Infrastructure Finance Reform

Issues Paper

July 2011

FOREWORD

Infrastructure is critical to national productivity and economic growth. In recognising the need for greater infrastructure investment, the Infrastructure Finance Working Group (IFWG) has been established to identify current barriers to attracting infrastructure finance and to develop possible options to encourage greater private sector investment. The IFWG will examine current practices related to infrastructure finance in Australia and draw on relevant international experiences.

Following the global financial crisis, concerns have been expressed by infrastructure practitioners and investors about the availability of finance and the process of identifying and delivering infrastructure projects. Some of the specific issues raised have included the role of alternative sources of finance such as superannuation funds; the cost of preparing bids for infrastructure projects; and the uncertainty surrounding upcoming projects.

At the heart of these issues are concerns about the appropriate role for government and the private sector and how the risks of infrastructure projects can be efficiently shared. Resolving these concerns is especially pertinent in the wake of recent controversies surrounding the failure of a number of high profile public private partnerships. However, given the size of the investment task ahead, it is clear that governments and the private sector will need to work together in delivering future infrastructure projects for the community. Ensuring that projects have an adequate level of return will also be relevant in attracting the private sector.

The aim of this paper is to examine various models of infrastructure finance that are in use throughout Australia and internationally, and to establish the significance of the purported impediments to greater private sector infrastructure investment. In exploring these issues, the paper seeks to gather views from a range of stakeholders and we encourage interested parties to respond to the ideas and questions raised in the paper or raise any other relevant issues. In essence, we are seeking practical ideas that will enhance the quality of Australian infrastructure – we look forward to receiving your input.

Infrastructure Finance Working Group

THE INFRASTRUCTURE FINANCE WORKING GROUP (IFWG)

TERMS OF REFERENCE

IFWG is an expert advisory panel established to provide advice to Infrastructure Australia on infrastructure finance policy issues.

IFWG's terms of reference are to:

- advise Infrastructure Australia on the implementation of certain measures of the 2011-12 Commonwealth Budget relating to infrastructure investment;
- identify and advise on impediments and options for reform to infrastructure finance policy; and
- advise on the role of private finance, user charges and alternative finance models in the provision of public infrastructure.

MEMBERSHIP

The membership of the Infrastructure Finance Working Group is:

- Mr Jim Murphy (Chair)
- Mr Ross Rolfe (Deputy Chair)
- Dr Paul Schreier
- Mr Mike Mrdak
- Ms Pauline Vamos
- Mr Stephen Williams
- Mr Julian Vella
- Mr David Byrne
- Mr Brendan Lyon

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GLOSSARY

COAG	Council of Australian Governments
EIB	European Investment Bank
EOI	Expression of Interest
FFB	Federal Financing Bank (USA)
GTE	Government Trading Enterprise
IFWG	Infrastructure Finance Working Group
NICS	National Infrastructure Construction Schedule
PPP	Public-Private Partnerships
PPR	Prudent Person Rule
PSC	Public Sector Comparator
QAR	Quantitative Asset Restrictions
RFP	Request for Proposal
TIF	Tax Increment Financing
WACC	Weighted Average Cost of Capital

CHAPTER 1: INTRODUCTION

ABOUT THE REVIEW

There is widespread and ongoing concern that Australia's rate of investment in its physical infrastructure is not keeping pace with demand —resulting in a large and growing infrastructure 'deficit'. There have been calls from a variety of stakeholders for a range of reforms.

In order to address these concerns, the Chairman of Infrastructure Australia, Sir Rod Eddington, convened the inaugural *Challenges of Financing Infrastructure* conference on 19 April 2011, which gathered leaders from the infrastructure finance and delivery sectors to consider these issues in depth.

Subsequently, as part of the 2011-12 Commonwealth budget, the Australian Government announced the formation of an Infrastructure Finance Working Group under the auspices of Infrastructure Australia to formally examine these issues and report on potential reforms. Consequently, this issues paper is concerned with identifying the potential obstacles to efficient infrastructure investment and inviting a discussion of potential reforms.

IFWG will consider:

- what reforms may be required to maximise the pool of funds potentially available for infrastructure investment;
- developing the national investment pipeline for infrastructure projects further;
- how to reduce the costs involved with the bidding process for infrastructure projects; and
- the role of user charges in funding infrastructure projects.

