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Research Paper

Financing of public private partnerships: Transactional evidence from Australian toll roads

Michael Regan[a,b], Jim Smith[a], Peter E.D. Love[c,*]

[a] School of Sustainable Development, Bond University, Robina, QLD 4229, Australia
[b] International Centre for Public Infrastructure, Jakarta, Indonesia
[c] School of Civil and Mechanical Engineering, Curtin University, GPO Box U1987, Perth, WA 6845, Australia

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ABSTRACT

In the past fifteen years, Public Private Partnerships (PPPs) have emerged as the preferred procurement method for toll road construction and management in developed economies. In Australia, seven of eight new toll roads implemented since 2003 were commissioned as PPP projects. Unlike traditional procurement methods, PPPs involve higher levels of risk for private firms, who rely on bank loans for up to 85% of development funding. This study undertakes a comparative review of the financing of six of these projects of which two were financed after the global financial crisis of 2008. The review considers matters such as capital formation and structure, risk allocation, loan tenors, and the organisation of equity. Common characteristics are also identified including the use of short-term bank debt, reform of State PPP policy, forecasting error and the financial failure of projects, and changes in risk allocation over the 10 years of the survey. With one exception, projects were delivered on, or ahead of budget, and on time. However, two projects experienced financial failure and substantial loss of asset value. Moreover, a further project traded for nine years before it was sold at less than half of its original construction cost. The paper identifies lessons learnt from recent toll road experience in Australia and recent policy reforms particularly in the area of risk allocation are examined.

1. Introduction

Public Private Partnerships (PPP) and the preceding model of build operate transfer (BOT) procurement methods were the major method for delivering and operating toll roads in Australian capital cities from the late 1970s including the Sydney Harbour Tunnel and Melbourne's Citylink. In 2015, 17 toll road PPPs were contracted in Australia, two contracts were cancelled, 14 are in operation and one is under construction. Only two of the projects were commissioned following the global financial crisis, which had an enduring impact on global capital markets and particularly project finance as many the United States (US) and European lenders withdrew from the Asia Pacific market. This placed short-term pressure on borrowing costs, a repricing of risk and rating downgrades for major credit insurers that put existing guarantees in jeopardy and contributed to higher risk premiums for project finance. In 2007–08 infrastructure bonds were replaced by bank debt and lenders favoured projects led by long-term stakeholders (Ward, 2012; Infrastructure Australia, 2014).

A further development occurred in 2010 when the Basel Committee on Banking Supervision published a new regulatory framework for international banks (Basel III) designed to strengthen bank capital and liquidity, and improve capital market stability. Phased in over eight years from 2013, the rules favour reduced leverage, increase equity capital, and limits on non-recourse lending. Under the new rules, project finance involving long-term limited recourse loans and bonds will attract additional capital charges, introduce shorter loan terms or tenors, and increase the cost of capital. Additionally, banks are required to maintain capital reserves to meet cyclical downturns and countercyclical periods of excess credit growth in national economies (Australian Prudential Regulation Authority, 2008; Chan and Worth, 2011).

This review of six case studies for toll road projects is organised as follows. Section two examines project finance and its use in financing PPPs in Australia. Section three outlines the research approach, the selection of case studies and provides a comparison of finance methods and risk allocation at the project level. Further project information is located in the Appendix. Section four

* Corresponding author.
E-mail addresses: mregan@bond.edu.au (M. Regan), jsmith@bond.edu.au (J. Smith), plove@iinet.net.au (P.E.D. Love).

