost and speed. One new skill needed was traffic forecasting, since the forecasts were a key ingredient in the viability of the concession (Bain 2009). Other key new skills were finance and risk management, since the long life and capital intensive nature of a concession made critical the ability to reduce the cost of capital and to protect against shocks. Political skills also became more important since a concession involves a long-term relationship with the government (Zhang 2005; World Bank 2009).

The Spanish companies learned to cope with the complex problems posed by concessions in a familiar and more forgiving domestic environment. The Spanish legal framework established that, in case of default of the concessionaire, the state had to pay for the investment made but not yet amortized. This provision gave confidence to the investors and made it easier to obtain the financing necessary for the concession. Many industry operators came to believe that the state would step in if necessary to avoid concession failures (Renda, Schrefler 2006). Thanks to the scale of the program and the perception that risks were manageable, the procurement process in Spain was relatively fast and low in cost. Spanish projects were typically thought to incur one-tenth the bidding costs of comparable British public finance initiative (PFI) projects, and to be procured in a substantially shorter time

<sup>2</sup> Motorway concessions were encouraged by the passing of a new concession law in 2003 as a substitute for the then-existing law regulating toll motorways which dated back to 1972. After this new concession law, some Spanish regional governments offered many toll motorway concessions – most of them shadow toll roads.

as well (Sánchez Soliño, Gago de Santos 2010). Another advantage was the beneficial accounting regime applicable to Spanish concessionaires until 2009<sup>3</sup> (Acerete *et al.* 2007). When the Spanish companies eventually went abroad, they recognised that the political environment was not going to be so friendly. But they had already practiced many of the skills needed in the concession business.

The Spanish companies were encouraged to go abroad by a slowdown in domestic construction beginning in 1991. Construction had been booming in Spain in preparation for the 1992 opening of both the Barcelona Olympics and the Seville World Fair, as shown in Fig. 3. From 1991 to 1994, however, there was a sharp decrease in construction activity in Spain as the completion of infrastructure planned for the 1992 events was made worse by a domestic economic downturn (Carreras 1992). The slowdown coincided with the opening of concession opportunities in developing countries. And the 1980s had been very profitable for the Spanish companies, so they were financially strong (Acerete *et al.* 2007; Villar Mir 1999).

Initially, the Spanish companies viewed concessions largely as a way to win foreign construction contracts. Some Spanish companies had had negative experiences with international construction contracts in the 1980s (Villar Mir 1999). Concession contracts were also risky because they required large and immobile investments in a foreign country. Construction was easier with a concession contract, however, because the immediate client was not an unfamiliar government agency of a foreign country but a concession company belonging to the same corporation. According to observers, overseas concession contracts also helped the companies gain footholds in other countries and win contracts for other affiliated companies in, for example, road maintenance or traffic signalling. Motorway concessions abroad helped increase the international construction business of Spanish companies, as shown in Fig. 4.

Although the Spanish companies were preoccupied at first with construction, they soon came to believe that there were also important profits to be made from managing the concessions once they were built. During the 1990s, the main Spanish construction companies went through a process of both concentration and diversification. In only nine years, 26 companies were consolidated into seven through mergers and acquisitions (Gutiérrez de Vera 2009; Villar Mir 1999). At the same time, the construction groups started to develop other businesses in the

<sup>3</sup> The two most important benefits were the establishment of a reversionary fund, analogous to an additional depreciation fund, and the treatment of financing expenses such as interest payable. An important factor in this respect is the amount of preparation undertaken in advance by the public sector, including preliminary design, planning and environmental impact assessment, and prior consultation with the market before launching concession tenders. Spanish procurement procedure has been always that efficient, especially since the mid-1990s. The main reasons are that the procedure establishes deadlines for the stages of the process, and that there is no negotiation between the administration and the bidders. Starting in 2009, the Spanish accounting regime has changed according to European Union regulation.

