

RISK MANAGEMENT, GOVERNANCE AND FINANCING ISSUES IN PUBLIC-PRIVATE PARTNERSHIPS TRANSPORTATION PROJECTS

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ABSTRACT

This paper discusses issues related to risk management, governance, and financing of public-private partnerships transportation projects. The allocation of risks and the requirements for ownership and equity provision are examined through analysis of a range of contracts. Lesson learnt from a series of Australia’s public-private partnerships transportation projects are also presented. The results show that from the perspective of risk allocation, the arrangements are consistent among the projects. Some fluctuations, however, are observed in term of equity provision. Initially, the contracts are developed based on the private sector taking full traffic demand risk and promising outcomes led to revenue sharing clauses being introduced, later overoptimistic demand forecasts resulted in the market rejecting acceptance of traffic demand risk. The paper also presents the variation between the case study projects in terms of excess revenue sharing. The analysis also suggests that, in arranging these types of projects, traffic demand issue is prominent and should be given major concern since it is closely related with the revenue of the projects which in turns affect the equity of the projects.

Keywords: Risk Management, Governance, Financing, Public-Private Partnerships, Transportation projects

INTRODUCTION

Public Private Partnerships (PPP) are now an accepted mechanism for infrastructure provision in most countries. The system of contracting was pioneered in France by using a Concession Model and was widely implemented in UK through Private Financing Initiative (PFI) (Grimsey & Lewis, 2005). Following UK, Australia, and then South Africa, Canada, Europe and now USA developed this type of contract to suit the local conditions. It is considered a mature delivery option in Australia (Eggers & Startup, 2007). The market maturity level is measured through the perspective of the public sector on how the PPPs contract is organized; commencing from the development of regulatory regime, establishment of special agency towards the refinement of the arrangement.

This paper focuses on early Australia’s PPPs transportation sector projects pre-Global Financial Crisis (GFC) 2007-2008, considering that this market sector is deemed to be the most mature market in Australia and counted for 25% of the total PPPs projects in Australia (Eggers & Startup, 2007). The discussions were based on the substance of the contracts acquired from the official government websites and related company websites. The limitation this paper is that most of the contracts are in the form of contract summaries, not the original contracts.

The main discussion topics in this paper are categorized into three major parts: risk allocation, equity arrangements, and revenue/payment arrangements. Critical appraisal and constructive dialogue was used to analyze the contractual arrangement of the case study projects.

LITERATURE DISCUSSIONS

Governance of PPP Projects

Governance issues in PPP projects are influenced by many factors. Grimsey and Lewis (2004) suggest that PPPs use contract management and reporting systems as a basis for governance. Their framework focuses on risk management and the specific involvement of government. Devapriya (2006) discussed the influence of the financing arrangements on governance of PPP projects and detailed that this in turn influences the effectiveness of the performance of parties involved in the concession. In addition, Reijnders (1994) through his investigation in Netherlands PPP projects found that the governance structure should be sophisticated enough to accommodate the conflicting interest of parties involved in order to avoid a breakdown of the trust necessary in PPPs. Another issue that closely relates to the governance of PPPs is that of the ‘incomplete contract’. The complexity of these long-term contracts means it is generally impossible to specify all potential outcomes in the contract documents and specification. Consequently, not all of the performance obligation of parties involved in the arrangement can be specifically defined in the contract which in turn adds the complexity of the contractual relationships that requires ongoing management of change and adjustment events. A typical governance structure is presented in the following Figure 1. In Malaysia, the general form of PPP project following a structure presented in Figure 2.

The basic foundation of PPPs is an optimal allocation of the risks between public and private sectors (HM treasury UK, 2007; Partnerships Victoria, 2007). Different parties have different perspective and interest on risks. This has been clearly shown by study of Grimsey and Lewis

(2002) on the waste water treatment facility in Scotland that sound management of the conflicting issues or interests of parties on risks played an important role in the success of the project. However, this such arrangements are hard to replicate. Not only may the risk allocation be confronted with complexity and unpredictability in term of financial consequences but it also has to be in line with the demands of important stakeholders and the community (Ng & Loosemore, 2006). The willingness of parties to bear the risks should they materialize is a key factor in optimization of the original risk allocation and is reflected in the amount of rate charged by doing so (Ward et al., 1991). And this, according to Ward et.al (1991) can only be achieved through robust and reliable risk management process.

In terms of financing arrangement of the PPPs, the issue of bundling or unbundling a range of sub-projects in the contract is also highlighted as a complexity in governance arrangements. Devapriya (2006) strongly argued that the governance of PPP is highly influence by the debt and equity structure. Further, when it is closely linked with the management of the project, it would likely bring about a negative effect to the success of the project. This argument supports the previous findings by Trujillo et al. (1998) through their analysis of BOT projects that the unbundling between the financing process through a 'neutral' SPV and others aspect of project such as construction and operation will likely to create a better end result.

