2. The Experiences with PPP in the road sector in Europe

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Importance of the topic in EU

• Need for low cost transport for single market (T-TENS)
• Increasing interest in EU and internationally for privately financed transport
• But roads are highly capital intensive
• Long payback period if at all
  – High initial cost
  – High but infrequent maintenance cost
  – Low annual operating cost
  – Traditionally public sector – too risky for private sector

Examine:

• Types of PPPs
• Prevalence in Europe
• Problems
• Research literature
• Experience of using private finance to build and operate roads in Spain and UK
• Costs to the various stakeholders: government, concessionaires, providers of finance and road users
• Evaluate the claims that the turn to private finance
  – provides additional investment (Spanish argument)
  – transfers risk and provides value for money (VFM) (UK argument)
  – Affordable (UK argument)
Types of PPPs – umbrella term

- Various models and confusing terminology
- PFI or DBFO – contractual arrangement – state pays
- Free standing project – concession or franchise – user pays
- Free standing project – concession or franchise – user pays + some government contribution (capital and/or user subsidy)
- Joint venture or ownership project where state or users pay = PPP
- New roads or upgrade old roads
- Distinguish between finance for capital cost and funding to pay finance and operating costs

Potential problems?

- Commercially viable over concession period
- Concession period shorter than road life
- So usually require government contribution even when privately financed
  - Capital – grant, loans, guarantees
  - Annual subsidy or shadow tolls
- This then blurs the line between public/private expenditure
- Creates government sanctioned monopolies
- Who bears the cost when things go wrong?
Road PPPs in EU

- Transport largest PPP sector
- Information difficult to find – no database
- National and regional
- 2005 annual capital value of roads, excluding UK, €9.3bn
- 2006 - €7.7bn
- Spain - the longest experience of private roads
- Spain and UK – largest users of private finance in roads in EU

Number of PPP road projects in EU – Jan 2006

<table>
<thead>
<tr>
<th></th>
<th>Roads (toll)</th>
<th>Roads (shadow toll or availability)</th>
<th>Roads (payment mechanism unknown)</th>
<th>Bridges</th>
<th>Tunnels</th>
<th>Total</th>
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<tbody>
<tr>
<td>Spain</td>
<td>35</td>
<td>17</td>
<td>2</td>
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<td>7</td>
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<td>Greece</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
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<td>1</td>
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<td>Ireland</td>
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<td>Hungary</td>
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<tr>
<td>NL</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
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<tr>
<td>Germany</td>
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<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62</strong></td>
<td><strong>54</strong></td>
<td><strong>11</strong></td>
<td><strong>8</strong></td>
<td><strong>10</strong></td>
<td><strong>145</strong></td>
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</table>
Research literature (i)

- Little research on the cost of the financing method in transport
- Most research descriptive, broadly supportive, little financial evidence
- Silva, Freeman (World Bank)
  - Generally successful
  - Some problems
    - lack of demand,
    - renegotiations,
    - bailouts,
    - governments have taken over the projects

Research literature (ii)

- Estache and Serebrisky (2004 - importance of appropriate political and regulatory framework to make it work
- Ehrhardt and Irwin 2004 – recent projects – more favourable regime – grants, guarantees for loans, subsidies, etc
- Boardman et al (2005) – review of North American experience - private sector adept at ensuring that they can walk away from problems
- EIB (2005): key impact that projects were implemented
Early road concessions in Spain

- Starts 1967 due to lack of public finance
- Private toll roads in Spain v public tolls elsewhere
  - State backed guarantees for foreign loans and exchange rate insurance
  - Early 1980s financial crisis due to oil prices and road user demand
  - Renegotiation, provision of state loans and subsidies, three contracts taken over by state
  - Concessioning stops in 1982

Recent concessions in Spain

- 1991 Maastricht criteria
- 1996 return of Conservative government
- New law – extending period of concessions
- Renegotiation of existing concessions on favourable terms and without going out to competitive tender
- New concessions with toll charges
- Beneficial accounting regime with real economic effects
  - Reversionary fund
  - Treatment of financing expenses
- Favourable toll charge system to cover reversionary charge and rises linked to inflation
- Late 1990s shift to shadow toll concessions – autonomous governments
Private finance for roads in UK

- 1980s/early 1990s - some free standing projects with user tolls
  - Second Severn Bridge
  - Dartford crossings
  - Channel Tunnel
  - Skye Bridge (government contribution)
  - M6 Toll road

- 1993 Private Finance Initiative (PFI) – DBFOs in roads
  - Shadow toll
  - Availability payments

### Annual cost of private finance

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>€ 1,428m</td>
<td>€ 57m</td>
<td>£176m</td>
<td>£51m (2/3 expected level)</td>
</tr>
<tr>
<td>Operations and maintenance</td>
<td>43%</td>
<td>44%</td>
<td>41%</td>
<td>55%</td>
</tr>
<tr>
<td>Interest payable</td>
<td>17%</td>
<td>40%</td>
<td>47%</td>
<td>88%</td>
</tr>
<tr>
<td>Tax payable</td>
<td>19%</td>
<td>0%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Post tax profits</td>
<td>38%</td>
<td>26%</td>
<td>36% (Affected by refinancing gains)</td>
<td>Losses</td>
</tr>
<tr>
<td>Financing as % revenues</td>
<td>55%</td>
<td>56%</td>
<td>83% (Affected by refinancing gains)</td>
<td>88%</td>
</tr>
</tbody>
</table>
### Additional annual cost of private finance to state or user

