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Taking its toll: The private financing of roads in Spain

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Abstract

The paper provides an *ex post facto* financial analysis of the cost of using private finance to build, finance and maintain the 24 toll roads operational in 2002 in Spain, the primary exponent of private finance for roads in Europe. The case rested on the lack of public finance, in contrast to the UK that has stressed value for money. After problems arose in the first wave of concessions, the Spanish government created a more favourable financial, regulatory and accounting regime for its more recent concessions, including cheap public loans. The evidence shows that: firstly more than half of the toll charge represents the cost of finance; secondly the cost of private finance is nearly double the cost of public finance; and thirdly this is underpinned by various forms of public support. Together, these findings undermine the arguments used to justify private finance.

Keywords:

private finance, roads, tolls, Spain, DBFO, financing infrastructure investment, partnerships

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Introduction

There is an increasing interest in the UK and the European Union in the use of private finance for roads and bridges, typically with toll charges, via a Public Private Partnership (PPP) scheme. The case for involving the private sector, which has a higher cost of capital than the public sector, is usually made in terms of budgetary constraints and/or the value for money to be derived from the private sector's greater efficiency and the cost of the risks transferred to the private partner. Within the European Union, Spain is not only the largest user of private finance in roads with at least €14.5bn in terms of capital value by the end of 2006, it is also the longest user. Its experience of private finance and user charges goes back to 1967, when it was argued that private finance provided the only means of obtaining the roads that were so urgently needed.

Given Spain's long experience with private toll roads, the lack of evaluative reports by its official watchdogs, and the increasing international interest in the use of private finance for roads, a financial evaluation of the Spanish experience would contribute to a more informed debate about these and similar decisions in the future. This paper therefore analyses Spain's experience, placing it within the context of the international experience to date. It examines empirically the financial costs to the various stakeholders, particularly the government/tax payers, the concessionaires, the providers of finance, and road users. The paper evaluates the claims that the turn to private finance provides additional transport infrastructure that the Spanish government could not otherwise provide, and transfers risks to the private sector, the UK government's rationale.

The paper focuses on the financing method and the financial costs of using the private sector to finance roads, not the broader economic and transport outcomes, an entirely separate issue beyond the scope of this paper. Since private finance is inevitably more expensive than public finance, the additional financial costs must be borne by whoever funds the roads, either the state or the road users or some combination of the two. Thus we distinguish between the financing and funding of the roads. While we examine the costs to the taxpayers and road users as a concomitant of private finance, we are not concerned here with the merits or otherwise of tolling *per se*, which is the subject of extensive debate among transport academics and policy makers, but simply the implications for the cost of funding or paying for the roads.

The paper is organised in six further sections. The first section provides a brief review of the literature. The second sets out the history and development of private road concessions in Spain. The third explains the methodology and forms of analysis to be used. The fourth examines the concessionaires' financial costs, the fifth the cost of public support, while the final section draws out the implications.

Prior literature

Although there is a considerable literature, most of this simply describes the policy, its objectives, rationale, the procurement process and particular projects. See for example, Miquel and Condron 1991, World Bank 1994, Levy 1996, Ridley 1997, Glaister 1999, Debande 2002, Grimsey and Lewis 2002. Generally, their view is that private finance can play a very positive role in infrastructure provision, although some do point out actual or potential problems.

In the context of *ex post* analysis, Silva's report for the World Bank (2000) notes, without citing sources or providing details, that the majority of projects have been successful and that only a minority of projects, or 10% by value, have had to be taken over by the government. In other unspecified cases, performance had been poor and contracts had to be renegotiated. Factors contributing to the lack of success included: overestimation of traffic, inflexible contracts that constrained the private sector's ability to manage demand and construction risks, inadequate strategic network planning, the private sector's preference for construction rather than operation, and the voters' dislike of toll charges. That is, when contracts failed, it was because they were not for various reasons profitable enough for the private sector and governments were forced to step in. Silva concludes that governments need to address why these projects failed and ensure that projects are made more attractive to both the private sector and the electorate. More recent projects have therefore involved explicit debt guarantees by governments, up-front grants towards the cost of the investment and a higher proportion of equity capital relative to loan debt than earlier projects (Ehrhardt and Irwin 2004).