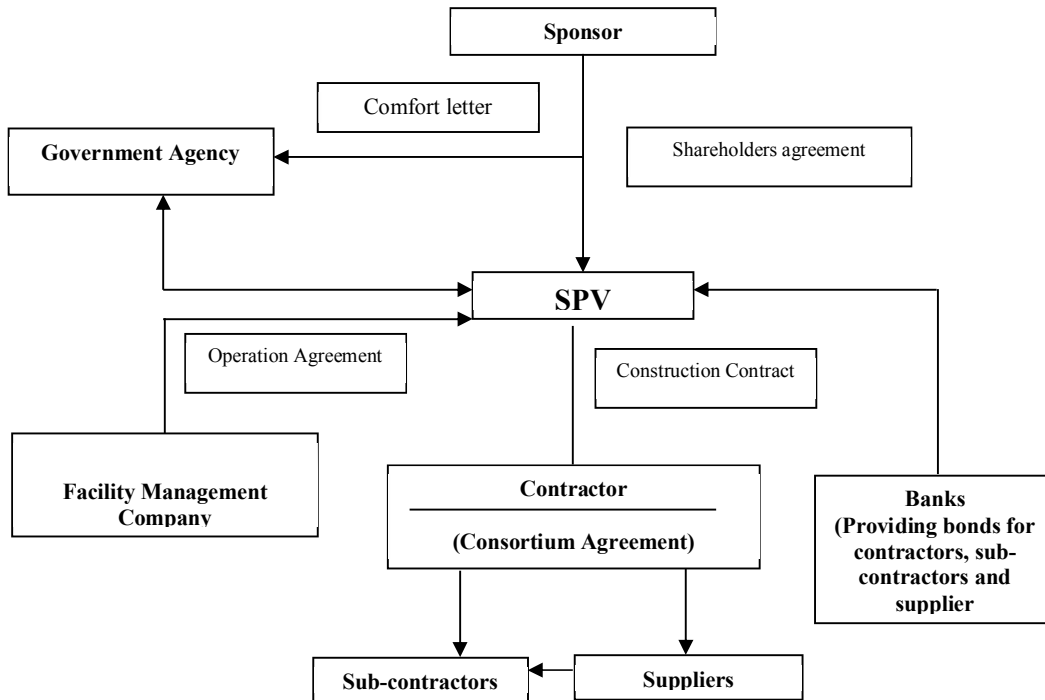


Figure 1: Typical PPP structure
 (Source: Beenhakker, 1997 cited in Akintoye et.al., 2003)

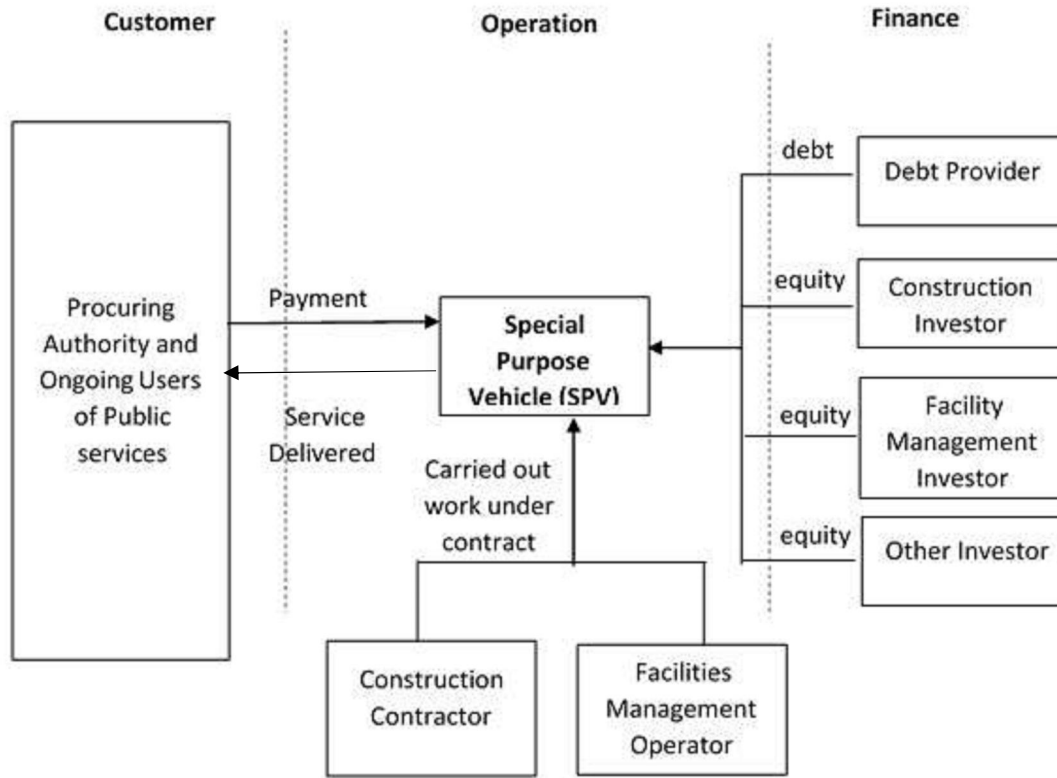


Figure 2: Typical PPP structure adopted in Malaysia
 (Source: UKAS, 2016)

Another issue with regard to governance of PPP projects is whether governance of the projects should follow project or corporate governance. Wilson et al. (2010) had conducted an investigation on the Australia’s PPP found that the nature between the management of traditional projects and PPPs is significantly different due to the involvement of many parties in the project arrangement. They further argue that a term of project governance, which can be seen as a joint between project management and corporate governance, could be more suitable for the arrangement. However; considering the long lifespan of projects, multiple party involvement and social responsibility as consequence of longer contracting period, PPP governance is closer to corporate governance type (Wilson et al., 2010).

