

Privatization of Existing Toll Roads: A Tale of Two Countries

The US and French Experience

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(Based on the working paper titled “*Comparison of Recent Toll Road Concession Transactions in the United States and France*”, authored by Germa Bel, Professor of Economics-University of Barcelona and John Foote, Senior Fellow-Kennedy School of Government, Harvard University, dated September 2007. The entire paper can be found at
<http://www.ub.edu/graap/Bel&Foote.pdf>)

Before I begin my Tale of Two Countries, let me tell you about how this study came about. I became a fellow at the Kennedy School at Harvard about the time the ink was drying on the Chicago Skyway concession agreement. Given the fanfare that accompanied this privatization I decided to look at the transaction to figure out what made it tick. Several months later I met my co-author Germa Bel who is on the faculty at the University of Barcelona. When I told him about the Skyway transaction and the subsequent Indiana Toll Road deal, he expressed real surprise for the reason that these two concession deals, although similar to concessions he was familiar with in Europe, were different in one obvious and important aspect—the prices paid for the US concessions were five times the prices paid for three French concessions around the same time (Autoroutes Paris-Rhin-Rhône (APRR) and Société des Autoroutes du Nord et de l’Est de la France (Sanef), and Autoroutes du Sud de la France (ASF)).

Slide 1. Comparison of Prices Paid for Toll Road Concessions in US and France

| US\$ million (\$1.18 to 1 Euro) | APRR | Sanef | ASF | Skyway | Indiana Toll Road |
|-------------------------------------|--------|--------|--------|--------|----------------------|
| <i>Year concession was executed</i> | 2005 | 2005 | 2005 | 2004 | 2005 |
| Gross Revenues | 1,854 | 1,359 | 2,919 | 41 | 99 |
| Net Income (EBITDA) | 1,149 | 873 | 1,853 | 29 | 64 |
| Concession Price* | 14,122 | 10,645 | 23,161 | 1,830 | 3,850 |
| Price as Multiple of EBITDA | 12.3X | 12.2X | 12.5X | 63.1X | 60.2X |

* For the French concessions, price is equal to equity plus assumed debt.

Given the large difference between the multiples paid—twelve vs. sixty times earnings—we decided to do an analysis of these concessions to determine why investors valued the US and French deals so differently and the public policy impact of this disparity in price.

We first started by looking at what was similar about these concessions.

- All five of these toll roads were converted from public to private ownership in a span of eighteen months in early 2005 to mid 2006.
- In all five, the privatizations were set up as leases in which the concessionaire paid a one time upfront fee (i.e. price) for the right to operate the road and collect tolls.
- The companies bidding for the French concessions were in most cases the same companies bidding for the US concessions.
- And, in both the French and US cases, prospective concessionaires were invited to bid pursuant to a sealed bid process.

Although the bidding protocols used in the two countries were similar, there was one important variant in the French concessions; bids for the French roads had to be accompanied by two pieces of supporting documentation: a business plan and an “industrial” plan. The business plan detailed the assumptions for traffic, toll rates, operating and capital expenditures, and financing structure. The industrial plan detailed the strategic, management, labor and operational initiatives to be implemented by the concessionaire.

These two plans were evaluated by the French government as part of the bid. This meant that for the French concessions, price was not the sole bid award criterion as it was for the U.S. concessions. For the French concessions, price and qualitative considerations were the basis of the award. This “best bid”, as opposed to “high bid” approach used for the US concessions, had the dual consequence of a) lowering the amount of the winning bid, and b) narrowing the spread among bids. [Authors’ note: The required transparency of the bids for the French concessions had the likely effect of moderating and homogenizing the assumptions underlying the bids.]

To understand the differences in the multiples paid for the US and French concessions, one needs to look at the underlying economic basis of the concessions. This basis is the projected annual cash flow generated by the road over the concession period, where cash flow is equal to gross toll revenue minus operating costs and capital expenditures. This cash flow is a function of:

- The term of the concession;
- A projection of future traffic and future tolls; and
- Operating and capital costs.

In both the French and US cases, each bidder was provided with certain bid parameters, namely the length of the concession, the toll adjustment formula, and the minimum capital investments to be made over the term of the concession.

The bidders, now armed with these bidding parameters, were able to construct financial models of the toll road’s future cash flows, making assumptions about

- CPI and GDP, to which toll increases are indexed; and
- Traffic growth.

The next step in the valuation is to discount the projected cash flow over the term of the concession, using as the discount rate, the weighted cost of capital of the concessionaire to finance the concession payment. This points up another important difference between the US and French deals: The French government placed an upper bound on the amount of debt the concessionaire could use to finance the concession payment in order to encourage a more conservative, or less risky, capitalization. This constraint had the effect of increasing the amount of equity relative to debt the concessionaires used to finance the French concessions. Given equity has a higher cost than debt, the overall cost of capital is higher, and a higher cost of capital, all other things being equal, means a higher discount rate which results in a lower valuation and a lower price.

The upshot of these structural and procedural differences is the dramatically lower price-earnings multiples observed in the French concessions. The 12 multiple as opposed to a 60 multiple is due to the shorter concession length (an average of 25 years for the French concessions vs. 99 and 75 years for Skyway and the Indiana Toll Road, respectively), more moderate toll increases (70% of CPI for the French concessions vs. the greater of 2%, 100% of CPI or, GDP per capita for the US concessions), less aggressive traffic assumptions regarding growth in traffic (due to the transparency of the French concession bids), and a more conservative capital structure—all part and parcel to the French concessions.