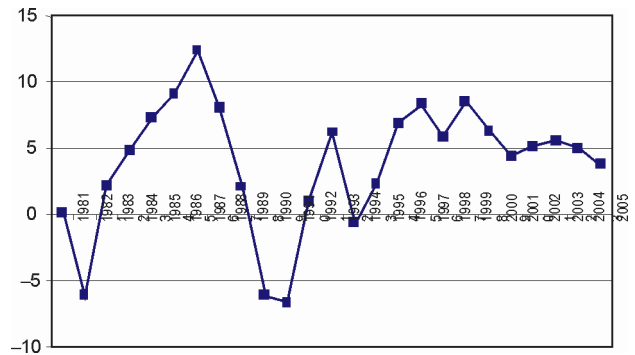
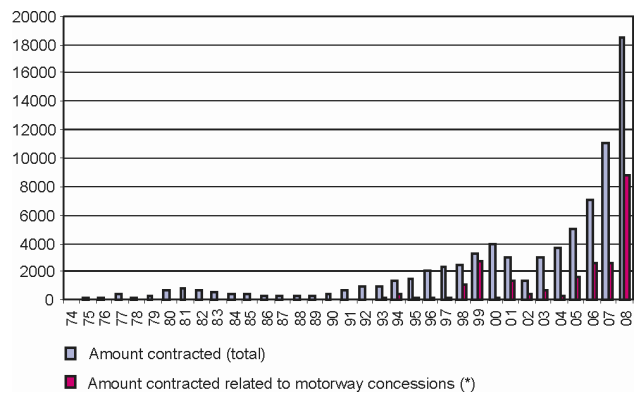


Fig. 3. Gross Added Value of construction sector in Spain (% variation in real terms) (SEOPAN 1995, 2008)



(\*) According to industry operators, it has been estimated that, on average, 50% of total construction cost of the motorways corresponded to the Spanish construction companies involved in the concessionaires.

Source: SEOPAN (2008) for 'total contracted', and elaborated by the author for 'contracted related to motorway concessions'.

Fig. 4. Evolution of the international activity of Spanish construction companies (per year, in million Euros)

services and industrial sectors, such as waste treatment and disposal, street cleaning, facilities maintenance, parking operation and maintenance, and airport and port operation. The main motive for the consolidation and diversification was to help the Spanish companies compete with, and avoid being acquired by, bigger European rivals in the wake of Spanish entry into the European Union, and the completion of the single market, both of which took place in 1992 (Guillén 2005).

Within this context, in the late 1990s, the companies began to view concessions as not just a way of getting construction contracts, but an attractive business in itself that provided a stable source of cash-flow and diversified their activities (Gutiérrez de Vera 2009; Guillén 2005). During those years most of the main Spanish construction companies set up affiliates to manage and increase their concession business (Table 2). Concentration also facilitated the international expansion, because it increased the financial capability of the resulting companies. Being able to provide a substantial equity for the projects made easier to win concession tenders (Tiong 1995).

**Table 2.** The seven main Spanish concession developers (as of 2009)

Corporation members					
Construction company	Concession company	Bank	Km in Spain (*)	Km abroad (*)	Km total (*)
ACS (1)	Iridium		690	1,712	2,402
Sacyr (2)	Itinere		1,797	1,764	3,561
Ferrovial (3)	Cintra		446	2,396	2,841
FCC (4)	Global Via	Caja Madrid	487	1,031	1,518
	Abertis (5)	La Caixa	1,521	1,801	3,322
OHL (6)	OHL Concesiones		73	4,359	4,432
Acciona (7)	Acciona Concesiones		296	443	739
<b>TOTAL</b>			<b>5,310</b>	<b>13,506</b>	<b>18,815</b>

(\*) km operated or under construction as of Dec. 2008. It does not include the concessions that have been sold, but it includes the motorway concessions that have been acquired by the companies.