Estache and Serebrisky (2004), in their overview of transport PPPs, note that the financing is the largest component of total cost and that 55% of all transport concessions implemented between 1985 and 2000 in Latin America and the Caribbean were renegotiated, a much higher proportion than other infrastructure sectors, typically within three years. While governments gained in the short term from any proceeds and the low level of public investment, the renegotiations led to higher recurrent expenditure via subsidies to the private sector to make the schemes viable. The authors point out, like other commentators, that the key risk is demand risk. They conclude that since such projects need a high degree of political commitment at both national and international level to create an effective financial, regulatory and competition regime if private participation is to increase, most of such expansion is likely to be in the richer countries.

In this context, Boardman *et al* (2005), in their review of private toll road cases in North America, note that the private sector is adept at ensuring that it is fully compensated for risk taking and will go to considerable lengths to avoid the risk that governments seek to transfer, for example by setting up companies (special purpose vehicles) that have no recourse to the finances of their parent companies and can therefore "walk away from trouble". They conclude that governments need to be cautious and ensure that the private sector actually bears the risks they seek and pay to transfer.

Shaoul *et al* (2006), in one of the few detailed *ex post facto* financial studies of the use of private finance in roads, conclude that it is very expensive. Their analysis of the operation of the first eight design build finance and operate (DBFO) contracts in the UK, paid for by taxpayers' money via shadow tolls, shows that within a few years of contract start, the government had paid more than the £590m construction cost. Its private sector partners reported a post tax return on capital of 29% and an effective cost of capital of 11% in 2002, more than twice the UK cost of public finance (approximately 4.5%), a high price for risk transfer.

Roads concessions in Spain

(i) The early concessions

Spain's private toll road programme began in 1967 with the offer of contracts of up to 50 years to the private sector to build, finance, and operate roads, and the right to charge vehicles to use the roads, alongside non-tolled roads, as isolated concessions rather than a network. The turn to private finance would, it was argued, provide the finance for infrastructure that the

state itself could not afford. In general, those roads that were most likely to be profitable were franchised and coexisted alongside a network of free roads.

The private roads were not, however, built without cost to the Spanish government or financial problems for the companies involved. According to Bel and Fageda (2005), the financial, fiscal, and commercial conditions of the franchises were such that almost every risk was borne by the government. In particular, it provided state-backed guarantees for foreign loans and exchange rate insurance against any increase in the cost of finance raised by international loans, thereby reducing the concessionaires' exchange rate risk. But several of the toll roads encountered financial problems because of high construction costs, the additional costs associated with tolling, and low revenues due to lower traffic volumes than anticipated, since many road users preferred to use the free roads (Ministry of Public Works 1974). Spain's economic and exchange rate crisis of the 1970s and early 1980s following the rise in oil prices in 1978-79 further undermined the financial viability of the concessions. Three had to be taken into public ownership in 1984, 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 (Farrell 1997). By the end of 1994, the government had paid out 2.65bn ECU and had further liabilities of 1.5bn ECU in relation to foreign exchange guarantees that had not yet been called (Farrell 1997). So expensive was the experience that in 1982, the incoming Socialist Party government reverted to a programme of road building based upon conventional public procurement, contingent upon economic expansion, increased tax revenues and, after 1985, extensive funding from the European Commission.

(ii) Recent concessions

In the 1990s, after the constraints on public debt imposed by the European Union, the incoming Conservative government once again turned to concessions for new roads as a form of off balance sheet financing. The decision to use private finance was dependent upon whether a concession was likely to be a commercial proposition for the private sector, not whether it constituted value for money as in the UK. There was therefore no comparison against a public sector comparator or consideration of risk transfer. If the road could not be made commercially viable, it would have to be financed by the public authorities, or delayed.

