

New models for addressing demand risk in infrastructure projects



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How to address the inherent demand risk in economic infrastructure projects is occupying the minds of the brightest of infrastructure experts in Australia.

These infrastructure projects are where the private sector bears market (demand) risk and revenues are typically derived directly from the users of the infrastructure rather than government. Examples of economic infrastructure projects include tollroads, ports and car parking facilities. This approach to sourcing revenue differs markedly from so-called social infrastructure projects (typical examples would be schools and hospitals), where the government retains demand risk and provides revenue directly through a performance based payment mechanism. The private sector is paid a service payment (or availability payment) by the government subject to the private sector providing the contracted facilities and services in line with the contract standards.

Following the Global Financial Crisis bankers have become more risk averse to investing in infrastructure and have looked for more support from government. This has been particularly evident in the context of willingness to accept demand risk, where the private sector sponsor is not necessarily well placed to assess and manage the risk. Demand for infrastructure and willingness to pay user charges can be difficult to assess as it involves consideration of many factors beyond the scope of the narrow project, such as capacity of users to pay, price regulation, the overall infrastructure supply chain and alternative ways of meeting demand. This has been demonstrated with recent experience with tollroads in Australia, where historically private finance has solely relied upon the adequacy of toll revenue to service debt and provide a return to equity. Real tolls were preferred to so-called shadow tolls, used widely in the UK. However, the success of the Australian real toll model is heavily dependent upon the accuracy of demand forecasts and patronage estimates have proven in certain cases to be highly optimistic. High profile projects in Sydney, such as the Lane Cove Tunnel and the Cross City Tunnel, have failed to

meet expectations with actual traffic at least 30 – 40% below forecast. Equity has obviously been most affected but debt has not been unscathed. And given the long term nature of the concessions and the residual refinancing risk, these problem stories will not quickly disappear. Moreover, the early signs from the Brisbane tollroads, North South Bypass Tunnel, are not encouraging.

Against this background private investors have been loathe to finance infrastructure assets that have demand risk attached. Some say the answer is for the public sector to simply step in and underwrite demand and use so-called availability payment structures as used on the Peninsula Link road in Victoria.

But historically, one of the main drivers for economic infrastructure was to transfer the funding burden from the public sector to the private sector and access additional funding that is truly off the Government balance sheet. Indeed the six privately financed tollroads in NSW would never have proceeded under an availability based model with all the debt on the State's balance sheet.

This objective to secure additional funding also applies to other types of infrastructure such as hospital car parks and student accommodation, where the user pays charge (car park charges and rent respectively) provides a third party income stream which can amortise capital. Indeed in NSW, hospital car parks are expressly not to be funded out of Health capital budgets with preference for BOOT style private financing. Similarly, universities are focusing on deploying increasingly scarce capital for educational purposes and trying to outsource student accommodation to the private sector with transfer of funding burden.

The distinction between economic and social infrastructure becomes blurred when a project such as a convention centre, becomes subject to both Government use (paid through a service payment) and third party revenue. In this instance the private sector is motivated to generate the maximum amount of third party revenue so as to reduce the cost to Government. Moreover, in the case of public transport projects, the private sector can bring innovation to drive advertising and property revenues, and thereby reduce the cost of fares.

Moreover, even when projects are structured on an availability payment basis, there may still be a need to assess demand risk. The availability payment mechanism may be structured to provide a capital recovery element to provide greater certainty of ability to service debt but leave equity partially exposed. This could also be achieved either through a KPI regime, whereby availability payments are abated if patronage is low, or straight financial incentives linked to patronage.



This raises the question what can the private sector reasonably be expected to do to increase patronage. But the objective is more to align private sector and public sector interests rather than allow the private sector perversely to benefit from lower maintenance costs, consequent upon an under utilised facility. Finally, infrastructure can have greater appeal to equity when investors have the scope to generate upside returns through higher utilisation as the economy grows. Conversely, pure availability payment based infrastructure, provides limited upside as investment is narrowly focussed on maintaining assets and delivering services to meet a specific contract's obligations.

The impact of a more risk averse approach by bankers will undoubtedly constrain the amount of private sector capital that could be contributed for the funding of tollroads. This applies if the funding model was to be undertaken with the projected toll revenue stream providing the source of repayment. Bankers will focus more on downside demand scenarios and question the robustness of traffic forecasts. More rigorous analysis will be required of factors such as customer willingness to pay tolls, demand elasticity, justification of the value attributed to time travel saving, and alternative transport modes. More conservative financing parameters such as debt sizing ratios, gearing, and debt tails will be adopted. The inevitable end result will be that Government will need to supplement private sector capital and explore with the private sector how public funding can be best structured alongside private sector capital. This has already been implemented on other completed deals like the Airport Link in Brisbane, where the State and Council contributed funding for part of the capital works. This does potentially transform the risk profile for Government and additional safeguards are required to avoid the public sector co-investing in poorly structured private projects or taking on unreasonable termination liabilities.

But there are other ways to deal with demand risk that allow the sharing of risk and also leverage private sector capital. Here, we explore three innovative financing models that allow the public and private sectors to forge efficient partnerships and enable a robust pipeline of economic infrastructure to be built around the country without delay. Importantly, these models allow the public sector to provide capital that can also earn a potential return and be recycled.

Model 1: Public sector subordinated notes

Aside from mitigation of demand risk one of the key considerations to be made in financing economic infrastructure projects is how public funding can best be structured alongside private sector capital. There is a need for more innovative funding solutions to ensure the public sector is treated as a true partner of the private sector with consideration of how public sector capital is secured and ranked alongside private sector debt and equity. Simple provision of public sector grants does not meet these goals.