Good governance of PPP projects

When the governance issue plays an important role for the success of the project, good governance principle becomes a concern. This condition exists when two or more parties involve in and have interest in the certain type of cooperation. Abednego and Ogunlana (2006), through their research in the PPP projects in Indonesia, argued that governance issue plays an important role in the success of PPP project since this type of project requires great strategic concern due to their long-term relationships nature. The success of the project is not only measured through short-term objectives such as on budget, on time and at the appropriate quality but also needs to consider a long term cost of operation and maintenance. This will raise an issue of ‘government support, proper project planning, good coordination between parties,

trust, good tendering system, proper information dissemination and communication system, and high managerial capabilities’ (Abednego & Ogunlana, 2006). In this case, it is further suggested that project management should implement good corporate governance principles in the project.

Organization for Economic Co-operation and Development (OECD) has developed a Principles of Corporate Governance in their effort of building a better and reliable governance practice in OECD as well as non-OECD member countries (OECD, 2004). Even though that the principles are aimed at assisting mainly publicly traded companies, however with some adjustments; the principles can also be implemented in the privately owned companies (OECD, 2004). The Principles of Corporate Governance consists of six main principles, which are: ensuring the basis for an effective corporate governance framework, the right of shareholders and key ownerships functions, equitable treatment of shareholders, the role of stakeholder in corporate governance, disclosure and transparency, and the responsibility of the Board (OECD, 2004).

It can be inferred that the good corporate governance mainly emphasizes on the protection and equal treatment for all stakeholders. Since the participants of the public Private Partnerships projects consist of different parties with different level of ownerships and due to a long term nature of relationships in the project, it is very reasonable to include good corporate governance principles in the practice of project management in public private partnerships projects.

Financing in PPP Projects

Apart from the recourse and non-recourse issue, project financing definition is recently moving towards a focus on the repayment of the debt/loan through looking initially to the cash flows and revenue of the project (Nevitt & Fabozzi, 1995). The main purpose of arranging project financing is to provide a borrowing for the project in exposure of profit while the balance sheet of the sponsor is not affected, completely non-recourse and/or as little recourse as possible. In addition to the refunds generation from the cash flow, project financing is emphasized on the separation of the project entity from the entity of companies’ involved in the arrangement and is a project’s asset based focused (Finnerty, 1996).

Risks phases also influence the arrangement of project financing. Commonly for a green or new development project, there are three phases of risks which relate to the financing arrangement: engineering and construction phase, start-up phase and operation phase (Nevitt & Fabozzi, 1995; Tinsley, 2000; Grimsey & Lewis, 2002). Each phases has its own unique nature which consequently influence the selection by the lenders. In many instance, different risks phases or periods have different lenders (Nevitt & Fabozzi, 1995). Therefore, the risks profile of the project will later influence the financing arrangement.

The sources of financing are mainly a combination of debt and equity. The structure of the debt and equity arrangement in PPP projects is directly associated with the governance of the project (Devapriya, 2006). The sponsor of the project will likely to take the largest portion of the equity, which later can be offered to the purchaser, and the recent trend is that the equity is sold in the capital market (Finnerty, 1996). Besides as a control mechanism, equity also represents a whole life ownerships interest on the entity of the project. However, one feature of equity is that there is no requirement of the project to pay the return at the specific time to the equity

holders (Marks et al., 2005). These features will influence the decision of the companies involved in the PPP contracts whether to take part or not in the equity stand. There are some factors dictate on which parties should take an equity stand (Finnerty, 1996). First, the provider takes liability when the cost overrun occurs. Second; in the longer construction period, the provider must be willing to defer their dividends payment. And the final factor is that the equity provider must be parties which will likely to get the most profit from the project. Considering those factors, the equity providers could be one of these parties i.e. the purchaser of the product, the owner of the resources, and the suppliers of products and services. The public/commercial equity investors are likely to invest at the latter stage of the project lifecycle, or at least after the construction period is passed (Finnerty, 1996).

In PPP projects, rarely that equity will covers all of the investment on the project. In fact, the biggest portion comes from debts. Debts can be acquired from the commercial banks in the form of long term loan or can be from other sources such as from bilateral agencies/ export credit agencies (ECAs) and multilateral agencies/MLAs (e.g. World Bank, IBRD, ADB, IFC, etc.); and the last option is from the capital markets (Tinsley, 2000).

Another option for investment of the PPP project is from a financing device that having both features of debt and equity or debt/equity hybrid. Debt/equity hybrid can be described as a capital raising device which has both features of debt and equity (HM Treasury, 2007). Some examples of the those hybrid mechanism are certain classes preference shares, convertible notes, capital protected equity loans, profit participating loans, perpetual debt, endowment warrants and equity swaps. The mechanisms are highly influenced by the taxation regime which affecting the choice and financial arrangement of the financing scheme of the PPPs project.

