

Private and Public Partnership (PPP) infrastructure delivery models - Do they require revisiting ?

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Abstract

Since 1980, Private Public Partnership (PPP) infrastructure delivery models have been often used for the delivery of both economic and social infrastructure. Among the pioneering applications have been some very large transport projects.

However, with the Global Financial Crisis (GFC) and the recent failure of some of the major tollway PPP projects in Australia, the private sector's appetite for such projects, and hence private investment in infrastructure generally, has fallen.

Some of the issues that have led to the loss of interest in these projects are not unique to transport and has affected other portfolio areas. Therefore, it is imperative, that an appropriate assessment of the underlying reasons for the failure is undertaken (including any lessons learnt) and of the potential to beneficially vary PPP structures for transport, and other sectors.

This paper explores some of the potential opportunities to improve the performance of PPP projects that may assist in removing some of the constraints and in jointly encouraging justifiable government support and private investment.

Finally, the paper proposes variations to the current predominant financial structures based on our own direct, necessarily limited experience, that should be further investigated and which may assist in the achievement of the desired objectives of both the government and the private sector in the future.

1. Introduction and Background : 1980s to now

PPP style contracts are extremely complex as they require the provision of contracted services over at least 20 years. They also require investment decisions supported by sound governance, a suitable delivery model and comprehensive due diligence. Meticulously executed, such support will assure the effective and efficient delivery of infrastructure and services to the government sector during which time the asset constructed is owned, controlled and financed by the private sector. In addition, such arrangements commonly also require multi-party negotiations between and within the private and government sectors - no small task.

In the 1980s, many countries and Australian states started to experience increased budgetary constraints and were finding it difficult to finance the upgrading, renewal and modernisation of public infrastructure to meet community service requirements, either from tax revenues or from additional borrowings. Sound familiar ?

Consortia of construction companies, financiers and other service providers (and the governments concerned) resorted to project financing techniques (Doyle 2003) ¹ in which the construction, operating, maintenance and financing costs of transport, water and electricity infrastructure could be progressively paid off by the governments without increasing conventionally reported government debt and at the same time achieving government

¹ For a good, succinct description of the technique involved

desires to renew, upgrade or modernise the infrastructure and improve service levels (Court 1982)².

This was a new era when some currencies were floated, investment capital was available across borders and interest rates found their own levels. In addition, rating agencies assessed private financing arrangements and sovereign debt issuance, estimating and publishing their assessment of the relative probability of repayment default.

Projects like the Melbourne Underground Rail Loop, the Westgate Bridge and the Sydney Harbour Tunnel experimented with ways to remain outside the Australian Loan Council borrowing limits, but were only temporarily successful³. By the early 1990s, the first PPP style contracts between Sydney Water and the private sector owners and operators of water treatment plants were signed in New South Wales.

At the same time, the attitude of lenders and loan arrangers to financial (and other) risk allocation in the early 1990s (Brearley and Myers 1991) began to converge contemporaneously with project managers' views (RAMP 1998). Of course, each consortium member and the sponsoring governments interpreted the conventional wisdom in their own way with investors, operators and governments particularly expressing their "appetite"⁴ for risk along a continuum from :

- conservative, government Treasuries which remained extremely cool towards the idea; to
- more optimistic, managerialist government leaders and advisors who saw PPP style approaches as to be seized avidly for the fiscal advantages they offered.

No one can reliably forecast the future, but all must have some scientific basis for handling risk and reward. During easy times an uneasy acceptance of prudent investment and management prevailed where the "party best able to manage etc"⁵ was interpreted in various ways⁶, even for example, to the raising of additional equity capital for the 2000 Olympic Stadium in the late 1990s by the sale of units in the Stadium Australia Trust and shares in the operating company. Here, supportive risk was assumed by additional equity contributors to reinforce the lenders of term debt and to relieve a government that didn't want to own and operate the assets or manage the site after the Games – only to rent them for the 15 days of the Olympiad.

In Australia after 2000, this approach continued, incorporating British PPP style features in contract arrangements and in analysis techniques for social infrastructure initiatives which

² The overseas predecessors are described in Colley B Court Jr : National Development (USPS 930 – 960) "Structuring Project Financing" Intercontinental Publications Inc Westport Conn. Jan–Feb 1982

³ The most famous Australian government reaction to these attempts, which prompted the introduction of the anti avoidance provisions of s51AD of the Income Tax Assessment Act 1936, was provoked by the aggressive taxation approach of the Eraring Power Station project's financing arrangements.

⁴ If not literally – a desire – something they all sought.