The *Infrastructure Australia Act 2008* s.5, specifies Infrastructure Australia's functions as:

(1) Infrastructure Australia has the primary function of providing advice to the Minister, Commonwealth, State, Territory and local governments, investors in infrastructure and owners of infrastructure on matters relating to infrastructure, including in relation to the following:

(a) Australia's current and future needs and priorities relating to nationally significant infrastructure;

(b) policy, pricing and regulatory issues that may impact on the utilisation of infrastructure;

(c) impediments to the efficient utilisation of national infrastructure networks;

(d) options and reforms, including regulatory reforms, to make the utilisation of national infrastructure networks more efficient;

(e) the needs of users of infrastructure;

(f) mechanisms for financing investment in infrastructure.

(2) Infrastructure Australia has the following additional functions:

(a) to conduct audits to determine the adequacy, capacity and condition of nationally significant infrastructure, taking into account forecast growth;

(b) to develop lists (to be known as Infrastructure Priority Lists) that prioritise Australia's infrastructure needs;

(c) to review and provide advice on proposals to facilitate the harmonisation of policies, and laws, relating to development of, and investment in, infrastructure;

(d) to evaluate proposals for investment in, or enhancements to, nationally significant infrastructure;

(e) to identify any impediments to investment in nationally significant infrastructure and identify strategies to remove any impediments identified;

(f) to promote investment in infrastructure;

(g) to provide advice on infrastructure policy issues arising from climate change;

(h) to review Commonwealth infrastructure funding programs to ensure they align with any Infrastructure Priority Lists;

(i) to undertake or commission research relating to Infrastructure Australia's other functions;

(j) any functions that the Minister, by writing, directs Infrastructure Australia to perform;

(k) any other functions conferred on Infrastructure Australia by this Act or any other law.

CONSULTATION PROCESS

IFWG is seeking the views of interested stakeholders on the issues raised in this paper. This issues paper is intended to highlight some of the key issues to assist preparing submissions. However, submissions are welcome on any issues relevant to infrastructure finance, including those not explicitly covered in this paper.

Chapters 2 and 3 examine various methods for maximising the pool of potential finance and funding available for investment in infrastructure respectively. Chapter 4 considers the costs associated with the process of delivering infrastructure.

The Infrastructure Finance Working Group has developed this issues paper *Infrastructure Finance Reform* to:

- raise issues about certain practices in infrastructure finance in Australia; and
- invite discussion of potential reforms.

Responses are requested by 5:00pm on **Friday 26 August 2011** and can be submitted to:

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CHAPTER 2: HOW CAN THE POOL OF FINANCE AVAILABLE FOR INFRASTRUCTURE BE ENHANCED?

There is widespread and ongoing concern that Australia's rate of investment in its physical infrastructure is not keeping pace with demand —resulting in a large and growing infrastructure 'deficit'. Estimates of the national infrastructure task are large, and range widely between $450 billion and $770 billion over the next decade.[1]

The Business Council of Australia has warned that the quality and capacity of Australia's stock of infrastructure is straining to sustain economic growth and productivity.[2] Economic modelling firm Econtech has estimated that the national 'gap' between infrastructure demand and supply in 2005 amounted to $1.15 billion for electricity, $10 billion for road, $8.06 billion for rail, $2.6 billion for gas, and $3 billion for water.[3]

The Australian Energy Market Operator meanwhile has found that NSW may face an electricity supply deficit of 182 MW by 2015-16; Queensland of 34 MW by 2014-15; and Victoria and South Australia will face a combined deficit of 17 MW by 2013-14.[4]

Consulting firm Pricewaterhouse Coopers has also claimed that by 2050 Australia will require, amongst other things, an additional 173,348 kilometres of roads necessitating infrastructure investment to increase by $2.5 billion every year until then.[5]

The clear challenge confronting governments is how to provide for essential infrastructure. Given the public good characteristics of many infrastructure projects, government's have historically, taken a lead role and financed infrastructure through payments from their budgets in the form of capital grants or operating contributions. However, given the imperative to run budget surpluses, governments are looking to improve private sector opportunities to invest in infrastructure. Increasing private sector involvement not only helps address the infrastructure challenge but also presents opportunities to shift the risk of investment to those who are best placed to manage it.