Project Risks Allocation Principles

Appropriate risks allocation plays an important role in the success of the PPPs project and considered to be the impediment in the PPP arrangement due to varying and uncertain risks faced by the PPPs project. Apart from the technical risks, risks that arise from the stakeholders are more complex and difficult to control (Ng & Loosemore, 2007). Hence, the risks allocation is the major concern in the arrangement of PPP contracts.

In term of risks, the toll road/transport project has a greater risk than other sector, leading to the modest growth of the private financing involvement in transport sector (Fisher & Babbar, 2000). Apart from the economic, construction and operation risks; the risks resulting from co-ordination issue with the regional government or planning agencies is also crucial in the transport projects (Haley, 1992). Therefore, these risks require a systematic risk allocation between the public and its private counterpart through an active involvement of public, government agencies, and private parties.

In enabling to transfer risk effectively, the arrangement should consider the main risk allocation principles the bearers should be able to manage the risk outcome and the risks are allocated to the parties which best able to manage those at the lowest expenses (Medda, 2006).

The complex arrangement in PPP project especially revolve around two main partners, SPV and the procurer, is adding to the complicity of risk allocations. Demirag et al. (2010) through

their research in Scotland argued that due to this complexity, in some cases, the risks may be transferred to parties who are not able to control or not willing to bear them. In this case, those parties will seek other mechanisms as compensation or in attempt to avoid greater loss, such as using hedges, swaps and insurance.

Hovy (2015) also argued that the risk allocation is the main challenge in arranging the PPP projects. Two practices commonly opted, which are transferring risks to private sector leads to higher premium cost and leaving the risks to the public sector that is better to cope the risks cause reduction in value for money objectives, are in contradiction to the optimal risks allocation principles. He further argued that unforeseen risks also become the hindrance in achieving PPP projects success. This is because the long term nature of PPP projects which could reach 30-40 years of contract duration. It is difficult to forecast risks in advance and during the contract period due to the dynamic changes in many aspects such as economic and politics aspects.

Revenue and Payment Arrangement

One of ultimate risks in PPP transportation project is the surety of revenue stream in compensating the investment (Grimsey & Lewis, 2002) which closely related with an accurate traffic demand forecasting (Eggers & Startup, 2007). The inaccuracy of this forecasting at the initial phase will result in numerous re-negotiation during the contract period that hinder and undermine the benefit of the private financing in involvements in the transportation projects (Guash, 2004). Hence, the contract should clearly stipulate this risk which incorporate also the sharing arrangement of potential excess of the revenue from the materialization of traffic that is higher than the base case scenario.

Developing the legal and structured concession environment is one of the prerequisite when attempting to implement this financing arrangement (Fisher & Babbar, 2000). As matter of fact, the concessionaire is likely required to pay more attention on this matter particularly at the project initiation stage to ensure that the contract accommodates the future uncertainty due to its long term nature and to minimize the re-negotiation. One of the solution is to conduct intense discussions in more detail with the counterpart in this case is the government or the related agency at the initial stage of the project.

Some supporting arguments with respect to the importance of pre-negotiation of this aspect has been presented by some research. For the project which has higher uncertainty in forecasting in the revenue stream at the initial stage; the public sector (government) should bear most of the risks or alternatively willing to compensate the private counterpart when there is a non-materialization of the forecasted revenue (Ng & Loosemore, 2007; Eggers & Startup, 2007). The main reason is because the certainty of long term revenue stream is essential for the achievement of value for money as one of the attributes of successful PPP projects (Grimsey & Lewis, 2002). Another alternative is by choosing a revenue mechanism whether it is market-tied or contract-tied mechanism (Haley, 1992). This can be then related to the nature of the service provided by project whether it is directly or not affecting the users.

METHODOLOGY

The methodology used in this paper is a desktop study of a theoretical examination through contracts analysis. The contract data is acquired from the electronic resources of the official government agencies or departments and the companies involved in the PPP schemes. The limitation of this research is that even though the contract is obtained from the official websites, most of the contracts are in the form of contract summary published by the government agencies or companies.

Five contracts data were analyzed from the perspective of equity arrangement, risk allocation and revenue /payment arrangement. The case study focus on the transport PPPs projects in Australia consists of Eastlink project (Victoria), Southern Cross Station (Victoria), Chatswood Transport Interchange (New South Wales), Sydney Cross City Tunnel (New South Wales), Westlink M7/ Western Sydney Orbital (New South Wales), and Lane Cove Tunnel (New South Wales).

The data were analyzed using the preceding theoretical framework and literature discussions. The analysis focuses on the equity/investment arrangement, risks allocation, and reward/concession arrangement especially regarding the arrangement of excess revenue. The expected outcome are identification of sensitive issues underlying the early PPPs transport project in Australia pre-GFC and measurement of the consistency level of the contractual arrangement in the transportation sector.

FINDINGS AND DISCUSSIONS

Risks Allocation in Australia’s PPPs Transportation Projects

The common risks in infrastructure project by Grimsey and Lewis (2002) are used as a platform in analyzing the risks allocation. The aim is to examine the allocation of major risks in Australia’s PPPs transportation projects, to determine whether the allocation is consistent from project to project and to identify a specific risks that require special attention. The following Table 1 presents the risks allocation of the case study projects under this paper’s investigation.