- (1) Following the acquisition of Dragados by ACS in 2002, ACS sold the Dragados' affiliate for concessions (Aumar, named Aurea at that time) to Acesa in 2003. This same year ACS set up Iridium (named Dragados Concesiones until 2006).
- (2) Sacyr created Itinere in 2002, and in 2008 made a failed attempt of sell part of it in the stock exchange market. One year later, in 2009, Sacyr sold Itinere in July 2009 to Citi (and partially to other companies) because of Sacyr's financial problems.
- (3) Cintra was set up by Ferrovial in 1998. In 2001, Ferrovial sold the 40% of Cintra to Macquarie Infrastructure Group. In 2004 Ferrovial acquired this stake and sold it in the stock exchange market in 2004. In late 2009 Cintra was merged with Ferrovial.
- (4) Global Via set up in 2007 together with Caja Madrid (financial entity based in Madrid) (50% each one), and transferred most of its motorway concessions to this new company.
- (5) Abertis was created in 2003, through the merger of two Spanish concession companies: Aumar (created in 1971, operating 468 km, owned by Dragados) and Acesa (created in 1972, operating 541 km, controlled by La Caixa, a financial entity based in Barcelona). Previously, Acesa had acquired Iberpistas (created in 1969, operating 70 km).
- (6) OHL set up OHL Concesiones in 2000.
- (7) Acciona Concesiones is not a subsidiary but a separate division.

Source: Public Works Financing (2009) and information provided by the companies.

**Table 3.** Countries with significant private toll roads systems as of 2009 (km) (1)

Western Europe, USA, Canada & Australia		Latin America		Central & Eastern Europe		Asia	
France	8,522	Mexico	6,470	Hungary	320	India	5,500
Italy (2)	5,694	Brazil	13,100	Poland	287	Malaysia	1,800
Spain	4,168	Chile	2,200	Croatia	205	Indonesia	1,100
Portugal	2,660	Colombia (3)	3,688			South Korea	470
UK	710	Argentina (3)	9,881				
USA	418						
Ireland	259						
Australia	187						
<b>Total</b>	<b>22,618</b>		<b>35,339</b>	<b>Total</b>	<b>812</b>	<b>Total</b>	<b>8,870</b>

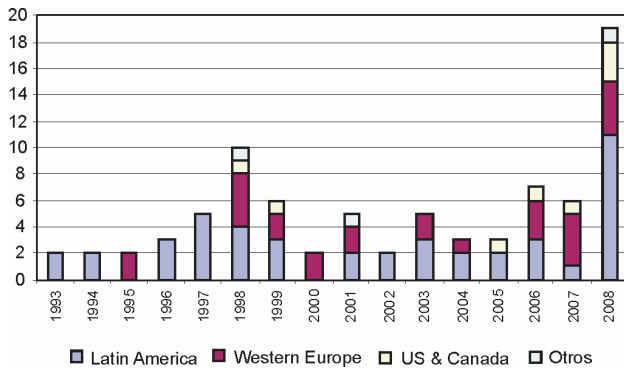
- (1) It includes only concessions actually built and under construction; it does not include concessions awarded but never built.
- (2) The Italian toll road system was public until 1999, when the government privatized Autostrade, which holds 60% of the Italian network.
- (3) Most concessions in Argentina and Colombia were for rehabilitating and maintaining already existing roads or motorways.

Source: Elaborated by the author based on information provided by the countries' Ministries of Transport, Gomez-Ibanez (2010), FHWA (2009), Carpintero (2010), Oxford Business Group (2009).

### 3. The cultural advantage

The Spanish also benefited from the fact that Latin America was one of the first and most active regions in the development of private toll road concessions. Latin America was the leader when middle-and-low income countries began to adopt private toll roads in the late 1980s and twenty years later, in 2008, Latin American countries still have many of the largest private toll road programs in the world (see Table 3). The Spaniards exploited their cultural advantage making Latin America the region where Spanish motorway concessions developers expanded the most (Fig. 5). As of 2008 almost 60% of the overseas private motorway concessions awarded to Spanish companies were located in Latin America (Public Works Financing 2009).