By this time, the concessionaires, having formed in 1973 a trade association to promote their interests, had gained various legal, financial and accounting benefits from successive governments, which traditionally have had a close relationship with the construction industry. This was crucial in establishing a more secure financial regime for the private sector.

Firstly, the government passed a law to enable concessions of up to 75 years. Secondly, it renegotiated 13year extensions to the existing agreements without entering into competitive bidding, legal under EU procurement law at the time and in some cases renegotiated the extensions in return for lowering toll prices, hence increasing traffic flows and thus revenues, or undertaking further investments in other motorways where financial returns might be low. According to Bel and Fageda (2005), the renegotiations resulted in huge profits for the companies.

Thirdly, the government acknowledged that huge subsidies would be necessary for many of the new toll franchises to enable them to sustain the low levels of projected traffic volumes and the consequent financial losses (Bel and Fageda 2005). According to Izquierdo (1997), half of the projected highways in the first phase of the new programme would require subsidies ranging from 40-65% of the total investment, which he expected to be in the form of 'non-refundable subsidies' or 'refundable advance payments', the then traditional forms of public support. In the event, the government changed its policy of supporting the concessionaires via direct subsidies and introduced what became known as 'participative

loans', whereby the companies had access to cheap loans from the public authorities for some part of their financing requirements, and whose repayments were linked to their revenues from toll charges. Such arrangements, being scored as off the public sector's balance sheet for fiscal purposes, served to circumvent the constraints on public debt.

Fourthly, the concessions have benefited from a favourable pricing regime. Contracts awarded before 1988 were subject to little price regulation. In 1990, legislation established annual indexation of the tariffs slightly below inflation: increasing by 95% of the Consumer Price Increase (CPI) of the previous 12 months, subject to the permission of the corresponding public authority. This was aimed at increasing traffic volumes. During the late 1990s, there were individual agreements with each concessionaire to reduce tariffs and apply selective discounts, mainly to regular users.

In both 1997 and 2000[1], the government refused to allow charges to rise in line with rising inflation. However, this did not lead to a corresponding reduction in post tax profits due to increasing motorway usage. The government's objectives in freezing the toll charges were to control inflation, improve the distribution of traffic by encouraging the use of toll motorways, because many of them were underused while the alternative free roads were heavily congested, and to share the rising profits between the concessionaires and road users. In other words, by freezing the toll charges, it sought to increase traffic flows and thereby their revenues. However, the freeze was later ruled illegal and the government had to compensate the concessionaires.

Since 2000[2], a new system of revising tariffs, based upon price cap regulation, has been applied to the central government's toll concessions. This method is also based on the CPI but adjusted according to actual as opposed to forecast traffic. In essence, the largest toll increases are granted to the roads with the lowest traffic increases, and the lowest to those with the largest increases. The net result of this form of regulation, including the reduction in prices, has been to increase the volume of traffic using the toll roads (Bel and Fegada 2005), and thereby their profits. The system is not however universal, as the autonomous regions continue to revise tariffs based on annual increases of 95% of the CPI.

Lastly and most importantly, the companies were able to secure a beneficial accounting regime that had real economic effects (Acerete *et al* 2006). 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. Firstly, under Spanish accounting regulation, companies that operate an infrastructure concession, such as water or transport, whose assets will revert to the state at the end of the contract, could establish a reversionary fund (this became mandatory in 1999 for road concessionaires). This is created by making an allocation to a long term provision every year over the life of the concession, thereby increasing cost. Since the government accepts that the tariff must be set to cover not only the operating and financing costs but also the reversionary charge, this means that the road users must pay sufficient to cover this higher cost. In other words, the users will have fully paid for the asset over the life of the concession, which is shorter than the life of the asset. This allocation serves to increase the cash available to the company and is allowable for tax purposes.