However, in the wake of the global financial crisis, the cost of private project finance continues to be high with debt margins for BBB (investment-grade) credits at approximately

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[1] Business Council of Australia quoted in *The* Australian, 17 May 2011 and Citigroup (2008) "Australia's Infrastructure Supercycle", 20 June.

[2] Business Council of Australia (2009) *Groundwork for Growth: Building the Infrastructure that Australia Needs* < http://www.bca.com.au/Content/101615.aspx> (accessed 4 November 2009); (2007) *Infrastructure: Roadmap for Reform*: (2006) *Benchmarking the Progress of Infrastructure Reform: Challenges, Milestones and Outcomes*; and (2005) *Infrastructure Action Plan for Future Prosperity*.

[3] Econtech (2005) *Infrastructure: Getting on with the Job*, April quoted in Engineers Australia (2005): pp. 8-9.

[4] Australian Energy Market Operator (2009) *Electricity Statement of Opportunities for the National Electricity Market* http://www.aemo.com.au/planning/0410-0005.pdf (accessed 6 November 2009)

[5] P. Bibby (2010) "Australia 2050…but it's a future we can't afford", *The Sydney Morning Herald*, 6 February: p. 1.

250 to 450 basis points. This diminished appetite for risk is exacerbated by the need for larger consortia of multiple lenders and increased loan covenants. In addition, the tenor for loans has also shortened significantly.

Within this context, the purpose of this chapter is to examine various methods of maximising the pool of potential capital available for financing infrastructure investment. The most topical of these sources is superannuation but others are also considered. These include the creation of an infrastructure bond market, the establishment of an infrastructure bank, the public sector provision of senior debt, the provision of insurance against demand risk, and the sale of brownfield assets.

A key challenge to private sector involvement is to identify the optimal level of government involvement needed to create a commercial return to stimulate private interest in what is largely a public good. Each of the methods canvassed involve different allocations of risk, costs and benefits between governments and the private sector. For governments, the particular nature of a potential infrastructure project will determine the most appropriate form and size of any government involvement.

Throughout this discussion, a subtle but important distinction is drawn between "infrastructure finance" and "infrastructure funding". The former refers to the manner in which capital is raised for the purpose of constructing an infrastructure project. The latter refers to the manner in which that initial sum of capital (whether debt or equity) is repaid. In regards to the latter, it is also worth bearing in mind that there are two fundamental sources of funding for infrastructure: either an allocation from general taxation revenue or direct user charges.

2.1 SUPERANNUATION

A frequently cited potential source of infrastructure finance is Australian superannuation funds – which with almost $1.4 trillion under management – clearly represents a substantial pool of funds potentially available for investment.[6] Available evidence suggests Australian superannuation funds invest somewhere between five and ten per cent of their assets in infrastructure, which compares favourably by world standards. This is higher than in the United Kingdom, where only two per cent of pension plans invest in infrastructure assets and of these, the average allocation is 3.8 per cent, and in continental Europe, where only 1.4 per cent of pension plans invest in infrastructure with an average allocation of 5.5 per cent to the asset class by those funds. Further, superannuation funds currently provide for most of the equity investment for infrastructure (around 70 per cent). However, there have been calls for further increases in infrastructure investment by superannuation funds.

It has been suggested that Government could mandate that superannuation fund trustees participate in a particular investment class, such as infrastructure. A recent review of the superannuation system recommended that the Government should not mandate that superannuation funds[7]. In response the Government supported the recommendation of the

[6] Australian Prudential Regulatory Authority (2011) *Statistics: Quarterly Superannuation Performance*, March: p. 7.
[7] For further information see: www.supersystemreview.gov.au

review and stated that it does not support the proposal of mandating particular investments for superannuation funds.

Indeed, superannuation funds themselves have indicated that, despite their stringent asset class risk limits, their investment in infrastructure could increase, however, there remain impediments to doing so. These mainly concern the uncertainty associated with current deal flow arrangements (the number and size of upcoming projects); the availability of brown field opportunities; the need for liquidity; taxation; and bid costs.

The need for deal flow

An ongoing concern expressed by many stakeholders is the absence of a long–term pipeline of planned investment opportunities to assist with investment certainty. The superannuation sector in particular has called for a 20 year national investment pipeline of infrastructure projects.[8] Indeed, in a 2010 analysis of barriers to efficient procurement, the lack of a pipeline of upcoming infrastructure projects was cited by respondents as the most critical weakness in Australia's processes. [9]

To address this concern, in the 2011-12 Budget the Commonwealth Government announced that a National Infrastructure Construction Schedule (NICS) will be established to provide information on major infrastructure construction across all levels of government and help build the national infrastructure pipeline. The NICS will provide information on projects with funding committed by governments. The NICS is being developed by the Commonwealth Department of Infrastructure and Transport, which has commenced consultations separately with industry and government stakeholders.