The proof of this can be seen in slide 2. By applying the French concession terms and assumptions to the Skyway deal, the Skyway concession price would have been almost identical to the prices paid for the French concessions.

Slide 2. Summary of Price Drivers

| | | Concession Price* | Multiple of EBITDA |
|---|--------------|-------------------|--------------------|
| Skyway concession price-actual | | \$1,830,000 | 63.1X |
| Adjusted for shorter concession term (23 years) | (structural) | 1,031,388 | 35.6X |
| Adjusted for lower allowable tolls (70% of CPI) | (structural) | 724,586 | 25.0X |
| Adjusted for more modest traffic growth | (procedural) | 434,087 | 15.0X |
| Adjusted for less leverage | (structural) | 361,272 | 12.5X |
| Average for French concessions | | | 12.3X |

* Excludes transaction fees.

The outcomes of the French and US privatization approaches show that the objective of the Skyway and Indiana concessions was to maximize the concession price. This was done by structuring the concession to generate the highest possible discounted cash flow and then deciding the auction only on the basis of price.

This leads to the obvious question of why the French government would organize its concessions in such a way so as not to maximize the concession price, or in other words, why did the French government leave money on the table. The answer to this question lies in the concept

of the “public interest”, or using economists’ parlance, social welfare. Social welfare includes the welfare of all parties which are affected by a policy. These parties include consumers (or in the context of toll roads, tollpayers, producers (i.e. the concessionaire), workers, and taxpayers. To determine the net impact of these concessions on the public interest, or to put it in a less academic way, to figure out who are the winners and losers, we measure how each of these stakeholders are affected.

First, from the perspective of the public owners—the French Government, the City of Chicago, the State of Indiana—the following relationships hold:

- A larger vs. smaller concession price is better, regardless of the use of the sale proceeds.
- A large concession price that is financially unsustainable (the deal goes “south”) may or may not be a bad thing depending on the “take back” provisions; and
- A shorter concession term vs. a longer concession term may or may not be better depending on how the public owner assesses the risks of ownership vs. the value of future operational flexibility.

It is clear that the much higher prices paid for the Skyway and Indiana Toll Road concessions result in the taxpayers of Chicago and Indiana being winners relative to the French taxpayers.

With respect to the welfare of tollpayers:

- Lower tolls vs. higher tolls are better, and
- Better maintained and operated roads are good.

Looking at first of these, the toll setting mechanism is a striking difference between the French and the US concessions. In the French concessions annual toll increases are limited to 70% of CPI which means that tolls actually decline in real terms, and as a consequence, tollpayers gain purchasing power.

In contrast, the toll formula for the Skyway and Indiana Toll Road is the greater of 2%, 100% of CPI, or GDP per capita. To see the effect of these two different toll formulas, we calculated a concession price for Skyway using the “French” toll regulation of 70% of CPI. The price paid would have been US\$740 million less than the actual price paid (which was \$1.8 billion). This US\$740 million difference is made up of two pieces:

- US\$500 million of lost tollpayers’ purchasing power that results from tolls increasing faster than CPI (i.e. inflation); and
- US\$242 million of opportunity cost resulting from tollpayers not sharing in the productivity and efficiency gains which are equal to the difference in tolls indexed to 100% of CPI versus 70% of CPI.

In the cases of the Chicago Skyway and the Indiana Toll Road it is clear that the city and state, respectively, placed more importance on taxpayers’ welfare than on tollpayers’ welfare. This, however, is a zero sum game—merely transferring cash from users to taxpayers does not increase overall social welfare.

We can now return to the question of why the French government did not try to maximize the concession price—the answer must be in that the French concessions were structured to balance the interests of taxpayers and tollpayers.

These recent transactions illustrate how structural and procedural decisions made by the public owner affect the concession price. It is important to remember that there is no intrinsic value that can be assigned to a particular toll road; the value, or more accurately the price, is largely a function of the characteristics of the concession and not the road itself. Both Skyway's and the Indiana Toll Road's longer lease terms, higher allowable toll rates and absence of capitalization restrictions are the major drivers of the higher prices paid by investors for those roads.

Finally, the terms of the concession have direct consequences that are enjoyed or borne by all of stakeholders of the toll road. The higher price paid for the US concessions has the effect of placing more financial pressure on the concessionaire to maximize net income, not only to service debt, but also to provide a satisfactory return to the equity investors. Although it is speculative at this point to identify the actual consequences of this, it is reasonable to expect that the Skyway and Indiana Toll Road concessionaires will operate their roads with the singular focus of maximizing profit, regardless of any external objectives or costs.

We have purposely avoided the debate of whether concessions are good or bad for the reason that we don't believe it is right question. Concessions, if used judiciously, can play an important role in improving our transportation infrastructure. But none of us in this room have to be reminded that roads are not financial assets to be sold to the highest bidder. Figuring out how to maximize the concession price is easy; the much more difficult and important task is to balance the concession price with the public interest.

Decisions about how a concession is to be organized, both structurally and procedurally, have a direct impact on all of a toll road's stakeholders. It is these impacts and the tradeoffs inherent in these decisions—not just the dollars—which need to be central in the public debate on concessions.