Secondly, in relation to the treatment of financing expenses, in contrast to the international position, these can continue to be capitalised even after the asset becomes operational, subject to the existence of reasonable evidence that they can be recovered from future tariffs. While this is explained simply as a timing difference that should even out, in practice it serves to increase the returns to shareholders at the beginning of the contract, with no evidence to suggest that this will be reversed in the later years. Together, the reversionary fund and the treatment of capitalised interest have played an important part in consolidating the financial

position of the concessionaire companies, enabling them to become a powerful force and global players in the road construction and operating business.

The use of private finance and tolls went alongside a further expansion of publicly procured and free motorways. By the end of 2004, 2,900km of private toll highways and 9,020km of free highways were in operation. Between 1995 and 2005, 19 deals were signed, some being new developments for existing contracts. While eight were operational by 2002, some had still to open.

In short, the Spanish experience confirmed some of the findings of the research literature. The early contracts suffered from an overestimation of traffic volumes, the public's dislike of tolls, and the higher than anticipated costs, leading to the renegotiation and the public takeover of some concessions, and higher, but unquantified, costs for the government that appear to negate the stated objectives of the turn to private finance. The government took steps to make the more recent concessions more financially viable for the private sector.

Methodology and forms of analysis

Since the financial information is available by concessionaire not road, our unit of analysis is the concessionaire, which may be a company listed on the Spanish stock market or a subsidiary of one of the major listed construction companies. The legal form of the concessionaire is such that its only source of revenue is the income derived from the concession(s) and this is stated in the accounts. We therefore examine the 15 concession companies that operated all the 24 private toll road concessions that were open to traffic by 2002. They include both the 16 older concessions and the eight more recent ones.

Table 1: The Spanish toll roads

	1995	***1996***	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***
Number of roads open	16	16	17	18	21	21	22	23	24
Number of concessionaires	10	11	11	12	14	15	15	15	15
Cumulative construction/improve-ment cost (€)	3.6bn	3.7bn	4.1bn	4.4bn	4.9bn	5.4bn	5.6bn	6.0bn	6.1bn
Annual investment (€)		0.1bn	0.4bn	0.3bn	0.5bn	0.5bn	0.2bn	0.4bn	0.1bn

Source: *Annual report and accounts (various years)*

We obtained the annual report and accounts from either their websites or the Registrar of Companies for the nine year period 1995 (the longest period for which they were available in the present format) to 2003 (the most recent data). This means that our analysis starts after the companies' finances had been stabilised for some time.

We use financial ratios that focus on the companies' income, costs, the cost of productive and financial capital maintenance, and the returns to the providers of finance. The income includes only the tolls not any income derived from the service areas. The cost of debt and equity (capitalised interest, interest and post-tax profits) provide a way of understanding and estimating the private sector's total cost of capital and hence the cost to the road user and the taxpayer of private finance and the price paid for risk transfer – the risk premium, which is the excess of the cost of private over public finance. That is, the risk premium serves as a proxy for any additional cost of using concessionary arrangements over public debt.

The cost of using private finance

Revenues rose from €778m in 1995 to €1,428m in 2003, a rise of more than 80% (Table 2), along with increases in the number of roads, traffic volumes, which rose by about 68% over the period, and toll charges, in part at least because the renegotiation of the contracts and tariff regulation served to increase the volume of traffic.

Table 2: Operating costs of the Spanish toll road companies

(Million Euros)	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Total*
Number of roads open	16	16	17	18	21	21	22	23	24	
*Number of concessionaires	10	11	11	12	14	15	15	15	15	
Revenue*	778	815	873	938	1,010	1,148	1,261	1,394	1,428	9,645
Costs										
External goods and services	72	72	79	81	100	109	135	93	158	899
Labour	105	110	114	125	134	151	160	165	162	1,225
Non-cash costs (depreciation, reversion fund and other provisions)	140	176	282	326	265	284	316	266	292	2,333
Operating expenditure	317	358	475	532	499	544	611	524	612	4,472
Profitability										
Operating profit before interest and tax (PBIT)	461	456	399	405	511	604	651	870	816	5,174
PBIT as % revenue	59%	56%	46%	43%	51%	53%	52%	62%	57%	54%

Source: *Annual reports and accounts (various years)*
** includes compensation for tariff freeze in relevant years*

Operating expenditure also nearly doubled from €317m to €612m (Table 2). The largest expenditure item, just over half of the total (52%), was the cost of maintaining productive capital: the provision for depreciation and the reversionary fund. The reversionary fund was by far the largest element: €2bn of the €2.3bn charges over the period.