The capacity for infrastructure expertise

Another obstacle identified by superannuation funds directly investing in infrastructure is the need to build experienced teams of investment professionals to assess opportunities. Smaller superannuation funds, without dedicated infrastructure investment professionals, are less able to analyse potential investment proposals and therefore participate in infrastructure investments.

Issues

1. How might superannuation funds resolve the issue of requiring dedicated infrastructure expertise?

The preference for brown field over green field projects

Brown field assets are considered lower risk compared to green field projects as they do not carry construction risk and provide a greater stability of returns, and as such are preferred by some funds. However, the availability of brown field assets for acquisition is limited,

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[8] Association of Superannuation Funds of Australia (2011) "Challenges of Financing Infrastructure", ASFA Paper, May. Available for download at <http://www.superannuation.asn.au/Reports/default.aspx>

[9] KPMG (2010): p. 22.

particularly in the absence of a formal asset sale programme. (This issue is discussed in detail in section 2.6.)

The need for liquidity

Superannuation funds are subject to a range of specific obligations imposed by the *Superannuation Industry (Supervision) Act 1993 (Cth)*. Chief amongst these is the investment covenant under s 52(2)(f) which requires a fund to maintain a level of liquidity to match expected outflows of retiring and transferring members. Long-term infrastructure projects could affect the cash position of a fund and lead to complex challenges around finance availability for retiring members and investment choices. The fact that 32.5 per cent of Australian superannuation benefits accrue to members aged over 60 years means that this portion of funds is required in a relatively liquid form.[10] In addition, there is also a high level of transfer activity between superannuation products. In the year to June 2009, retail and industry funds recorded net rollovers of $2.1 billion.[11] However, compulsory contributions tends to provide for a predictable cash flow, which makes it easier for superannuation funds to manage their long-term liquidity needs relative to other investors.

The investment strategy covenant is complemented by the other covenants in s 52 of the Act which require, among other things, the trustee to exercise the degree of skill, care and diligence of an ordinary prudent person with the property of another for whom the person felt morally bound to provide (the 'prudent person rule').

The issue in question is the perceived mismatch between the superannuation funds' need for liquidity and the long-term nature of infrastructure investment. Liquidity as a constraint may also be a symptom of the sheer size of large infrastructure projects in relation to the size of the superannuation funds. Finding ways to breakdown large infrastructure projects into more manageable investments could see further investment from superannuation funds.

One approach in dealing with complex and illiquid investments is to structure investment vehicles that pool these projects and then list the pooled vehicle. This allows smaller investors to efficiently purchase an interest in an asset portfolio without being locked in. In January 2011, the Australian Stock Exchange had 23 Listed Infrastructure Funds comprising a wide range of essential services such as energy, airports, toll roads and communication towers. The use of highly liquid and tradeable assets such as infrastructure bonds may also provide an opportunity for superannuation fund managers. However the project bond market in Australia is yet to restart following its demise in the global financial crisis. The potential utility of bonds for attracting investment from superannuation funds is discussed in section 2.2.

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[10] Australian Prudential Regulatory Authority (2010), *Annual Superannuation Bulletin,* http://www.apra.gov.au/Statistics/upload/June-2010-Annual-Superannuation-Bulletin.pdf:Table 5

[11] Australian Prudential and Regulatory Authority (2009) *Annual Superannuation Bulletin*, June, http://www.apra.gov.au/Statistics/upload/June-2009-revised-Annual-Superannuation-Bulletin.pdf: p. 7.

Another frequently cited issue is that of the perceived advantage enjoyed by some foreign superannuation or pension funds to invest in infrastructure assets.[12] A notable and recent example is the activity of Canadian pension funds with Australian assets.[13] According to Davis and Hu (2008), the reason for the high level of foreign activity is that Canadian pension funds are subject to quantitative asset restrictions (QAR) on their domestic investments but not their international investments.[14] Canadian funds are restricted to an overall limit of 25 per cent for domestic resource, infrastructure and real estate assets. However, in 2005, similar restrictions on Canadian funds' international investments were removed. The net effect of this regime, they argue, is to encourage Canadian funds to pursue foreign investment opportunities, arguably, at the expense of domestic ones. By way of comparison, Australia, the United Kingdom and the United States of America do not impose QAR on superannuation funds' investments in assets but follow the 'prudent person rule'.