⁵ The formula appears to have been appropriated by early writers in UK PFI articles in the early 1990s but the expression also appears in earlier Australian publications eg NSW Parliamentary Public Accounts Committee reports and discussion papers.

⁶ At one point the Australian Loan Council even briefly required a numerical risk weighted estimate of the contingent liability of State governments that entered BOOT schemes as a footnote to the annual estimate of each State's Loan Council Allocation. A description any such project is still noted in the year the contract is signed.

were designed to achieve, among other things, a particular accounting outcome that didn't breach Maastricht Treaty obligations ⁷.

Although this was not in itself an Australian issue ⁸, Australia followed what came to be considered a norm under such arrangements. All went well until the collapse of Lehman Brothers, an event which marked the onset of the Global Financial Crisis in 2008. However, it is the strong view of the authors that this coincident loss of interest in public asset creation through PPPs after 2008, cannot be explained only by this single, remarkable event.

2. The current issues

On reflection, one can see that the earlier PPP models already needed some changes anyway and, more importantly, that in the post GFC world, PPP projects (transport and others) will have to be structured differently from the arrangements that were popular before 2008.

To develop a sound provisional framework/approach to PPP projects, we believe that there is a need to focus on basic procurement principles and policy. For an effective, innovative and efficient delivery of any infrastructure project, including the achievement of the sponsoring government's objectives, the following three fundamental success factors require review and clear understanding. In time they will need deeper research but that will take a long time. Deep or provisional, these fundamental success factors are:

- sound governance, including risk assessment and allocation;
- a suitable model of delivery: and
- comprehensive due diligence and analysis.

A greater focus on these three issues alone would greatly assist government's consideration of private sector financing and innovative solutions which in turn will enable government to provide more cost effective services to the community and infrastructure that is critical to the growth of every economy.

Issues we have identified as requiring reconsideration include :

- risk allocation;
- risk measurement process and methodology;
- risk pricing;
- making government infrastructure attractive to superannuation funds;
- bidding costs for the private sector;
- alignment of government and private sector objectives;
- debt/equity structure; and
- governments' expectations and contributions.

The common thread in all our suggestions is that the tendency to hand away overall control and operations for 20 – 30 years ⁹ to a single, "private sector", often financier led, consortium

⁷ If a standard contract between the private sector party and government was strictly followed (HM Treasury 1991) , a particular accounting treatment resulted in including the assets on the private sector party's balance sheet and not the governments' balance sheet at a time when the UK were near the limit of the so called "golden rule" ratio of public debt to GDP.

⁸ Commonwealth Treasury though continued to be concerned (even more so after the publication of the encyclopaedic 1999 Ralph Committee Inquiry report : A New Business Tax System that some large State government infrastructure items may have been masquerading as private sector assets with allowable income tax deductions.

⁹ The Eastern Distributor tollway in Sydney has a 48 year concession term (lengthened 10 years during closing negotiations in exchange for, amongst other things, a design alteration requested by the government.)

may rarely be as good for government (or the public) as a process in which there is a series of periodic reviews (including the refinancing of the project) of what is effectively a large, ongoing business – ie where, the equity investors take significant risks, the debt financier rarely does and, as they both stand to lose a lot, that they assess the investment rather like a merger/acquisition of a business or the start up of a new division of an existing enterprise.

3. The current structure

Critics, that have questioned the true motive for employing privately financed asset creation strategies ¹⁰, have often pointed out that 30+ year contracts are very long term arrangements, which may not provide any real benefits to governments if circumstances/underlying assumptions changed markedly over time.

The authors concede this criticism. More importantly though, it is hard to feel that the once for all contest to select the best designer, constructor, financier, operator consortium ¹¹ may not only be a bit rigid in the face of changing circumstances, but that the opportunities for optimising each of the many occasions in refinancing, refurbishment and entry and exit of owners may be prematurely closed or their impacts blunted with the signing of such a long term contract. Given that transport and traffic infrastructure touches, intersects with and has underpinned the development of its environment throughout all history, more flexibility may be desirable.(Mumford L 1961, Ch 11, and Huxtable A L 1972, Part 1).

A second issue, embarrassing at times, are the high fees charged by finance arrangers. The current delivery model is utterly dominated by large investment banks/financial arrangers which charge very high fees. In addition, once the asset is constructed, it is normally transferred to a fund owned and/or controlled by the financier ¹². The ongoing management of the PPP transaction is often undertaken by a subsidiary of the financier and the management fees are also high – again translating into high ongoing fees to the investment banks/financial arrangers. Risk allocation and hence risk pricing is currently **determined and fixed upfront** as part of the tender/contract award process even though the concession period is 20 to 30 years or more. The interpretation of “change in circumstances” clauses in the legal documentation is open to a variety of interpretations.