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Definitions

AAA	The highest credit rating issued by standard and poor's, moody's and fitch ratings. obligations are of the highest quality with minimal credit risk
AA (Moody's Aa)	Obligations are judged to be high quality and are subject to very low credit risk
A (Moody's A)	Obligations are considered upper-medium grade and are subject to low credit risk
ASX	Australian securities exchange
BBB (Moody's Baa)	Obligations are subject to moderate credit risk. they are considered medium grade and as such may possess certain speculative characteristics
Basel III	The Basel committee on banking supervision
BBSW	Bank bill swap rate
BOT	The build operate transfer concession contract
Bp	Basis point or one hundredth of one per cent
Credit insurance	The guarantee by an (Standard and Poor's) AAA credit-rated insurer against default by the insured under a loan agreement.
DSCR	Debt service coverage ratio refers to the multiple by which free cash flow exceeds revenue less deduction of specified expenses and full debt servicing costs
Initial public offering (IPO)	The offer document for a company seeking subscriptions from investors for a listing on the Australian Securities Exchange
Spread	The margin applied by a bank over its cost of funds or a lending reference rate. it is a proxy for the unsystematic risk of the transaction.
Stapled security	A financial security issued by a corporation that has two components, an equity certificate and a debt certificate, or two equity or debt certificates in two different but associated corporations
Tenor	The term of a loan and used interchangeably with loan term, loan maturity.
Tranche	Sub-units of a loan that may have different pricing or tenors than other tranches of the loan.

provides a comparative analysis of the case studies and the role of PPP policy, the capital market, market conditions and issues affecting the capitalisation, pricing and risk profile of PPP toll roads in the Australian context. Section five discusses the experiences derived from the case studies and identifies implications for future policy.

2. Financing PPPs in Australia

In the period 2011/2012, the largest market for project finance was the Asia Pacific, which accounted for 67% of global transactions. Around AU$24 billion was directed to new or greenfield PPP projects in Australia between 2000 and 2013 of which 71% was in loans, 11% in bonds, and 19% in credit-guaranteed bonds (Fig. 1). Loan finance became the principal source of debt after 2008 with the demise of credit insurers, although the domestic bond markets remained a source of finance for brownfield projects and refinancing (Infrastructure Australia, 2014). In 2013, the private sector contributed 55% of infrastructure investment in Australia, a significant increase over the 32% contribution in the early 1990s (Productivity Commission, 2014); in this period total infrastructure investment rose from 4.1% of Gross Domestic Product (GDP) to 4.9%. This reflected a global trend of greater private provision to meet the US$57 trillion infrastructure shortfall facing industrialised and developing countries over the next 25 years (McKinsey, 2013; World Bank, 2014).

There were signs of a recovery in capital markets in 2014 when international project finance reached US$260 billion, an increase of 23.2% on the preceding year. The Asia Pacific region was also a strong performer in that year recovering from a 30.5% downturn in 2013 to US$72 billion in 2014. Data for Australian pension funds indicate fund managers continue to allocate around 5% of funds to infrastructure assets of which around 1% are loans to PPP projects. This is nearly twice the average allocation identified for Organisation for Economic Cooperation and Development (OECD) member countries in 2012 (Inderst, 2013).

Private finance for megaprojects generally takes the form of bank loans and bonds. Finance for infrastructure investment possesses several distinctive properties; it is syndicated over a number of lenders, security is limited recourse and taken only in respect of the assets being financed, and debt servicing is matched to the anticipated cash flows of the project. Assets are generally capital-intensive, highly leveraged, and lending is syndicated to disperse risk (Yescombe, 2013). While each transaction is different, the focal point of project finance is matching cash flows to debt servicing obligations based on revenue forecasts over intervals of 20 or more years. Bank loans for infrastructure in Australia possess many of the characteristics of conventional project finance, although a point of difference is the tenor of Australian bank loans, which are generally one to five years. While concessionaires have adjusted to short-term bank loans for long-term contracts (Infrastructure Australia 2014), short-term lending reflects the short-term financing of Australian banks and creates refinancing risk for borrowers and exposure to future interest rate volatility.

Traditional project finance was difficult to obtain for PPPs in the aftermath of the financial crisis. This is attributed to the closure of the bond market as a financing option, an increase in risk spreads, and the failure of a large number of toll road projects. The appointment of administrators to three toll road companies financed before 2008, the Lane Cove Tunnel in Sydney, and the Clem 7 and Airport Link projects in Queensland did little to restore lender confidence in the toll road market.

Moody's Investor Services rated 53 infrastructure finance issues with outstanding debt over A$65 billion in October 2012 of which 89% were in the range Baa2 and A1 (Standard and Poor's BBB to A-) or investment grade (Musiker, 2012). Historically, credit-rated toll roads were given underlying investment grade credit ratings (Standard and Poor's BBB- and above), which, with AAA credit-