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Developing a governance model for PPP infrastructure service delivery based on lessons from Eastern Australia

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Abstract

Public-private partnership (PPP) concession agreements are awarded by National, State and local public agencies that contract with private companies to finance and deliver infrastructure as a long term service to governments and their citizens, rather than having the private firms design and build infrastructure assets to be financed, operated—and, hopefully, maintained—by government. PPPs are similar to the emerging model of selling business or personal software as a cloud-based *service* (SaaS) rather than as a *product* licensed by the user—a model that that has transformed and disrupted the enterprise software industry. Australia is a world leader in PPP infrastructure delivery, and has had over two decades of experience in delivering civil and social infrastructure services to its citizens via PPP concessions. Along the way, the public and private participants in infrastructure PPPs have developed practices and a mature institutional framework necessary for this kind of long-term, risky public-private commercial partnership. This study reports the findings from in-depth interviews with 25 senior executives of public and private participants in PPP infrastructure projects from the three Eastern Australian States with the longest history of PPP delivery. Based on the results of those interviews, we develop a governance model for infrastructure service delivery: the government selects infrastructure projects, guided by a non-partisan, expert infrastructure prioritization panel, and contracts for the delivery of these prioritized infrastructure services with a private concessionaire financed by long-term institutional investment capital. The concessionaire is a private entity in charge of financing, designing, constructing, operating, and maintaining the infrastructure service. The government supervises the infrastructure service, to safeguard public interest. The government also provides an institutional framework, with contracts and authorities necessary for the interaction between the public and private actors.

Keywords: Alignment of interest, Conflict of interest, Governance, Infrastructure, Institutional investor, Investment bank, Public-private partnership, PPP, P3, Pension fund, Pension fund aggregator, Infrastructure developer, Structured finance, Relational contracting, risk allocation

Introduction

A great deal has been written about the pros and cons of delivering civil and social infrastructure services via public-private partnership (PPP) concessions (Tang et al., 2010), but much less about the governance challenges arising from potential conflicts of interest between the various public and private parties within different phases of

PPP infrastructure projects over their 25-year or longer life cycles. The early phases of PPPs involve planning and selecting which infrastructure elements to develop, a very different phase from the infrastructure design and construction phase, which, in turn, is very different from the operations and maintenance phase. In PPP infrastructure service delivery, the public and private sectors both need to be governed for coordinated and aligned work over these very different lifecycle phases. The governance challenge is that the goals and practices of public and private sectors differ significantly; at the same time the set of participants changes across the lifecycle phases (South *et al*., 2015). The public sector focuses on how the system surrounding the infrastructure service leads to distribution of public utility, whereas the private sector takes the public utility as a given, and focuses on how to deliver the service as efficiently as possible, and make financial gains (Tang et al. 2010; Rufín & Rivera-Santos 2012; Liu et al. 2014; Kwak et al. 2009).

This paper summarizes insights about PPP governance challenges and the lessons learned from more than two decades of experience with alternative governance approaches confronting economically, environmentally and socially sustainable selection, investment and delivery of infrastructure in three Eastern Australia States (Victoria, New South Wales and Queensland). We chose to study Australia, because it is one of the most experienced countries with respect to governance of PPP infrastructure service delivery. We discuss and draw insights about the following four areas of governance:

(1) Prioritization of Federal and State funds to address the wish-list of infrastructure needs and desires of all regional and sectoral claimants for new or enhanced infrastructure services;
(2) The procurement process to short-list and select concession companies, termed special purpose vehicles (SPVs) to deliver PPP projects;
(3) Internal decisions of the SPV board and its key executives over the lifecycle of the concession; and
(4) Contracts between the SPV and its construction and operations contractors.

These empirical observations of current practice suggest that public utility, institutions, and coordination issues are of importance for PPP infrastructure service, and lead us to form a governance model for infrastructure service delivery.

Research methodology and approach

The insights presented in this paper are derived from a set of semi-structured interviews that the first author conducted with more than 20 senior executives drawn from key participants in PPP investment and delivery — governmental PPP bodies and infrastructure agencies, pension funds and aggregators of pension funds, infrastructure developers, investment banks, investment arms of construction firms, lawyers and bankers — over a 2-week period during December 2015 in three Australian States: Victoria, New South Wales and Queensland. To encourage free-flowing, candid discussion, interviews were not recorded. Extensive notes were taken, coded, redacted and analyzed. The insights about ways to mitigate the significant governance challenges of PPP delivery that have

evolved from this shared experience over more than two decades can serve to generate a set of focused research questions for academics to explore in greater depth, and provide high-level guidance to federal and state agencies in countries like the US that have had far less experience delivering infrastructure services via PPP concessions.