The remaining operating expenditure was attributable to the cost of maintaining and operating the roads, typically about 21% of revenues and less than 5% of construction/improvement costs. Operating expenditure as a whole was typically a low proportion of revenue, (46%), with corresponding profit margins of about 54% over the period.

We consider next the cost of construction since this determines the level of debt. In the absence of publicly available information, we have estimated this in row 3 of Table 1 by subtracting the revaluation of the roads from the value of the fixed assets shown in the accounts. We have assumed conservatively that the value of the roads in 1995 at €3.6bn (the amount before revaluation) was the cumulative historic cost of constructing and/or improving the pre-existing 16 roads. The cost of the new construction and improvements between 1995 and 2003 is therefore about €2.5bn (€6.1bn less €3.6bn) or about €312m for each of the eight additional roads. The issue then is how and at what cost this €2.5bn investment was financed.

The companies' debt rose from €2.2bn to €4.1bn (Table 3). Several points should be noted. Firstly, that their debt levels in 1995 were about two thirds of the €3.6bn value of the roads (assumed to be the historic cost of the roads), implying that some of the debt had already been repaid. Secondly, while the companies increased their borrowing to finance the new construction, they were able to draw on cheaper loans, known as participative loans, from the public authorities (Table 4). Such loans rose from €116m (5% of their debt) in 1995 to €494m (12% of their debt) in 2003. Thus the public loans to finance the new roads amounted to €328m (€494m less €116m), equivalent to 13% of the investment in new roads or one of the eight schemes. That the government should act as banker to the construction companies does not sit well with the claims that the private sector will provide the finance that the public sector cannot. Thirdly, debt was not the sole source of funds: the companies were also able to draw on retained cash to finance their capital expenditure. The net result was that while the total interest payable to service the debt rose from €195m in 1995 to €238m in 2003, the effective rate of interest fell from 9% to 6%. That is, their cost of borrowing fell.

Table 3: Financing costs of the Spanish toll road companies

(Million Euros)	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Total*
Operating profit before interest and tax (PBIT)	461	456	399	405	511	604	651	870	816	5,174
Cost of finance										
Total interest payable including capitalised interest	195	172	159	178	1,090 *	287	262	273	238	2,853
Profit after tax	228	251	224	215	328	373	426	462	546	3,053
Total returns to providers of finance (total interest and post tax profits)	423	423	383	393	1418	660	688	735	784	5,906
Fixed assets	6,325	8,749	9,154	9,479	9,665	10,198	10,446	10,807	10,289	
Fixed assets at estimated historical cost	3,616	3,720	4,121	4,441	4,853	5,358	5,609	5,954	6,129	
Capital structure										
Long term debt	2,153	2,290	2,449	2,619	2,772	3,269	3,571	3,711	4,116	
Shareholders' funds	2,809	5,236	5,277	5,290	5,313	5,511	5,161	4,876	4,981	
Total capital employed (Debt + shareholders funds)	4,962	5,621	8,096	7,909	8,085	8,780	8,732	8,587	9,097	
Key financial ratios										
Total interest/long term debt	9%	7%	6%	7%	39%	9%	7%	7%	6%	
Profit after tax/shareholders funds	8%	5%	4%	4%	6%	7%	8%	9%	11%	
Total returns to providers of finance/total capital employed	9%	6%	5%	5%	18%	8%	8%	9%	9%	
Financing cost as % revenue	54%	52%	44%	42%	140%	57%	55%	53%	55%	
Additional cost of private finance										
Cost of public debt at 4%	86	95	113	105	111	131	143	148	165	1,097
Additional cost of private over public finance (total returns to providers of finance less cost of public debt)	337	328	270	288	1,307	529	545	587	619	4,810

Table 3 shows that post tax profits rose in both absolute and relative terms from €228m in 1995 to €546m in 2003, from an 8% return on shareholders funds in 1995 to an 11% return in 2003. In other words, returns on equity rose as interest on debt fell. Farrell (1997) had noted that the profitability rose as the age of the concession rose. While this was indeed discernable in our data using regression analysis, this was not a simple linear relationship and was difficult to interpret, since all the contracts were either very old or very new, with no intermediate data, and some of the concessionaires had both old and new roads.