<table>
<thead>
<tr>
<th>Data from companies’ accounts</th>
<th>Spanish Toll Rds (Euros m)</th>
<th>Spanish shadow toll roads (Euros m)</th>
<th>£8 UK DBFOs (£m)</th>
<th>£UK M6 Toll (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year ending</td>
<td>2003</td>
<td>2003</td>
<td>2004</td>
<td>2006</td>
</tr>
<tr>
<td>Interest payable on debt</td>
<td>238</td>
<td>22</td>
<td>82</td>
<td>45</td>
</tr>
<tr>
<td>Post tax profit</td>
<td>546</td>
<td>14</td>
<td>20</td>
<td>-21</td>
</tr>
<tr>
<td>Total cost of capital (interest and post tax profit)</td>
<td>784</td>
<td>36</td>
<td>63</td>
<td>45</td>
</tr>
<tr>
<td>Interest payable at then prevailing public sector rate</td>
<td>7%</td>
<td>4%</td>
<td>8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Extra cost of private finance</td>
<td>496</td>
<td>16</td>
<td>71</td>
<td>11</td>
</tr>
<tr>
<td>Extra cost of private finance as % income from state or user</td>
<td>35%</td>
<td>28%</td>
<td>40%</td>
<td>16%</td>
</tr>
</tbody>
</table>

### Impact on tolls - Spain

- If assume public funding and tolling:
  - Public debt approx 4%
  - Private debt = 7% (understated because of public support)
  - So conservative additional = 3%
- Additional cost of debt is €4.8bn over 9 year period,
- More than cost of new construction (€ 2.5bn)
- 55% annual cost is cost of finance
- 43% annual cost is additional cost of private finance
- So under public finance, tolls would be nearly half current charge - road users paying in effect nearly double
But this is after public support

- Rose from €201m to €423m
- Largest element exchange rate insurance relating to 5 old concessions (more than original cost of roads or 80% of cost of new roads)
- So old roads mortgaged the future
- Compensation for tariff capping
- Small capital grants
- 13% debt = Participative loans at public sector rates of interest

Shadow toll concessions - Spain

- Only been functional for two years
- Same broad findings
- Smaller projects than toll roads at approx €133m per road or €688m total
- Little direct public support
- Low interest payable 4.5%
- 11% return on shareholders funds
- Annual cost of finance is 56% of toll revenues
- Additional annual cost of private finance is 28% toll charge
- So gov could do it for 2/3 price
UK shadow tolls

- DBFO based on shadow tolls
- Very expensive, £6bn over 30 years, £220m pa
- Paid the capital costs (£590m) in three years
- Private sector’s annual cost of finance 67% income
- Additional annual cost of private finance = risk premium = £61m pa = 40% of total annual cost
- Underestimate of total cost of private finance due to subcontracting to sister companies
- Impact on Highways Agency budget? Affordability?
  - £300m pa or 20% Highways Agency’s budget for 8% its network
  - Proposed M25 widening >> £300m pa or 40% budget

UK M6 toll road

- Traffic much less than expected
- Operates at a loss
- Lobbying for new roads and development in area
- Took out larger new loan – over longer period
  - Paid back old loan
  - Paid £300m + to parent company
  - Heavily in debt with low revenues
  - Risks?
- Using £112m to build a link road to M6 toll road
- While free road to state and users
  - Unsolicited proposal
  - Queue jumps capital prioritisation
  - Corporate requirements dictate road building programme
Completed projects – toll crossings

- Dartford Crossings
  - High traffic flows
  - 16 years
  - Cost of finance/revenues = 20%
  - Additional cost of private finance = 8%
  - Conservative, using very high rate of gov interest, excludes financing costs via subcontracting

- Skye Bridge
  - Low traffic flows
  - £15m public construction costs, £7m subsidies, £27m termination fee
  - Terminated after 10 years
  - Cost of finance/revenues = 50%
  - Additional cost of private finance = 31%
  - Conservative, using high rate of gov interest, excludes financing costs via subcontracting

Risks and rewards

- Little information to assess risks and rewards
- Inadequate reporting by both public and private sectors
- Data is aggregated so cost invisible
- *Freedom of Information* and the *Audit Commission Act* provide little redress
- More information to Credit Ratings agencies for Stock Market than to public
- Little or none *ex post* scrutiny and evaluation
Conclusions (i)

- Some information not in public domain due to commercial confidentiality
- Detailed financial evidence
- Direct and shadow tolls provide similar consistent results re cost of finance
- Private finance
  - Broadly similar results in Spain and UK
  - Confirms the literature

Conclusions (ii)

- Private finance
  - Creates additional costs for taxpayers and users
  - Does not provide additionality
  - Has not transferred risks commensurate with costs
  - Creates additional risks for taxpayers
  - Default risk – government assumes large private sector debt
  - Distorts rational capital programme in favour of roads that can deliver a cash flow
  - Does not provide accountability to the public
  - Unable to see whether public expenditure and investment is sustainable
- Taken together, evidence undermines case for private finance in roads