The taxation treatment of green field projects

The taxation treatment of infrastructure investments – and green field projects in particular – has substantial implications for the investment decision of all potential investors, including superannuation funds. Consequently, a detailed discussion is located in section 2.7.

The scale of bid costs

Government tender processes frequently run to 18 months or more and, where they are privately funded, typically involve fully underwritten proposals. The combination of time, procedural effort and due diligence can result in a substantial cost that can only be recovered by the winning proponent. These bid costs and the resource-intensive process deter some superannuation funds, and indeed other investors, from participating. (This issue is discussed in detail in Chapter 4.)

Issues

2. Have the correct issues been identified as impeding superannuation from investing more in infrastructure finance? If so, are the potential solutions raised appropriate and what priority should be attached to each of these?

2.2 Infrastructure Bonds

The infrastructure finance debate periodically raises the issue of infrastructure bonds as means of financing infrastructure.[15] An infrastructure bond is a debt instrument issued by governments or private companies to raise funds for infrastructure projects. Infrastructure bonds have been used around the world as an alternative to funding projects through other

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[12] This issue, amongst others, was raised by practitioners at the Infrastructure Australia inaugural conference *The Challenges of Financing Infrastructure* on 19 April 2011.

[13] "MAp Gets Offer from Ontario Pension Plan", *The Sydney Morning Herald*, 22 June 2011 and I. McDonald (2010) "Ontario Teachers Pension Plan Sells Transurban Stake", *The Australian*, 18 May.

[14] E.P. Davis and Y. Hu (2008) "Are Canadian Pension Plans Disadvantaged by the Current Structure of Portfolio Regulation", *OMERS Canada*, 25 March <http://www/brunel.ac.uk/9379/efwps/0813.doc

[15] Senate Select Committee on Superannuation (1996) *Investment of Australia's Superannuation Savings* (http://www.aph.gov.au/senate/committee/super_ctte/completed_inquiries/1996-99/report_21/c03.htm

means, such as bank loans for instance. The coupons, or interest payments, associated with infrastructure bonds (and repayment of the principal) are usually funded with a direct link to the revenue raising associated with the particular infrastructure project – such as a toll road.

Infrastructure bonds can be issued by private firms without a need for government assistance. If a particular infrastructure project is deemed to be profitable by investors, they will recognise the value proposition and invest.

Where governments have from time to time decided to actively encourage the use of infrastructure bonds by the private sector, this has usually been in the form of some kind of subsidy such as a tax concession or direct grants either in the hands of the issuer or the bond holder. A tax concession enables the issuer to reduce the rate of return while maintaining the bondholders' required after tax rate of return. In this way, at least some of the benefits associated with the tax concession can be captured by the issuer – which may be a firm or a state or local government – which lowers the cost of financing the relevant infrastructure project for the issuer. This of course involves a loss of revenue to the government that sponsors the tax concession.

For instance, municipal infrastructure bonds in the US are issued by state or local governments, and attract a tax concession from the federal government. The Australian Government also provided concessional tax treatment in respect of infrastructure bonds during the 1990s, however, these were not considered effective in expanding the total level of private infrastructure investment, with the benefits instead captured by financiers and tax planners.

While many bond funded projects have been completed with the assistance of some kind of government subsidy around the world, it is unclear whether funds have been effective at actually leveraging funding that may have been provided by investors in any event – at least with regard to profitable projects.

Revenue bonds

Revenue bonds are secured by specific revenue sources, for example, a highway revenue bond is secured by toll revenues.[16] Revenue bonds are therefore different from traditional general obligation bonds, which are not secured against any particular asset but against all assets of the issuer. A revenue bond, for example, could be issued to finance a toll road and investors would receive payment from the toll revenue stream.

The benefits of revenue bonds include:

- providing an objective market test for the viability of the project;
- promoting full cost pricing of the service;
- facilitating shared financing through PPPs; and

[16] L.S. Brittain (2002) "Financing Capital Expenditures", *Canadian Tax Journal* 50(2): pp. 552-75.