In term of major risks allocation, the contracts shows that there has been a consistent type of major risks allocation in the early PPPs transportation project in Australia. Most of the project’s risks are transferred to the private sector (i.e. technical/design risk, construction risk, operating risk, revenue risk, financial risk, and regulatory/political risk). Other risks are shared between the private and public sector (i.e. force majeure risk, environmental risk, and project default risk). Thus, this means that the transportation sector is considered to be a mature market of PPPs in term of risks allocation.

Table 1: Major risks allocation

Risks	Risk arrangement for PPP Projects				
	Southern Cross Station Redevelopment	Sydney Cross City Tunnel	Westlink M7 Motorways	Lane Cove Tunnel	Eastlink
<ul style="list-style-type: none"> • Technical / Design Risk • Construction risk • Operating Risk • Financial risk • Regulatory/political risks 			Private		
<ul style="list-style-type: none"> • Revenue Risk 	Private	Private*	Private*	Private*	Private
<ul style="list-style-type: none"> • Force majeure risk • Environmental risk • Project Default risk 	Public	Shared	Shared	Shared	Shared

* Public sector has an obligation to support inflow traffic, different project has different arrangement.

In Australia, in general, both parties (public and private sectors) have a right to terminate the contract when one of them found to breach the contract. However, in some cases, the concessionaire can be granted extension of time to rectify their ‘default’ under special discretion.

In regard to the revenue risk of toll and tunnel PPPs projects, even though that a risk is borne by the private sector, there is a special clause which requires the public sector to support the private counterpart, especially related to the input traffic. The following Table 2 shows the special involvement of the public sector in the input traffic arrangement.

Table 2: Traffic risk arrangement

Project	Traffic risk arrangement
Sydney Cross City Tunnel (June 2003)	<ul style="list-style-type: none"> • The traffic risk is transferred to the private sector. • “Clause 3.3.8 Traffic management and road network change”. The contract/project deed requires the Road and Traffic Authorities (RTA), the trustee and the company to build traffic arrangement which must be acquainted with the Cross City Tunnel’s “importance in the traffic system”. This means that both parties have an obligation to ensure that the minimum the traffic inflow to the tunnel as required by the economic base model is achieved. An alternative in accordance with this clause is to close and merge some of the existing traffic network. • The project deed also introduces clause 3.5 (Renegotiation provision) in regard to closing or reduction in traffic inflow to the tunnel.
Westlink M7 Motorways (August 2003)	<ul style="list-style-type: none"> • The traffic risk is transferred to the private sector. • “Clause 3.3.8 RTA and Government road network, public transport and utility service development right and restriction”. • Even though that the traffic risk is transferred to the private sector and the RTA or New South Wales (NSW) government has a right to build any type of road network, the project deed stipulates that 50 traffic connections to the M7 Motorway will not be diminished nor lessen. • The project deed also introduces a clause 3.5 (Renegotiation provision) in regard to the “competing road project”)
Lane Cove Tunnel (July 2004)	<ul style="list-style-type: none"> • The traffic risk is transferred to the private sector • “Clause 3.3.8 RTA and Government road network, public transport and utility service development right and restriction”. • The RTA and NSW government has a right to “develop, operate, maintain, and extend” the NSW roads/networks. This including the existing tollways or freeways. However, the project deed stipulates that 12 traffic connections to the motorway will not be diminished nor lessen. • The project deed also introduces a clause 3.5 (Renegotiation provision) in regard to the specific road sections.
Eastlink (November 2004)	<ul style="list-style-type: none"> • In general, the traffic risk is transferred to the private sector. However, the state has an obligation under the contract to provide “transport network support” in regard to the Principal Road Interface”. • A failure to provide this support is considered to be a breach to the contract. In regard to this failure, the contract introduces clause 45 (Key Risk Management Regime). According to this clause, there are two options for this failure, which are “Obligation to negotiate” and pursuance to expert determination (Clause 73 Expert Determination)

Equity Arrangement

The Equity distribution of the PPPs transportation projects in Australia is presented in the following Figure 3.