Finally, the equity required of consortia members is generally low and hence there is often low commitment to the project in terms of improving efficiency. There is also evident the common distinction between passive investing and active ownership - higher levels (than previously) of equity stakes in PPP “business” opportunities are definitely desirable.

3.1 Risk allocation

Hitherto, government agencies have pursued either “joint financing arrangements” ¹³ with private sector parties or legal partnerships of a variety of types including joint ventures ¹⁴ depending on whether :

¹⁰ ie **not** cheaper finance, **not** access to loan funds in times of tight credit, **not** a version of “releasing” the value of a public asset via privatisation, **but of** actually receiving the services from an owner, builder, financier, operator consortium that signed up to supply services of a defined standard, handing back a properly maintained asset at term to government.

¹¹ For example, the winning bidder may have the best all round team score on financier, design and operator but the best builder may be in a losing tender – or vice versa.

¹² The most recent of NSW's tunnel tollways – the 2004 Lane Cove Tunnel – was initially debt financed from the capital markets (underwritten by ABN/ARMO, guaranteed by MBIA Insurance Corp and secured by a JP Morgan subsidiary) for the whole term giving bond holders (or traders) scope for gains through subordinate transactions over the term.

¹³ As that term is understood in the pioneering definition in section 5A of the NSW Public Authorities (Financial Arrangements) Act 1987 and in which **risks are allocated** to one or the other of the government and private sector parties.

- Treasury was ascendant at Cabinet insisting that a principal and agent arrangement offered a better chance of economy and cost containment in procurement and precision in final results, or
- the department or statutory authority, within the control of the relevant portfolio minister, convinced the government that more was to be gained by a collaborative arrangement, and that a joint venture should be employed.

Blind adherence to the initial budget estimate (“set and forget” for 30+ years) or to excellence at any cost (estimating the cost together and sharing the pain or gain as the time goes by of being wrong) leads to consistently choosing one approach over the other, while overlooking the intermediate possibilities of the type encouraged by the authors of this paper.

3.2 Risk measurement process and methodology

Risk analyses of PPP projects are routine these days and are undertaken by government at the outset as the foundation of the assessment of proposals for their suitability for PPP delivery in the first place, and in establishing the scope for private sector vehicles to profit when acting as an agent of government.

Variation bounds are placed around all key estimates/assumptions by ad hoc expert committees reaching consensus and having regard to surveys and growth forecasts and past experience. These become the basis for establishing the government's pre tender strategy and pre negotiation stance or starting point. The mismanagement of risks in a number of early 21st Century tollway tunnels are well known (Goldberg 2006) but only sometimes analysed, understood and reported.

Moreover, the risk analyses are rarely revisited thereafter, unless the project struggles for some reason and the private sector operator approaches the government with a proposal to significantly alter the contract. The recent failures of some tollway PPP projects have demonstrated that such projects were based on very optimistic traffic assumptions¹⁵ and to make such projects viable in the future, the process, methodology and risk sharing must be systematically and periodically revisited to make certain the risks and their underlying assumptions haven't changed significantly.

3.3 Risk pricing

Conventionally, social infrastructure programs and projects are delivered in stages over time but, as with tollways and public transport services, debt pricing and fee structures are fixed at the outset. An alternative fee structure might be a series of different fees bid progressively over time by a Special Purpose Vehicle (SPV) company selected in an open two stage competition to manage the overall delivery of the whole project.

If, after the finalisation of design¹⁶, the actual required investment is less than the initial estimate, then the government might consider sharing the benefit on a pre agreed basis. However, if the out turn cost and investment required is higher than the initial estimate, then the financier could take the risk.

¹⁴ Also as that term is understood in another pioneering definition in Part 2D of the NSW Public Authorities (Financial Arrangements) Act 1987 and in which **risks are shared** between the government and private sector parties.

¹⁵ Again, the ill fated Lane Cove Tunnel initially reported incredible economic Benefit/Cost ratios of 5:1, discounted at the Treasury mandated 7% for the project, however financed. At the time this may have just been interpreted as a green flag to advance, when perhaps it should have been seen as a signal that deeper investigation was necessary. Projects with genuine ratios >2:1 are rare.

¹⁶ if a Partnership/Joint Venture/Alliancing approach

The project manager would seek tenders for the construction of each asset or each package of works. The financier could either provide the debt or seek financing from other financiers by either seeking tenders for debt funding or on-selling of their debt.