The Spaniards not only spoke the same language as the Latin Americans, but they had strong cultural affinities as well that date back to the colonization in the 16<sup>th</sup> century. The struggle for independence from Spain was won in the early 19<sup>th</sup> century, moreover, which is long enough in the past for any scars to be healed. Indeed since independence the region has maintained strong ties with Spain – coloured by a variety of ideologies and geostrategic perceptions. And these cultural ties have been reflected in commercial relations: Latin America has traditionally been the place where Spanish multinational companies of all types, not just construction, began their overseas expansion and, in many cases, where they expanded the most (Santiso 2007; Guillén 2005).



Source: Public Works Financing (2009) and information available at the companies' web pages.

**Fig. 5.** Motorway concessions awarded out of Spain to consortiums led by Spanish companies (No of concessions by years and regions)

Cultural closeness, and particularly the ability to speak a common language, probably is a great advantage in assessing many of the risks involved in motorway concessions, particularly regulatory and demand risk. Toll road concessions are politically sensitive and long-lived, so that success depends on understanding the political environment not just at the time of the initial award but over the life of the concession. A native speaker can more readily understand the nuances about what is said and written about the concession and participate in regulatory proceedings or in debates in the press or other public and private forums (Chan, Tse 2003; Chen 2008). The ability to assess political and other risks more accurately and the confidence that they could understand and participate in any future controversies may have helped the Spaniards to submit more competitive bids.

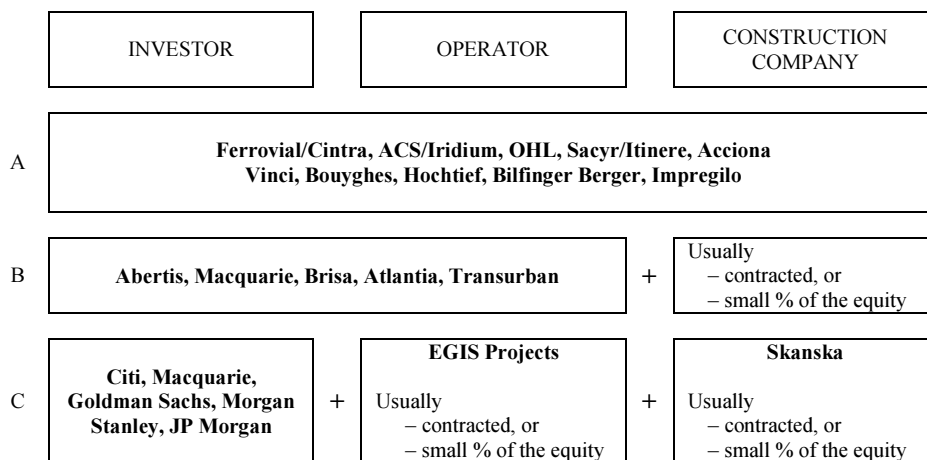
**4. The advantage of vertical integration**

A third likely source of advantage for the Spanish companies is their integration of construction, concession management, and some investment banking functions as subsidiaries of a single company. Conventional construction contracts require only the participation of a construction company. Motorway concessions, however, are long-

term investments in which a special-purpose company is set up to operate the infrastructure. Therefore, they require the involvement not only of a construction company, but also of both an operator and a long-term investor (Chen, Messner 2009; Zhang 2005).

A cross-section analysis of the international toll road industry shows that almost all Spanish concession developers were vertically integrated, and that roughly half of their international competitors follow the same model (see Fig. 6). Five out of six major Spanish companies have created their own concession affiliate or subsidiary, and only one major Spanish concession company was not owned by a conglomerate that included a construction company, as shown in Table 2. That exception, Abertis, evolved as an independent concession company because its nucleus was ACESA, the only one of the early Spanish motorway concessionaires which did not have a construction company among its shareholders. Roughly half of the major foreign rivals of the Spanish concession developers have followed the same model by creating their own concession companies and becoming major equity investors in the concessions they win; including Vinci (France), Bouygues (France), Hochtief (Germany) and Bilfinger Berger (Germany). The remaining foreign rivals are mainly independent concession companies, sometimes affiliated with an investment bank but not with a construction company, including Macquarie Infrastructure Group (Australia), Brisa (Italia), Atlantia (Italy) and Transurban (Australia).