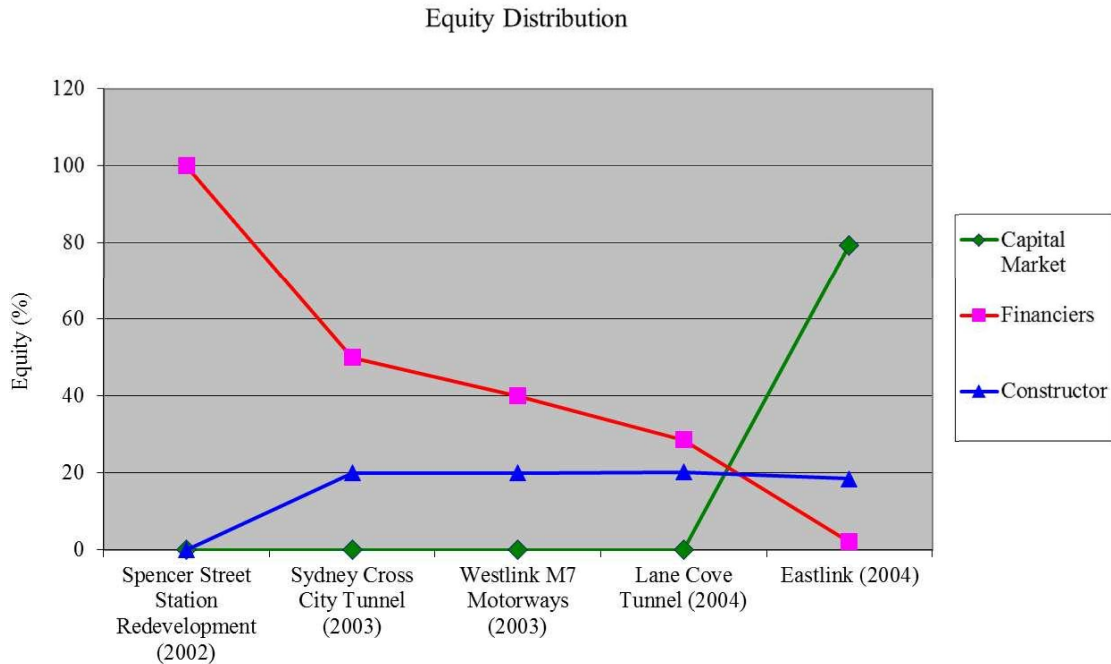


Figure 3: Equity distribution of PPPs transportation projects

The chart shows the fluctuation of equity stake by the parties involved in PPP transportation projects under study that the financial closing of the contract between year 2002-2004. Initially the financiers took the lead by accepting 100% of the equity. Following that, role of the financiers is reduced since other equity providers were starting to play their role in providing equity. Those include superannuation and financial firms. At the latter stage, the equity provision totally transferred to the public via the capital market. At this stage, the financiers' role is only as the Initial Public Offering (IPO) underwriter of the shares and accept only minor sum of deferred equity, for example in Eastlink project. However, the role of the financiers as a leader of the PPPs transport arrangement remains unchanged. Constructor's role in the equity stake is relatively constant at the level of $\pm 20\%$. In some cases, the equity, $\pm 20\%$, is shared by two companies, either from one parent company or divided equally by two separate constructor such as in Westlink M7 project. There are two forms of contractors' involvement in the equity provision of Australia's transport PPPs projects: initial equity investors (i.e. Sydney Cross City Tunnel and Westlink M7 Motorways) and deferred equity investors (i.e. in Lane Cove Tunnel and Eastlink).

The above fact shows that type of contractor's investment is also changed from initial equity investor toward the deferred equity provider. Even though that the type of involvement is changed from initial equity provider to deferred equity provider, the total investment of contractor remains constant at the level of $\pm 20\%$ of equity.

Revenue and Payment Arrangement

In general, there are two types of revenue arrangement in the PPPs transportation projects in Australia i.e. service payment and tolling system. The difference is due to the nature of the

service provided. Service payment is applied on terminal building provision (Southern Cross station redevelopment) while the tolling system is applied in the toll road or tunneling projects. The summary of the revenue and payment arrangement of the PPPs transportation projects in Australia is presented in the following Table 3.

There are some findings derived from Table 3 as follows:

- For the all the toll road projects, the revenue are collected from the users by using electronic tolling system. Generally, the subscriber users' vehicles are equipped with the transponder. Some contracts require the system must be able to recognize the non-transponder equipped vehicle.
- Some differences were observed in terms their excess revenue arrangement. If the revenue is exceeding the 'economic base case model' proposed by the company/trustee in the project deed, the government has a right for a share of the exceeding revenue. For tunnel project (i.e. Sydney Cross City Tunnel & Lane Cove Tunnel), the arrangement were similar (Figure 5). For toll road projects, each of them has its own specific arrangement. In M7 Motorway project, the excess sharing is similar throughout the contract period (Figure 4). While for the Eastlink project, the contract period is divided into some periods with its own excess sharing arrangement (Figure 6). This implies that there was an optimist projection that revenue from the PPPs transport project would exceed the base economic model proposed by the company/trustee. That could be seen also as opportunity from the perspective of the public sector to be actively involved in arranging the transport network to ensure the traffic inflow exceeding the proposed model.
- Since the biggest risk of PPPs transportation project is revenue risk, the private sector will likely to be cautious in regard to the surety of traffic inflow. The public sector/government involvement is still required to ensure that the traffic network is properly arranged.
- Another important issue in regard to the traffic arrangement is the main stakeholder interest, the public/the users. Prior to implement certain traffic network arrangement (such as merging, closing, widening, etc.) in the contract, both parties have to consider the resistance of public on the arrangement. This resistant will significantly influence the revenue for the private sector and the image of the project which in turn give a bad effect to the project success.
- Since the PPPs contract is normally for more than 20 years, it is imperative that the arrangement is discussed in detail before the contract effected in order to avoid dispute and prolonged renegotiation.