Thus, total returns (interest, including capitalised interest, and post tax profits) to the providers of finance rose from €423m in 1995 to €784m in 2003, equal to a 9% cost of capital overall, due largely to the increase in shareholders' returns: double the cost of public finance

in Spain (about 4%). This means that 55% of the tolls paid by road users in 2003 relate to the cost of finance (Table 3). In essence, most of the cost of building and operating the roads relates to the cost of financing the construction and improvements.

The cost of public support

Throughout this period the private sector continued to benefit from public sector support, which rose from €201m in 1995 to €423m in 2003 and totalled €2.2bn over the nine year period (Table 4). Firstly, by far the largest element, €1.9bn, was the exchange rate insurance, which is part of the remaining debt on eight old concessions dating back to the early days of toll concessions that the government pays directly to the financial institutions and will terminate in 2008. This is not only more than the original cost of the roads, after adjusting for inflation, it is also more than 75% of the total €2.5bn investment in new construction and improvements. In other words, in nine years the taxpayers have paid the bankers a sum equivalent to nearly all the finance needed to build the new roads. Thus the old roads mortgaged the future: they came at the expense of future road funding. From the perspective of the companies however, the exchange rate insurance serves to reduce the cost of servicing their debt. In 2003 this amounted to €273m, which if paid by the private sector would have halved the returns on shareholders' funds from 11% to 5.5%.

Table 4: Public support for the Spanish concessions

Million Euros	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Total*
Exchange rate insurance payments	193	138	117	197	201	174	228	390	274	1,912
Capital grants	8	8	22	8	5	7	7	7	8	80
Compensation payments			-6	-16	-24	8	57	46	142	207
Total	201	146	134	189	182	190	291	442	423	2,198
Loans from the public sector	116	135	162	170	355	397	515	477	494	
% total debt	5%	6%	7%	7%	13%	12%	14%	13%	12%	

Secondly, the government made substantial payments to compensate for not permitting the full increase to the tariff in order to encourage greater use of toll roads. Compensation of €142m in 2003 has had the effect of increasing shareholders' returns by 3 percentage points. Thirdly, the government made small capital grants available to some of the companies towards the cost of the new concessions. The three forms of direct subvention amount to €2.2bn over the nine year period, or 73% of the companies' €3bn post tax profits. In addition, as explained earlier, four of the concessionaires were able, in the context of five of the concessions, to borrow from public agencies via the 'participative loans', which served to reduce the cost of their debt. Taken together, these various forms of subventions served to

reduce their borrowing costs and therefore increase their post tax profits. It should be noted that while EU funding became available when Spain joined the EU in 1986, this was only used for roads directly managed by the public authorities. In only one case was the concessionaire able to access finance from the European Investment Bank.

If the roads were publicly funded, then the tolls would have cost less since firstly, the cost of public debt (about 3-4% in August 2006) is lower than private debt (7% as shown in Table 3), and the state, as owner, does not usually require a financial return on its investment. The additional cost of private finance over and above the cost of public finance over the nine year period is approximately €4.8bn (total returns to the providers of finance less the cost of public finance assumed to be 4%), as shown on the bottom line of Table 3, more than the total cost of the investment in new roads since 1995 which was €2.5bn (Table 1). In effect, the road users paid almost twice the cost of public finance (the additional cost of private finance).