Even if a “joint financing arrangement” structure was adopted, the debt funding costs should be determined at the time of bidding **for each** package of works rather than fixed for the whole 25-30 year period. The manager can either provide facilities management or seek a facility management tender for 5 years (say) at a time to ensure that lessons learnt, performance and progressive understanding of risks are factored into the next tender price.

It would be the responsibility of the SPV Company to either seek tenders or provide facilities management services at the expiry of each tender for each stage or package of works.

Once a stage or a package was constructed, financed and being managed, tenders for the next package or asset could be sought ¹⁷.

3.4 Making government infrastructure investment attractive to superannuation funds

As a result of national policies to establish self sufficiency in retirement and “relieve the fiscal burden” of a century old aged pension scheme on Consolidated Funds, superannuation based savings schemes have accumulated a huge ¹⁸ and growing “pool” of investment savings over the last two decades.

Pension plan investment strategies commonly seek to match investment income and payment obligations over very long periods. PPP Infrastructure projects with 25-30 years contractual arrangements are an ideal investment for such super funds. However, this requires not only a proper risk allocation and pricing, but investigation of whether they can be made attractive to local superannuation funds and foreign pension plans ¹⁹.

3.5 Bidding costs for the private sector

Because currently there is one big opportunity to win, stakes are high and bidding costs for all bidders are high. ²⁰ To be fair, bidders are however especially concerned with the amount of detail that needs to be developed and provided as part of the bidding process, and the associated costs of providing this level of detail.

As these projects are complex and may involve a number of service providers, the private sector is also concerned with the time government takes in evaluating tenders and reaching a final decision.

Both the government and the private sector need to focus early on the required outcomes and objectives and then work together and establish information requirements that are critical to the project, ensuring that such requirements are not too prescriptive.

¹⁷ A slight variation to the above mentioned model is that if the debt funding is not guaranteed for the whole program at the concept design phase, the investment requirements could be determined on an asset by asset basis once the design is finalised, and tenders for construction and financing can then be sought for the delivery of **each** asset.

¹⁸ Superannuation funds under management in 1990 were \$68 trillion and by (March) 2013 this had grown 21 fold to \$1456 trillion (ABS Item 5655.0 Managed Funds). Even allowing for movement in the implicit GDP deflator over the period, the growth had been a massive 10 fold increase in real terms.

¹⁹ For example, a practical expedient may be for the government to supply a guarantee of CPI indexed returns to match the pension scheme obligations to pay indexed pensions under defined benefit schemes.

²⁰ Not hundreds of millions but certainly tens of millions of dollars for each bidder, and in addition, for the government as well. The winning bidder builds the expenses into his price – the losers have to hope for a win on another day.

3.6 Alignment of government and private sector objectives

Markets do organise the attainment of each party's objectives, often, but not always, optimally. There are cases where it almost seemed as though the government side was simply keen to vacate the field to a private sector agent, never to return to the activity ever, leaving troublesome and costly, detailed operation of public services to the private sector.

While project specifications and outputs are important for a successful delivery, the underlying commercial, financial and economic arrangements go to the heart of every effective contract.

To attract the right investors and operators, it is imperative that PPPs incorporate realistic assumptions for commercial, financial and economic conditions that are clearly defined. The more prescriptive the asset requirements (eg building standards, service standards, design stipulations, maintenance methods etc) the higher the bid costs and the less likely there will be innovation in the private sector proposals ²¹.

In other cases, genuine, natural harmonisation of objectives may be possible, whether the projects are big or small and sometimes even without bid rivalry. These opportunities are rarely even discussed. We do not intend to dwell on them in this paper as their decisive aspects are often not financial²².

Finally, in the past, a number of policy and economist commentators when referring to items in the blurred areas, have remarked on the advantages of early government involvement in establishing the assets, followed by the long operating phase, (with the big finance “sold away”) after the initial biggest risk to the project overall, was over (Graham DJ 2005) . Such a strategy can supply as valuable a contribution to “joint financing arrangements” as revenue diversions, asset donations, works in kind, or direct subsidies.

3.7 Debt/Equity structure

If the services government required of a PPP contract were viewed by government as a business opportunity (that it was selling to another “firm”), it may, as in privatisation (eg of government banks, insurance companies, auctions of gambling licences, mines and electricity generators etc) have little ongoing interest in the assets after the contract was signed.

But in most PPP opportunities there **is** an abiding interest in the activity itself. It may be a blurred line at times, but an abiding interest nonetheless – social and personal mobility with transport infrastructure, public health and welfare in water supply and education, care of those in custody in prisons and asylums, and so on. An independent regulation by government may not suffice.