Table 3: Revenue and payment arrangement

No.	Projects	Revenue	Re-payment to the Government	
			Land Lease	Excess Revenue
1.	Southern Cross Station Redevelopment (July 2002)	Service payment paid quarterly of a year	None	None
2.	Sydney Cross City Tunnel (June 2003)	Toll	<ul style="list-style-type: none"> \$1, plus 35% share of Gross revenue from no-toll business 	Progressive increased share for excess more than 10% of the 'base case financial model' every period
3.	Westlink M7 Motorways (August 2003)	Toll	<ul style="list-style-type: none"> \$1, plus A share of Gross revenue from no-toll business. 	Progressive increased share for excess more than 5% of the 'base case financial model' after six years of completion stage 1 of the project.
4.	Lane Cove Tunnel (July 2004)	Toll	<ul style="list-style-type: none"> \$1, plus A share of Gross revenue from no-toll business. 	Progressive increased share for excess more than 10% of the base case financial model every period.
5.	Eastlink (November 2004)	Toll	\$ 20 Million Freeway leases and land licenses	Progressive increase in share of excess revenue varied periods.

Shared Excess Revenue by government
Eastlink Project

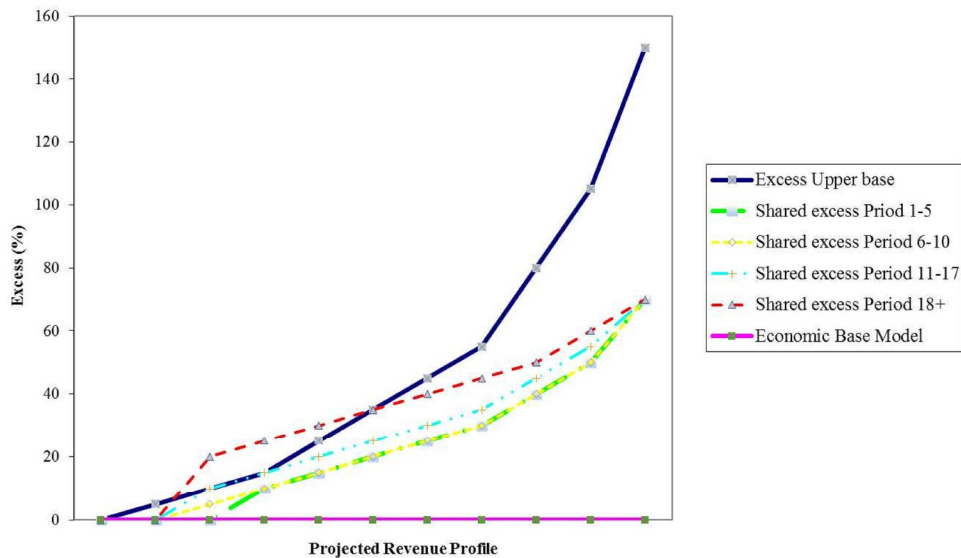


Figure 4: Shared Excess Revenue for Eastlink

**Excess Revenue Sharing
 Sydney Cross City Tunnel & Lane Cove Tunnel**

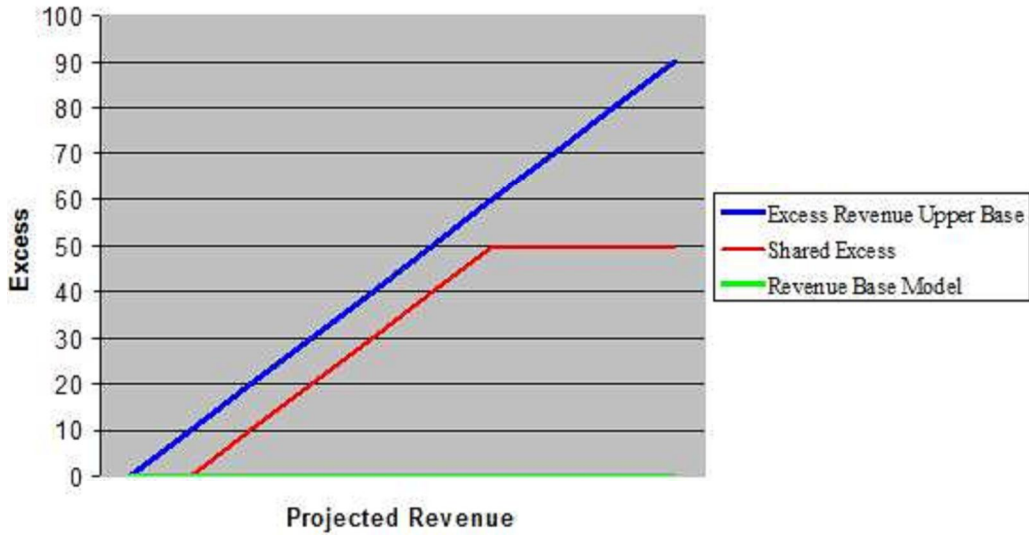


Figure 5: Shared excess revenue for cross city tunnel & lane cove tunnel

**Excess Revenue Sharing
 Westlink M7 Motorway**

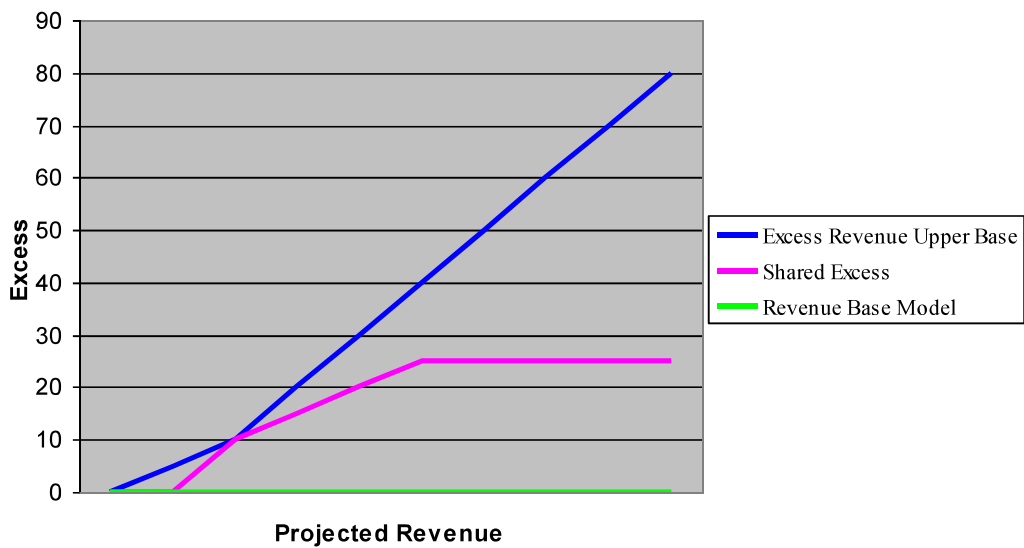


Figure 6: Sharing excess revenue for Westlink M7 motorway

Latest Progress and Information on the Case Study Projects

From the five case study projects, three of them (i.e. Sydney Cross City Tunnel, Lane Cove Tunnel, and Eastlink) had faced commercial burden. The main reason is because the highest

risks which is the demand risk is materialized that in all cases the projected traffic demand is not achieved. The worst case is experienced by the Sydney Cross City Tunnel that asset has to be sold to other investor. Clearly evident that traffic demand is a crucial risk that failing to meet the projected traffic flow will affect the revenue which eventually influence the equity.

The latest analysis on Australia’s PPP transportation projects was presented by Hodge and Duffield (2010) where two projects were highlighted: the CityLink and Southern Cross Station projects (both in state of Victoria). In CityLink Project, most risks including construction, design, operation, financing and market risk, are transferred the private sector. In this CityLink project, a bank which is Macquarie Bank via its Infrastructure Investment Group, took the lead in the financial and project arrangement. The Southern Cross Station Project is an upgrading project of an existing railway station. A similar risks arrangement was observed. The biggest risk in this project is borne to the private sector which is the operational of the existing station risk that the private sector must ensure that the station remains operational during upgrading work. In terms of financing, ABN Amro leads the arrangement by contracting Leighton Contractors, Honeywell and Delaware North Australia to deliver and operate the development, via SPV named Civic Nexus (DTF Victoria 2016). These two