The business model of integrated investment, construction and concession companies evolved over the last two decades, as shown in Table 4. In the beginning, the three functions (investor, construction company and operator) were typically supplied by separate companies in Spain. In 1977, when almost 2,000 km of motorway concessions had already been granted, 66% of concessionaires' equity was in hands of financial institutions (largely investment banks) and less than 20% was in hands of construction companies themselves (Ministerio de Obras Públicas 1977). The concessionaires in charge of operating the motorways worked as independent companies,



Source: Elaborated by the author.

**Fig. 6.** Integration of roles in motorway concessions

**Table 4.** Shareholders of toll motorways concessionaires in Spain, 1977–2007 (% of the equity)

	1977	1982	1986	1987	1988	1993	1996	1998	2000	2002	2003	2004	2005	2006	2007
Construction companies	18.7	13.4	8.9	8.9	5.8	11.9	16.1	14.6	20	20.4	30.9	38	71.3	71.6	66
Savings Banks	20.6	25.6	18.2	20.3	24.1	18.6	21.3	21.8	20.4	18.2	20.4	18.3	5.1	4.9	6.3
Banks	45.6	36.1	35.9	27.8	25.1	15.3	10.1	7.9	3.8	1.7	4	0.5	0.5	0.2	0.2
Operators	0.9	17	26.4	12.7	16.9	28.8	26.9	29.2	25.2	27	7.6	7.1	6.9	6.6	7.7
Concessionaires	0	0	0	0	0	0	0	0	8.76	6.2	6.8	8.6	14.1	15	14.7
Others	14.2	7.9	10.6	30.3	28.1	25.4	25.6	26.5	21.8	26.5	23.4	27.5	2.1	1.7	5.1

Source: Annual Reports of the Delegation of the Ministry of Public Works in the toll motorway concessionaires (Spain). As of late 2010, official data for 2008 were not yet available.

and were controlled mainly by the banks. The Spanish construction companies were at that time rather small, and their involvement in concessions was limited mainly to the building of the motorways. Motorway concessions were something at that time still quite new in Spain. Moreover their management was not yet regarded as a relevant or attractive business for the Spanish construction companies.

By the early 1990s, however, the construction companies began to establish separate departments to both win and manage motorway concessions, and in the late 1990s they began to convert these departments into subsidiaries for this specific purpose. And given the strong cash flow from construction projects and, later, concessions, they also began to reduce their dependence on investment banks by providing most of the equity themselves. In 2008, 66% of the concessionaires' equity was in hands of construction companies and only 6.5% was in hands of financial institutions (Table 4).

The construction companies also developed strong relationships with Spanish banks to finance the debt for concessions. 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 (Infranews 2010; Yescombe 2007). 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). These two banks expanded notably in Latin America and part of Western Europe during the 1990s and 2000s (Maudos 2008; Guillén, Tschoegl 2007).

How much of an advantage vertical integration has provided the Spanish companies is unclear. Within the Spanish construction and toll road industries, however, there is a widespread conviction that their high degree of

integration gave them an important advantage. The fact is that Spanish companies often bid less than their competitors and there is some evidence, which we will discuss later, that their low bids were probably realistic.

The main benefit of vertical integration is that the construction, concession, and investment companies don't have to worry as much about opportunistic behaviour on the part of their partners. When these three activities are in separate companies, however, each party needs a clear and complete understanding, typically memorialized in the form of a contract, of the responsibilities they have to one another (Podvezko *et al.* 2010; Hart 2003; Grossman, Hart 1986). Writing a contract that is clear and complete requires the ability to foresee the important developments that might occur during the life of the contract and to provide appropriate contingencies in the contract to deal with them. The task is particularly hard for concessions that last 20 to 30 years since there are so many events that might arise during the concession period that is difficult to anticipate them all and allocate the residual rights and duties appropriately between the parties.