Discussion and Conclusion

This paper has sought to contribute to the debate about the cost of private finance by providing empirical information about the actual cost of private finance in Spanish road construction contracts and the relative cost of public and private finance for public infrastructure. Several points emerge from our analysis.

First, one of the most striking points is that some of the most important information is not in the public domain due in part to commercial confidentiality. Such reporting as there is, is both limited and opaque at both the public and the private sector levels, and this limits this paper's analysis and conclusions. In this regard, there is less information available in Spain than the UK (Shaoul *et al* 2006).

Second, the analysis has shown that most of the cost of roads relates to the cost of finance (55%), as Estache and Serebrisky (2004) had noted. This however underestimates the cost of private finance, since the charge includes an element for the reversionary fund. The significance of this is higher charges for Spanish road users.

Third, the government is still bearing the very heavy cost of supporting eight old concessions. In the last nine years alone, this support has cost nearly as much as the new private investment in roads and more than the original cost of building the roads. The arrangements for the latest wave of toll roads appear to have been designed to mitigate the risks to the private sector, at some cost to both the road user and the tax payer, with the broader regulatory and accounting regime being tailored to the needs of the concessionaires. Despite this, the debt is scored as private not public debt.

Fourth, despite the public subventions, the cost of private finance was considerably higher than public finance. The returns to the providers of finance in the last nine years have been more than twice that of public finance. While the extra costs of the older concessions have largely been borne by the taxpayers, the costs of the more recent central government concessions have been borne by the road users and of the autonomous government concessions by both the taxpayer and road users. It is clear therefore that while the state might have chosen to fund the cost of the new investment via user charges, the high cost of private finance means that charges are higher than they would otherwise have been had they been financed by public debt.

Fifth, while the use of private finance has proved expensive for both the taxpayers and road users, it has been beneficial for the construction industry, road operators and their financial backers. The companies' post tax profits are the result of a very favourable financial and regulatory regime and exchange rate payments provided by the state. Together, the policy of using private finance plus the institutional arrangements have promoted national champions in

the construction/road sector that have been able to expand internationally on the back of their domestic success. The policy has therefore created a Spanish road operating industry well placed to take advantage of moves in the same direction in the EU at large. In other words, the use of private finance in roads can be viewed as a classic example of the policy-making art of "concentrating the benefits and diffusing the cost".

Some aspects of this experience that are unique to Spain, eg the mandatory reversionary fund and the ability to capitalise interest post-construction, will end when Spain adopts international financial reporting standards, although others such as the tariff and public support are set to continue. Notwithstanding these special Spanish features, the broad thrust of our findings is not unique to Spain. While different in their precise form, the findings are similar to the financial costs and risk transfer associated with the shadow toll concessions in the UK, where the policy was justified in value for money not fiscal terms (Shaoul *et al* 2006). Our empirical evidence substantiates the findings outlined in the literature, namely that 'successful' concessions are dependent upon a favourable political framework. In other words, the high cost of private relative to public finance for road schemes is not a Spanish phenomenon but has more general applicability.

Taken together, our analysis shows that private finance creates additional costs to the stakeholders. It does not generate additional investment that could not otherwise be provided, the Spanish rationale. Neither is it clear that the additional costs have delivered benefits in the form of risk transfer, the more recent justification for private finance in some quarters. While some might argue that at least the policy ensures that the roads are built to time and budget unlike public procurement, there is no evidence in the public domain about the extent of cost and time overruns under conventional road procurement in Spain. Indeed, an evaluative report on PPPs by the European Investment Bank (2005) concludes that the only measurable benefit is that the road gets built. This evidence not only rebuts the case for using private finance but has further policy implications. The requirement to make projects commercially viable and acceptable to their bankers has the potential to distort the capital prioritisation and planning process in favour of schemes that can be made to deliver a stream of cash flows at the expense of other schemes and other transport sectors. In other words, the adoption of an inappropriate financing method may also lead to poor transport planning decisions.

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[1] In 1997, existing tariffs were extended 6 months. In 2000, existing tariffs were extended for the full year.

[2] Act 14/2000, 28 December

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