Key findings from interviews

National infrastructure need prioritization

Australia's national Parliament has created an infrastructure agency to help it develop a prioritized list of national infrastructure needs. The agency is called 'Infrastructure Australia', and it has a mandate to prioritize and advance nationally significant infrastructure, and to advise government at national and state levels. Like similar agencies created in the UK and elsewhere, a group like this provides some influence over which regional or sectoral projects will receive national funding, but it is challenging to insulate this kind of professional bureaucracy from high level political pressures when the party in power in the government changes, or when new projects that were not previously prioritized are proposed by state, municipal or regional governments, or presented as unsolicited proposals by private infrastructure concessionaires.

The Australian government uses "Value for Money (VfM)" analysis as an important evaluation tool in the infrastructure needs prioritization. The VfM calculates the total expected costs for construction, operation and maintenance of an infrastructure asset over its lifecycle. The calculations are done for public financing and private financing, and then the two are compared. In this comparison, public financing bears lower interest rates than private financing in most developed countries that have sound credit ratings. So, in order for the PPP alternative to be selected, the savings to the public through greater efficiency and quality of design, construction, operation and maintenance, as well as from the expected value of the risks of construction cost overruns and user demand shortfalls that the government can shift to the SPV under a PPP concession regime, must exceed the PPP's higher financing and transaction costs.

The application of this VfM process has been criticized in Australia because of the difficulty entailed in capturing the full cost of public financing and public procurement and supervision of design and construction. Moreover, public maintenance is seldom provided at the same level of quality as what is required in PPP agreements. Thirdly, determining the expected value of risk transfer for construction cost overruns and user demand shortfalls requires considerable judgment.

State-level governance issues

Three Australian State governments—Victoria, Queensland and New South Wales—have established independent statutory bodies to prioritize statewide infrastructure needs; legislators will still make the final calls on funding projects but cannot easily ignore these priorities to favor regional or other special interests. To the extent that these agencies publish and widely disseminate their prioritized lists of statewide projects, it becomes increasingly difficult for the legislature to ignore their rationally prioritized projects and justify to the public investing in a lower priority project, or one that has not previously been considered.

Sponsors of unsolicited, "market-driven" PPP proposals must justify sole-source negotiation between the government and the SPV rather than an open call for proposals based on a project's "uniqueness." These proposals have only occasionally been accepted; and virtually all of the handful that have been accepted thus far involve expansion of the scope of existing assets. The perceived difficulty in managing the interface between the entrenched concessionaire and a new concessionaire whose construction or operations might interfere with the existing concessionaire's operations has been the main justification for claiming "uniqueness" that has been accepted thus far as a basis for sole source unsolicited proposals. This "uniqueness" criterion clearly runs the risk of increasing the concentration of ownership of infrastructure concessions in a given sector by expanding the number and scope of facilities already being operated by existing P3 concessionaires—in the Australian toll road concession sector, Transurban™ is already a dominant player in Australia, and has had sole-source expansions of its existing concessions approved.

SPV governance issues

Governmental infrastructure agencies in all three States covered by this study stated that they were not concerned about internal SPV governance issues and so did not typically review SPV shareholder agreements. They believed that their concession contracts with the SPVs, which had fixed "availability payments"—roughly equivalent to asset lease payments by the government in lieu of, or in addition to, tolls or other user fees that the SPV would collect— and penalties for violations of operational performance requirements, placed these governance risks squarely on the SPV's owners and lenders, and thus insulated the government and public from harm due to any conflicts of interest internal to the SPV.