Vertical integration reduces the concern about negotiating a clear and complete contract in advance. With this model, it is easier and faster to solve the problems involving constructor, investor and operator that ordinarily may arise during construction. The coordination between these functions is easier when they are provided by units belonging to the same corporation, reporting to the same CEO and stockholders (Williamson 1983). Essentially, vertical integration reduces risk incentives for the parties to behave opportunistically. The operator will be willing to help the construction company by, for example, agreeing to changes in the construction that reduce the cost without substantially affecting the operation. And the reverse is also true, so that changes in the construction that will reduce the future operating cost, or improve future performance have a greater likelihood of being accepted by the construction company.

But vertical integration also has some disadvantages. Bringing the concession management and investment functions inside a single enterprise means that the construction companies lost the benefit of competitive procurement. They could not play one concession company off against another to get the best terms, for example, but were required instead to form a consortium with the concession company of the same corporation.

The advantages of vertical integration are more likely to outweigh the disadvantages for complex projects

involving major construction but not for simpler projects involving only the operation and maintenance of an existing road. In the case of Latin American and Western European countries with the most significant toll road programs, most concessions have involved major construction, except in Argentina and Colombia (World Bank 2009; Yescombe 2007). This probably favoured the companies following the vertical integration model – in fact, in those countries many concessions were awarded to Spanish companies, as shown in Fig. 1.

In the middle-and-low income countries where the Spanish were bidding for concessions, moreover, there was little or no competition from other integrated construction-concession-investment companies. Most of the competitors of the Spanish companies in the countries were construction companies with little experience with concessions. This situation has been changing, however, and a few companies integrating construction and concession activities have emerged, including the ICA Group in Mexico and the CCR Group in Brazil.

### 5. Were the Spanish concession developers too aggressive?

One might object that the apparent success of the Spanish companies overseas is an illusion in that they may have won many concessions by bidding unrealistically low and that they will pay for this mistake with poor returns over the lives of the concessions. Some foreign company managers argue that the Spaniards were extremely aggressive in bidding, that they were particularly optimistic in their traffic projections, and that most of the concessions they won will not be profitable. Within the Spanish toll road industry, however, there is a widespread conviction that they were aggressive but realistic. The Spaniards argue that the fierce competition they faced in their own country led them to be aggressive abroad as well. The Spanish construction market has traditionally been characterized by a strong competition – bids as much as 30% below the government's estimate of construction and construction groups, only Cintra and Itinere had a significant number of concessions abroad that were mature, as shown in Table 5. Two other groups, Abertis and OHL Concesiones also had a significant number of mature concessions, but they had bought the concessions from other groups when those concessions were already mature.

**Table 5.** Mature concessions (with more than three years in operation) of Spanish concessions developers abroad (as of Dec. 2009)

	Awarded	Bought after awarding
Iridium	2	0
Itinere	12	3
Cintra	11	0
OHL	1	6
Global Via	1	2
Acciona	2	0
Abertis	0	18
Isolux Corsan	0	0

Source: Elaborated by the author.

Some preliminary evidence on profitability can be gleaned by comparing the financial performance of the four Spanish companies with mature concessions (Cintra, Itinere, Abertis, OHL Concesiones) with the performance of their foreign competitors. Toll roads account for a relatively small portion of the activity of most big foreign construction conglomerates (Vinci, Bilfinger Berger, Hochtief, Bouygues, Impregilo). The only competitors in which toll roads are significant costs are not unusual (SEOPAN 1995, 2007). The Spanish concession market, controlled by construction companies since the beginning, has also traditionally been extremely competitive (Yescombe 2007; Allard, Trabant 2007). The Spaniards also argue that their long experience in dealing with traffic demand risk allowed them to have more confidence in their forecasts.

