Financing Infrastructure

Rory Maxwell
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Introduction
The Railway Consultancy provides consultancy services, both nationally and internationally, in the fields of railway planning, operations, economics, management, strategy and training.

Our areas of expertise cover both operational and demand planning, and work is carried out for a range of clients, both in the UK and overseas.

We are completely independent and provide impartial advice to operators, governments and investors.

Rory Maxwell

A graduate of the University of Oxford with almost two decades of global rail experience, focused on operational benchmarking, project risk management and commercial strategy.
Models of Finance
Providing Infrastructure

A wide spectrum of funding models is available

- De-facto Government Guarantee (UK Network Rail)
- Revenue Guarantees (Nuclear Power)
- Commercial Concessions (Channel Tunnel)
- Crossrail land taxes
- MTR / DMRC Real Estate Development
- Commercial Risk (Mobile Networks)

State Investment

PPP

Private Investment
Does it matter how we finance infrastructure?

Infrastructure is permanent, the frequent funding and delivery issues associated with it are temporal.

Scandals about how infrastructure is funded are not new:

• British railway mania (1840s)
• Channel Tunnel (1980s)
• Øresund Bridge (1990s)
• 3G mobile auctions and the internet network bubble (2000s).
Yes – especially when multiple schemes are required

The funding structure dictates the governance and management mechanisms, often with dire consequences.

The cost overruns associated with London Underground’s Jubilee Line Extension in the late 1990’s shook government confidence in traditional financial models and, in turn, catalysed the formation of London’s disastrous PPP schemes.

The EuroTunnel financial debacle set back private investment in infrastructure by at least a decade.
PPP and Risk
The PPP Phase

The promise of the PPP is almost irresistible to politicians.

<table>
<thead>
<tr>
<th>Investment and service provision are bundled into a single long-term contract, usually for 20 to 30 years.</th>
<th>In return for regular payments or access to a revenue stream, the government is relieved of both capital requirements and risk.</th>
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<td>The supposed benefits of the PPP contract, particularly improved VfM, have been almost impossible to verify.</td>
<td>EIB research has shown that PPP does not, overall, enable credit constrained governments to deliver more.</td>
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<td>The diverse consortia that are, by definition, required to deliver all of the skills demanded by long PPP contracts, are inevitably hampered by negative plurality.</td>
<td>Transaction cost economics scale badly and are seen to swallow any efficiency savings promised by the PPP model; at their lowest, they are too high for small contracts, but large schemes requires thousands of hours of legal and accounting support.</td>
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Risk cannot be made to vanish

Not at any cost

London Underground’s PPP contractors ended up back in public hands when the contractors realised that costs would be several £billion above income.

In the nuclear industry, the UK Government has seemed willing to pay any price to absolve itself of delivery risk – mainly by transferring it to the French and Chinese governments in return for £25billion in financial guarantees.
**Government shouldn’t wholly shun project risks**

**What risks is it reasonable for the government to shoulder?**

<table>
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<th>Delivery Risks</th>
<th>Operational Risks</th>
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<td>Design and Engineering</td>
<td>Marketing and Commercials</td>
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<td>Safety and Quality</td>
<td>Macroeconomic Growth</td>
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<td>Scope Creep</td>
<td>Changes in External Policies (labour, energy)</td>
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<td>Pre-existing issues</td>
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<td>Political Problems</td>
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While an infrastructure project may never cover its costs through direct revenue, if well planned, the external benefits should be hugely beneficial for the economy as a whole.

The fear of cost overruns in construction and revenue shortfalls in operation intimidate potential investors, ensuring that wasteful risk premiums are attached to many contracts.
The Current and Potential Market
A market exists for projects with the correct risk profile

But almost exclusively through the M&A and secondary markets

We have seen that many infrastructure assets which governments have floated on stock markets do not offer the sort of growth and return demanded by the majority of investors.

Such assets are, however, increasingly attractive to large pension funds.

Since 2010, Canadian pension funds have invested around US$13bn in European infrastructure assets through the M&A market, often purchasing airports and water companies which were previously floated.

A built, operating, project is, almost always, an investible project.
Why pension funds?

Demographics, regulation and market demand

As populations age and people live longer, pension funds have increasingly long-term liabilities which they must match to long-term assets.

Arguably, there is an insufficient supply of long-term bonds issued by governments and blue-chip companies to satisfy this demand.

Many jurisdictions limit the proportion of a pension fund that can be held in stocks and shares.

Therefore, low risk, stable, long-term assets are in demand, even if the returns are lower than alternative investments.

An increasing trend in some countries towards socially responsible investing further limits the range of investment opportunities available to some of the largest funds.
Selling infrastructure assets directly to pension funds

Baby steps and barriers

The sporadic nature of such deals deters a wide pool of funds from building up the expertise required to vet and select them.

But the appetite is there for the governments willing to lay out a pipeline of projects which are:
- Free of construction risk (i.e., complete)
- Subject to stable governance and clear regulations
- Attached to a steady revenue stream.
At this stage, the only discussion is around price.

Ontario Teacher’s Pension fund bought HS1, on a 30-year concession, directly from the UK government.
The Model and The Opportunity
The proposed model

A virtuous cycle of accelerated infrastructure development and economic growth.

1. Prepare a long-term infrastructure plan featuring distinct projects
2. Fund development and construction of a tranche of projects
3. Competitively tender operating concessions as required
4. With an operator and underwritten revenue stream in place, offer Trance A infrastructure concessions for sale

Recover the majority of the capital costs
What is the size of the opportunity?

Larger than the “Infrastructure Gap”

WEF estimates that, while the world is investing US$2.7trillion in infrastructure each year, an addition US$1trillion is required to support underlying economic growth – this is the “infrastructure gap”.

Pension funds in the OECD countries control US$25trillion and have to invest ongoing annual inflows (US$1.65trillion in 2014).

The funds of the five larger OECD members account for over 85% of funds and are often highly concentrated within those countries.

Building a relationship with only a few of the larger Canadian or Australian funds could enable a large proportion of a region’s infrastructure requirements.
Conclusions
Conclusions

The fastest route to bridging the infrastructure gap involves drawing on the key strengths of government and private finance:

Governments are best placed to both influence and absorb the risks which, typically, cause the cost overruns and revenue shortfalls which intimidate investors.

Private investors have access to capital in the quantities required to transform national infrastructure, but are really only interested in stable projects.

A long-term plan based in initial state investment which is recovered and recycled through structured sales of mature projects is required.