Under the improved financial structure the authors are recommending, in which pricing is not fixed upfront, but bid progressively over time, there would be:

- a minimum or a specified equity contribution to a builder/operator/financier SPV consortium, that would engage a “whole of project” manager – say, 30%;
- tendering by the manager of the construction opportunities project by project, stage

²¹ Possibly overstated by PPP enthusiasts. Two practical observations, from the last 20 years experience. First, to the extent that there will be operation by government, there **will** generally be more prescription, but not always, and second, the number of successful examples of really big beneficial innovation are few. These effects are likely to be more evident in the next 20 more highly competitive years.

²² Examples include the very low cost, short term Sydney Water contract for a Worm Farm sewerage treatment process (minor debt financing required), the \$100m Colongra Gas Pipeline where the allocation of infrastructure connection risk was more securely and more economically borne by the powerful, private sector party owner, AGL-Jemina, and, initially almost irrespective of financial issues, the largest link of the Western Sydney Orbital, the very successful M7 tollway, where the toll and traffic volume **was** commensurate with private users’ valuation of the benefits.

by stage, package by package, financed either by the financier or by seeking debt funding from another source;

- sharing between the consortium and government of savings to an initially negotiated **total project** ²³ cost estimate, but importantly;
- assumption of responsibility for a higher outturn cost and investment by the SPV; and
- debt funding costs determined at the time of bidding for each, and “each next” subsequent stage/package of works.

3.8 Governments’ expectations and contributions

Things rarely go exactly as either side expects at the time of the initial agreement. Multiparty negotiations can arise again if the project company gets into financial difficulties²⁴, if the owners change²⁵, or if policy changes unexpectedly ²⁶ - in many ways. These sorts of outcomes are always possible, but their detailed discussion must wait for another occasion.

However, the authors contend they will occur less frequently in the future if the approaches suggested herein are part of the PPP plans of both sides, and even if they only constitute a new strategy in the minds of government transport planners and economists.

Right now examination of ways to:

- better align the objectives of both the government and private sectors;
- investigate how to attract the investment of more superannuation savings in PPP initiatives;
- reduce the finance costs of large PPP projects with a segregated delivery model where finance is uncoupled from project management;

would be an immediate tangible improvement. They seem to be the areas where our next efforts should be concentrated. At root - we are all economists.

4. Conclusions

Future projects could come from many quarters, realising government objectives for :

- revenue protection (public transport ticketing, tax collection);
- public health outcomes (water supply, health services); and
- better management of maintenance costs and asset standards (throughout transport and traffic, education, public administration accommodation),

but transport opportunities are evident in every conceivable category, including transport of materials (eg gas, oil, minerals, water, electricity etc) by their relevant transmission networks.

²³ a total of all stages or phases to completion.

²⁴ Metro Transport Sydney Pty Ltd that owned the Sydney Light Rail Company that owned the Ultimo Pyrmont Light Railway and its subsequent extension to Lilyfield assumed the debt of \$80m when the initial debt supplier Dresdner withdrew from Australian operations. Between 1997 and 2000 MTS had received valuable assets from government in the form of a gift of a disused double track freight line (with high quality tunnels and viaducts) and a cash contribution of about \$20m. Acquired by the state government for \$20m in 2012, it had accumulated losses of \$78m in 2006-7, the last ASIC filing before its deregistration. Revenues however covered operating costs in most years.

²⁵ The New Southern Railway linking Central to Sydney Airport and the East Hills line became an asset of the National Australia Bank in 2005 after the failure of the Airport Link Company was resolved by the Amended Stations Agreement 2005.

²⁶ The introduction of the “cash back” reimbursement of private motorists’ M4 and M5 tolls after 1995 (a promise of the 1995 NSW election victor) was paid directly to the road user, but coincidentally beneficially altered the owners’ financial risks.

Perhaps because many senior decision makers have not moved beyond thinking of PPPs as **a source of finance** (above and beyond normal parliamentary appropriations – which they never were) governments have been slow to dissociate the traditional elements of the typical long term service contract from the big, “one shot” financing commitment feature, when they might have. A relay of bidding contests might have given government a welcome share of the inevitable ups and downs of financial markets and other negotiating benefits over the life of such long term contracts.

Finally, our best single piece of **practical** advice is - don't start with a version of the contract that was used in a similar case, last time. Figure out what you want from the arrangement, first. Most of our other suggestions mentioned above, generally flow from that.

If our paper has done nothing else, we can hope that its message will spread through government advisors who have read this paper, and have then thought about the proposals we've described.

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