The interviews reveal that there is one exception, however. The longer the equity investment will be held by SPV concessionaires, the more closely their goals become aligned with the public sector agency's goals for long term, low cost, high-quality delivery of infrastructure services to its citizens, and hence the fewer real or implied conflicts of interest are likely to arise. From this point of view, pension funds, pension aggregators, sovereign wealth funds and others are the ideal majority investors in infrastructure concessions, provided that they can access the necessary design, construction and operations expertise to bid competitively and realistically and to manage these infrastructure services well over their lifecycle. Some of the earliest Australian PPP road concessions were set up to be repaid entirely by SPV toll revenues. Investment Banks acted as the initial SPV equity investors and garnered significant management fees for packaging the projects and winning the bids —based, in large part, on using more optimistic user demand forecasts than other bidders. They then sold all of their equity via an IPO immediately or shortly after financial close, prior to the start of construction. Some of these listed shares lost much or all of their value when the demand forecasts in the SPV proposals turned out to have been highly optimistic. Partly as a result of this experience, Australian government agencies now typically exert some control over the identity and ownership structure of their counterparty to the SPV agreement across the project lifecycle, although not over its internal governance. Australian SPV concession agreements now typically contain a number of constraints on a "change of

control" of the SPV or even on significant changes to its capital structure at different project phases to avoid equity participants selling out their stakes unknown others too soon in the concession term without the agency's knowledge or consent. Violation of these concession terms would constitute a serious breach of contract by the SPV and no interviewees reported any such breaches.

The PPP investment arms of design-construction contractors typically have heavily overlapping ownership with the PPP contractors—often 100 % common ownership (Bing et al. 2005). They are typically not long-term asset holders, typically seeking to exit as soon as possible after construction has been completed. Moreover, equity participation in the PPP concession can generate conflicts of interest between construction profits vs. infrastructure returns that pose risks to other purely financial equity investors, lenders and the public. One approach that has been proposed to address this conflict, while still bringing the requisite expertise into the concession, is to create well-aligned investment platforms for investing in multiple infrastructure concessions comprised of engineers, contractors, operators and long-term, institutional investors such as pension funds, in which the long-term investors would hold long-term majority equity stakes in the concessions and the contractors would be given the opportunity to bid on the concessions but would not be guaranteed the award of the contracts.

When Design-Construct (D-C) contractors or infrastructure operators (collectively termed "Industrial Investors") hold large enough minority equity stakes to give them SPV Board representation in SPVs in which there are also pure "Financial" equity investors such as pension fund aggregators like QIC, pension funds like Hostplus or infrastructure development and investment funds that are not majority owned by Industrial partners, shareholder agreements generally require the D-C or operations contractors' nominated directors to recuse themselves from voting on board resolutions involving construction cost or time extensions, operating issues or similar SPV Board of Directors' matters in which they are "interested parties." Some financial investors go further and assert that directors nominated by D-C or operations partners or their firms' investment arms should be excused from the meeting and should not even participate in board-level discussions on matters in which their holding company's construction or operations arm is an "interested party."

In some cases, executives from the infrastructure finance arms of construction firms argue that their firms are truly independent business entities, that they are personally, organizationally and individually independent of their parent company's construction arms, and they are incentivized based on their investment arm's long-range financial returns not on the profits of their sister companies' construction arms. In addition, some of them state that they have developed a history of holding infrastructure investments far into the operating concession phase, so that their goals are very well aligned with the goals of the financial investors. These firms have sometimes been able to establish sufficient trust with the purely financial investors to have these conflict of interest recusal clauses for Industrial directors in the SPV shareholder agreements waived when their parent firm's construction or operations subsidiary holds the D-C contract for the SPV.

Australia has very strong fiduciary requirements in its corporation laws that require corporate directors to act strictly in the interests of the companies on whose boards they serve—in this case the SPV's board rather than the SPV directors' previous or

current employers' boards. In addition, all three States surveyed engage 'Probity Auditors' across the phases of tendering, SPV selection, financial and commercial close, design-construction and operations to assure good governance of the SPV companies.

Nevertheless, when delivery partners or their investment arms hold enough SPV equity to gain one or more seats on the SPV Board, a virtually unanimous opinion among all of the executives interviewed in this study is that appointing an experienced Independent Board Chairperson with no ties to either the Financial or Industrial partner companies in the SPV. This has proven to be allow the SPV to access the delivery partners' deep design, construction or operations expertise for the benefit, while providing good governance to address material conflicts of interest when they arise, and keeping contentious board-level discussions on track. Several experienced Australian senior executives now make a career out of serving as independent board chairs, independent board members and senior executives in concession SPVs.