It is too early to resolve this debate, largely because many of the foreign concession awarded to Spanish companies are still under construction or are in the early years of operation. As of December 2009, only 30% of total motorway concessions awarded abroad were mature, in the sense that they had been open to traffic for at least three years (Infranews 2010; Public Works Financing 2009). Of the six major Spanish concession are Macquarie (Australia), Atlantia (Italy), Brisa (Portugal) and Transurban (Australia) – they are toll road operators and investors, but not construction companies. As shown in Table 6, only two out of the four Spanish companies performed as well as most of their foreign competitors during the period from 2001 to 2009. The Spanish company with the best performance was Abertis, the one with the highest number of mature concessions, and one of the two companies with a highest number of kilometres of motorway in Spain. The other Spanish company with consistently good performance was OHL. It, however, showed losses for one year. And in the case of Cintra the results were more disappointing, with this company reporting a loss during four years. Of the foreign companies only one (Transurban) reported losses, although those losses were incurred during all of the years in the period analysed.

An alternate measure of the performance of the Spanish companies is the performance of their stocks, and this measure suggests that they were not too aggressive. Only two of the four companies with many mature foreign concessions were traded in the stock exchange market (Cintra, Abertis). Another one (OHL Concesiones) was not, but its parent company was a good proxy, since around 50–60% of its EBITDA came from its concession subsidiary (OHL 2009). Compared with the UBS Global Infrastructure & Utilities Index from January 2005 to August 2010, Cintra and Abertis performed quite similarly to this index, and OHL did much better than the index (a comparison with an index more closely related to toll roads was not possible because the only such index (UBS World Toll Roads Index) has been calculated only from 2008).

In theory a third measure of the performance of the Spanish firms would be to compare the prices for concessions that were sold after they were mature with the investment made in those concessions. One of the Spanish



**Table 6.** Financial performance of selected companies (2001–2009) (1)

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Cintra</b>									
ROE (%)	14	4	19	–4	–1	6	0	–7	n.a.
Contribution of toll roads to EBIT (%)	88	93	93	98	91	92	98	100	n.a.
<b>OHL Concesiones</b>									
ROE (%)	na	na	11	2	10	14	12	14	n.a.
Contribution of toll roads to EBITDA (%)	na	na	n.a.	n.a.	n.a.	88	95	80	n.a.
<b>Itinere</b>									
ROE (%)	na	na	23	6	–9	8	11	9	n.a. (4)
Contribution of toll roads to EBITDA (%) (2)	na	na	95	95	95	95	95	95	n.a.
<b>Abertis</b>									
ROE (%)	9	9	11	17	17	13	15	14	17
Contribution of toll roads to EBITDA (%)	93	92	93	87	81	87	88	86	n.a.
<b>Macquarie (Australia)</b>									
ROE (%)	3	9	8	4	12	5	32	14	9
Contribution of toll roads to EBITDA (%)	100	100	100	100	100	100	100	100	100
<b>Atlantia (Italy)</b>									
ROE (%)	14	16	14	24	24	17	10	19	16
Contribution of toll roads to EBITDA (%)	100	100	100	100	100	100	100	100	100
<b>Brisa (Portugal)</b>									
ROE (%)	na	na	11	13	18	11	15	10	11
Contribution of toll roads to EBITDA (%)	na	na	100	100	100	100	100	100	100
<b>Transurban (Australia)</b>									
ROE (%)	–3	–4	–40	–32	–2	–4	–3	–3	–0.7
Contribution of toll roads to EBITDA (%)	100	100	100	100	100	100	100	100	100

(1) The analysis based on the return on equity (ROE) does not take into account the future profitability of assets. Thus, it is unfavourable to companies with a long-life concessions portfolio. In 2001, 2002 and 2003 the Spanish companies followed the Spanish accountant regime, which allowed deferring the financial costs.

(2) Estimation, according to the company.

(3) Cintra was merged with Ferrovial in November 2009.

(4) Sacyr sold Itinere in July 2009 to Citi (and partially to other companies) because of Sacyr's financial problems.