In the aftermath of the global financial crisis demand risk financial models are more conservative. The heady days of complex financial engineering are gone meaning lower gearing and downside scenarios dominate the banker's mindset. Therefore, there is now more scope for upside performance through

financial restructuring when the riskier build and ramp-up phases are completed. Once traffic has stabilised and construction risk overcome, these projects present stable cashflows with limited risk. Consequently a higher level of gearing should be possible and the equity return requirement should be lower commensurate with the derisked project. The result is a lower cost of capital and a financial gain.

Critically the public sector needs to participate in this future upside as the public sector capital contribution contributed to the derisking of the project. This means utilising more complex funding instruments rather than simple upside sharing of revenue. One way to achieve this is through government-issued subordinated notes. In Spain toll roads have been funded partly through participating subordinated notes that gave the public sector the right to receive returns. On earlier Sydney toll roads like Sydney's M2, the Roads and Traffic Authority had the right to receive payment of promissory notes but only when an equity hurdle rate of return was achieved. Similar models can be adapted to suit the current economic climate.

Let's say \$3 billion capital is needed to fund a toll road. Assume that \$1.5 billion of debt and equity can be raised from the private sector to fund the project, with the remaining \$1.5 billion required from the public sector. The public sector contribution to the project funding could be structured as subordinated notes. The return on the private sector investment would come from the revenue produced by the toll road, on the back of a conservative assessment of patronage forecasts. Any toll revenue surplus should be shared disproportionately with the government, allowing participation in any future upside traffic performance. Moreover, the reduced risk profile together with upside performance would enable realisation of revaluation and refinancing gains and these could be directed to partial repayment of the government subordinated notes. This model might suit funding for otherwise stalled toll road projects such as the M4 East in Sydney.

Model 2: Public Sector Development Company

For those situations where it is almost impossible to secure any private sector funding for infrastructure projects on reasonable terms, an alternative option would be for governments to step in and take responsibility for the project during the development stage. The intention would then be to refinance the project with private sector capital after it is built and revenue streams have been proven.

An example might be the development of a university student housing project. A university could set up a special purpose company funded with debt and equity sourced by the university to develop the project – let's call this entity Student Accommodation Company. When the underlying housing is built and the rental income paid by students is established, the university could look to sell Student Accommodation Company to the private sector. The risk profile of the project has been mitigated and the realisation of the consequent uplift in value goes to the university.



The university will be exposed to the development risks but one way of mitigating this would be to partly fund the build phase with private sector debt and bring in the associated financial discipline.

In effect the Queensland state government has used this model with Queensland Motorways to fund projects like the Gateway Bridge Upgrade and is now turning to the private sector through the asset sale process. A similar structure for the M4 East in Sydney could see the formation of NSW Motorways along similar lines. NSW Motorways would be a state owned corporation tasked with the development of the M4 East and let out a Design, Construct, Maintain Contract. It would be financed with public sector debt and equity and be structured along commercial lines aiming to replicate the private sector. Consequently, NSW Motorways would be provided with an arm's length concession. Tolls would be set to provide a viable finance plan. Subject to the construction works being satisfactorily completed and the actual traffic reaching a stable level, steps could then be taken to sell NSW Motorways.

Model 3: Public Sector –supported Super Fund Vehicle

The third model aims to tap into superannuation funds. Super funds are conservative investors and have been burnt in the past by investments in greenfield infrastructure assets such as the Lane Cove Tunnel, where they have taken on construction and patronage risk. This makes super funds more inclined to invest in brownfield assets – that is, developed assets that have been built and achieve stable revenues. Due to their long-term investment horizon and conservative risk profile super funds are the logical long term investors in economic infrastructure assets

Under this model the public sector might co-invest equity alongside super funds and provide revenue guarantees over the asset for a period of time. The guarantee would fall away once certain revenue thresholds have been met, which could be three to four years after the new infrastructure has been opened. Here, the public sector is simply providing a bridge for private sector finance.

The time for action is now

With overwhelming demand for the pipeline of infrastructure assets to be accelerated around the country implementation of any of these models will go a long way toward leveraging private sector investment in economic infrastructure assets and allowing the government to both recycle its capital and share in future recovery of financial markets, while at the same time addressing demand risk.

We need to retain the users-pays principle by charging users for use of infrastructure. This provides the benefit of enabling “non-Government” funding to be raised. But also leads to proper market based pricing signals being employed, which drives more efficient utilization of infrastructure. It is a shame that the removal of the tolls on the M4 represented a lost opportunity to raise funds for investment in public transport infrastructure. And despite now having universal adoption of sophisticated electronic tolling, Sydney Harbour Tunnel represents the only example of time-of-day pricing.

We will see more rigorous due diligence on projects, as well as a more detailed, shared understanding between the public and private sectors of the key drivers of demand and this will help in encouraging the development of infrastructure assets on a true public private partnership basis.

In the future we will see more conservative finance plans and we must expect that, project agreements will be negotiated to mitigate demand risk and incorporate mechanisms to expressly protect private sector investment. For example, if universities outsource student accommodation to a provider, then the university must reasonably support the supply/demand balance by not providing mandates to other providers on preferential terms. Moreover, if demand due diligence identifies specific possible events that can be influenced by the public sector that affect demand, then provisions to expressly protect private sector investment against such events will need to be explored. Again an example might be a university deciding to relocate to another campus. The private sector will rightly feel aggrieved if left with a stranded asset. Moreover, the commercial framework should incentivize the public sector to partner with the private sector in mitigating the impact of those risks.

But, as the above models show, there are ways to incentivise the private sector to partner with the public sector, and at the same time mitigate the impact of demand risks and allow both parties to share in upside. Such new thinking is needed to get the next wave of infrastructure assets off the ground.



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