SPV-design-constructor agreement issues

In their PPP concession agreements with the government, SPVs typically agree to very strict limits on making any claims for additional payments from the government for construction cost or time overruns. The concession agreements typically even disallow claims for extra time or cost due to differing site condition, or worse than average weather, with exceptions only for a limited and very specific set of *force majeure* definitions such as storms or floods larger than the 100-year return period. These concession agreement terms are then passed down to the SPV's design, construction and operations contractors to prevent construction or operations claims from impairing the SPV's equity, potentially triggering debt defaults or renegotiations due to violations of loan covenants. In fact, part of the due diligence process by lenders involves a "gap analysis" of any differences in contract terms at the two levels— government to concession vs. concession to contractor—that could impair the SPV's equity. Tough, firm, fixed-price contracts that set very tight conditions in the contract between the SPV and the design-constructor for making construction claims also simplifies or eliminates many potentially conflictual governance issues within SPVs owned by both Industrial and Financial equity investors.

Institutional Investors' internal governance issues

Pension funds have historically not been direct investors in new, "greenfield" infrastructure projects—with a small number of notable exceptions such as the Ontario Teachers' Pension fund. Traditionally pensions have required extensive internal committee review and approval of significant financial commitments in, or changes to, their investments. The same has been true for some of the pension aggregators, with internal committees that can create delays for urgent decisions that need to be made by the SPV Boards. This made them unattractive partners to infrastructure developers and builders who are able to delegate more decision-making authority to their SPV directors and managers. Increasingly, Australian aggregators of pension funds wanting to invest in greenfield infrastructure assets have been acquiring and/or developing significant internal capacity and/or relationships with external advisors that allow them to invest directly in the equity of greenfield infrastructure assets. The most experienced

pension aggregators have changed their internal governance accordingly to allow them to appoint board representatives in the SPV's who are authorized to make substantial financial commitments and decisions without prior approval from their own or the participating pensions' investment review committees or boards. This makes them more attractive SPV partners in greenfield infrastructure projects for the more sophisticated investment funds and other participants in SPV equity.

The Australian model for PPP infrastructure service delivery

The description of practices and models used for PPP infrastructure service delivery in Australia shows that private and public actors there have developed working practices and models for infrastructure service delivery that address many of the key governance challenges. The Australian experience shows the benefits of having professional national and state-level infrastructure units that are independent of the legislatures prioritize national infrastructure needs. The model for national needs prioritization is that parliament has created an agency that provides analysis of national infrastructure needs, and advises government at all levels on its prioritization. Government ultimately decides which infrastructure assets to develop, guided by these priorities, and uses rigorous Value-for-Money analyses to select the delivery approach used to finance and develop the selected infrastructure assets. In the Australian case, coordination over the different lifecycle phases of an infrastructure asset is also increasingly being governed by stipulating that the SPV concession must be owned and governed by its initial investors for an extended time period, including design, construction and a ramp-up period of several years of operation and maintenance. The division of responsibilities of private actors and the public is governed in an elaborate and precise performance contract that stipulates the responsibilities of the private actors in operation and maintenance of the asset. Thereby, the government can use contract enforcement to achieve the desired infrastructure service for the public.

The Australian case shows that the relationship between private investors and private infrastructure service providers can be made clear and can be governed so that long term stewardship of the asset is promoted. The mature set of governance arrangements that they have evolved significantly mitigate the problems of changes in the active participants and their conflicting sets of interests across lifecycle phases, since the long term operating responsibility for the concession increasingly bridges over the incentive-incompatibility of a conventional publicly financed, design-bid-build process across the successive phases of the provisioning and use of infrastructure services (Henisz et al., 2012).

Conclusions

The Australian PPP experience over almost three decades now points to a future model for infrastructure service delivery. In such a model, the government selects infrastructure projects, guided by a non-partisan, expert infrastructure prioritization panel, and contracts for the delivery of these prioritized infrastructure services with a private concessionaire financed by long-term institutional investment capital. The concessionaire is a private entity in charge of financing, designing, constructing, operating, and maintaining the infrastructure service. The government supervises the infrastructure service performance levels at arm's

length to safeguard public interest. The government also provides an institutional framework, with contracts and authorities necessary for the institutional governance of the relationship between private and public actors. We call this model the PPP "infrastructure as a service" delivery model. Future research should study this model, and seek to understand the contractual and relational governance arrangements needed for coordinating participants and resources for more efficient and sustainable infrastructure service delivery to citizens worldwide.

Competing interests
The authors declare that they have no competing interests.

Authors' contribution
REL made the interviews in Australia. Both authors wrote the article. Both authors read and approved the final manuscript.

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