Source: Elaborated by the author with data taken from the companies' annual reports.

companies, Iridium, sold many of its concessions to Abertis and some foreign companies. Iridium was the company with the highest number of concessions awarded abroad, as shown in Table 1. This company's policy, however, was to sell the toll roads once they were in operation, which is why they had almost no mature concessions as of 2009. Unfortunately, those concessions were not sold separately, but in packages of two or more concessions, which made it difficult to estimate the profitability of each concession's transaction. Worse, in most cases there was no information available about the real equity investment in the concession, the dividends paid by the concessionaire before the concession was sold, or the transaction price.

## 6. Conclusions

In the last two decades the toll road industry has witnessed a notable expansion of the Spanish companies in the countries with prominent toll road programs, particularly in Latin America and Western Europe. In this paper we have identified three competitive advantages the Spaniards have enjoyed in this international expansion over their foreign competitors. First, Spain started offering private toll road concessions in 1967, more than twenty years before most other countries would do so. Second, the Spaniards were fortunate that Latin America has been the most prominent region in toll roads programs in the last two decades.

Speaking the same language and possessing cultural affinities provided them with advantages in these countries over their foreign rivals. Third, the Spanish companies may have also benefited from integrating construction, concession management and investment banking functions within the same corporation. It meant that these several activities, all central to successful concessions, could be coordinated more easily.

As of 2009 it was too early to know if the Spanish expansion into foreign concessions would prove as profitable as the companies have hoped. The Spanish companies with the most mature foreign concessions report losses more often than their foreign counterparts. But the stock of those companies outperforms the index for international utilities and infrastructure stock, which suggests that investors think those concessions will eventually prove profitable. Only over time, however, we will find out whether the Spanish toll road developers really did a good business abroad – most of the motorway concessions were awarded for 30 years or longer. This is an interesting point for further research in the future.

Another interesting question for further research is to which extent the mentioned competitive advantages of the Spanish concession developers were the main reasons for their successful international expansion. This paper provides a useful background for that purpose, which is placed somewhere between the fields of international construction, transportation and international management.

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## ISPANIJOS ĮMONIŲ KONKURENCINIS PRANAŠUMAS TARPTAUTINIAME MOKAMŲJŲ KELIŲ SEKTORIJE

S. Carpintero

Santrauka

Per pastaruosius porą dešimtmečių privačių mokamųjų kelių pagausėjo visame pasaulyje. XX a. paskutinio dešimtmečio pradžioje daug šalių privatiems investuotojams pradėjo siūlyti autostradų koncesijas, ypač Lotynų Amerikoje ir Centrinėje bei Rytų Europoje. XX a. paskutinio dešimtmečio pabaigoje ir per pirmąjį XXI a. dešimtmetį ši naujovė išplito Azijos, Šiaurės Amerikos ir Vakarų Europos šalyse. Ispanijos statybų įmonės gavo daugiau koncesijų nei visos pagrindinės jos konkurentės kartu ir dabar yra gerai žinomos daugelyje šalių, taikančių reikšmingiausias mokamųjų kelių programas. Šiame darbe nagrinėjami pastaruosius du dešimtmečius tarptautiniame mokamųjų kelių sektoriuje Ispanijos įmonių turėti konkurenciniai pranašumai. Jos pasinaudojo tuo, kad jų gimtoji šalis pirmoji pradėjo siūlyti autostradų koncesijas, kultūriniu pranašumu dirbant Lotynų Amerikoje ir savo sprendimu vienoje įmonėje sujungti statybų, koncesijų ir investuotojo funkcijas. Be to, darbe nagrinėjama, kiek ispanų gautos kelių koncesijos yra pelningos bendraja prasme.

**Reikšminiai žodžiai:** tarptautinės statybos, koncesija, statyba–eksploatacija–perdavimas (SEP, angl. BOT), mokamasis kelias, konkurencinis pranašumas, vertikalią integracija.

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