transportations projects again highlight the major involvement of banks (financial sector) as the leader or the biggest equity taker in the arrangement. A recent study by Carbonara et al. (2015) in the study of motorway PPP projects in Europe had identified five major risks: construction risks, revenue, financial risks, force majeure risks, and regulatory/political risks. Similar with the finding of the presented paper, the research by Carbonara et al. (2015) also indicate that the most critical risks in PPP motorway projects demand or usage risk which is correspond to the revenue risks that occurs during the operation phase. Further, he also suggestion for a kind of risk sharing between private and public sector with regards to this risk through revenue sharing mechanism and revenue distribution mechanism. This recent finding confirms the findings that are presented in this paper.

CONCLUSIONS AND RECOMMENDATION FOR FURTHER RESEARCH

From the perspective of equity arrangement, risk allocation and revenue/payment arrangement, the PPPs transportation project in Australia experiences a consistent arrangement which shows the maturity of this market sector. Inconsistency is observed only on the initial equity provision where the amount of financier percentage is reduced. However, the role of the financier remains unchanged as the leader of the project entity. In term of risk; in transport projects, the most sensitive issue that has been given most concern by the contracts is the revenue or traffic arrangement risk.

There are some recommendations for further research extended by this report, as follow:

- In regard to the PPPs transportation project, a deeper research should be conducted in order to find out the motivation of parties behind the willingness to put equity on the project. Firstly, from the contractor point of view whether the willingness is motivated by ownership interest, controlling interest, or just an obligation to show a commitment to the success of the project. Secondly, from the point of view of financiers, the focused is on the motivation to bear whole equity of the project or to share it with others.

- Another research needs to be conducted is to find out whether the excess revenue is experienced by the PPPs project and to find the effectiveness of the excess sharing revenue arrangement. This is important to ensure a fair arrangement is achieved, since the private sectors bear the revenue risk and whether this can be considered as an opportunity of both parties.
- The same research should also be conducted in other PPPs’ sectors. The purposes are to find whether the consistency of the arrangement has been achieved, to investigate the maturity of the market, and to obtain unique features of PPPs arrangement in other sectors compared with transportation projects. Thus, the most sensitive issue which could likely to create a dispute can be identified.
- The main objective of PPPs contract is to achieve value for money. Since the PPPs contract period is relatively long (more than 25 years), there should be an empirical method suggested on measuring whether the project has successfully deliver value for money. Thus, the lesson learnt can be immediately implemented on the foregoing project.

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