- transferral of economic risks of operation to investors without loss of ownership and control.

Traditionally, the debt component of a significant portion of United States' infrastructure investment has been in the form of municipal bonds, which rely primarily on a state's or local government's ability to offer tax-exempt securities to investors. More recently in the United States, the *Recovery Act of 2009* established a new instrument for municipal funding of infrastructure called "Build America Bonds"[17], which are taxable bonds for which the US Treasury Department pays a direct subsidy of 35 per cent of the interest costs to the issuer. Between the programme's beginning in 2009 and May 2010, over $106 billion of these bonds were issued. Also, the *Transportation Infrastructure Finance and Innovation Act* provides supplemental and subordinated capital for up to 33 per cent of qualified transport projects of regional and national significance in three different forms: direct loans for up to 35 years, loan guarantees by the Federal Government, and a supplemental line of credit for up to 20 years.[18]

However, with over 50,000 state and local issuers of municipal bonds and 2 million separate bonds totalling some $2.4 trillion, the design of these bonds, according to critics, exclude potential investors seeking to invest substantially larger sums than most individual municipal finance debt issues as well as those investors unable to take advantage of the tax incentives. Most prominent among these potential investors are large institutional funds, such as superannuation funds. Large institutional funds and central bank managers prefer to focus on debt issues in the range of $500 million or above.[19]

Covered bonds

One of the instruments developed in Europe to overcome this challenge is the "covered bond". Covered bonds are debt securities backed by cash flows from public sector loans or private sector mortgages, and they have formed a large, established part of the European financial landscape since 1769. In contrast to other forms of pooled securities, the underlying obligations remain on the bond issuer's consolidated balance sheet. An investor has recourse to a pool of assets that secures or "covers" the bond if the originator (usually a bank or other financial institution) becomes insolvent. The issuer of a covered bond gains the benefits of pooling its individual (smaller) obligations.

Public sector covered bonds typically pool loans to central, regional and local governments and are either guaranteed by the relevant governments or by the cash flows from commercial infrastructure projects. By way of illustration, a single infrastructure project may be too small to attract sufficient bond interest, however, the revenue streams from a pool of projects could justify the issuance of a covered bond.

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[17] US Treasury Department (2011) "Build America Bonds", http://www.treasury.gov/initiatives/recovery/Pages/babs.aspx (accessed 12 July 2011)

[18] Federal Highway Administration (2011) "TIFIA Defined" http://www.fhwa.dot.gov/ipd/tifia/defined/index.htm (accessed 12 July 2011)

[19] H. Crebo-Rediker and D. Rediker (2009) *Financing America's Infrastructure: Putting Global Capital to Work*, New America Foundation , www.newamerica.net

The appeal of covered bonds for investors is that they represent a large, liquid, and high quality asset class. For banks, they represent a form of borrowing that is generally low-cost and long-term. This is because they are backed by low risk collateral and are government guaranteed. Government guarantees of private sector financing results in the Government retaining the economic downside risk of financing the assets, but granting the upside to the private financiers. Covered bonds could also be an efficient way to gain access to finance that might not otherwise be available due to inadequate size and liquidity.

In 2008, the United Kingdom passed covered bond legislation that specifically includes public-private partnership loans backed by cash-flow payments from public entities. Under this scheme, loans are made by a bank to fund infrastructure projects such as roads, hospitals, schools, or utilities. These loans are pooled and sold to investors as a large, liquid covered bond, which is then traded on the market with other such bonds. By this means, banks in Europe are able to attract large pools of capital that not interested in municipal and other small bond issues.[20]

Although not allowed under the current *Banking Act 1959*, the Australian Government has committed to amending this legislation to allow banks, credit unions and building societies to issue covered bonds in Australia. However, it is expected that Australian banks, credit unions and building societies will almost exclusively back their covered bond issuance by residential assets, rather than loans backed by commercial property.

Infrastructure bond market

There is a view that changes to the bond market could enhance the pool of finance available for infrastructure investment. As part of the Competitive and Sustainable Banking Package released on 12 December 2010, the Australian Government has committed to two measures that will assist in the development of a deeper and more liquid retail corporate bond market in Australia. Firstly, the Government will allow Commonwealth Government Securities (CGS) to be traded on a retail securities exchange. This will provide a more visible pricing benchmark for fixed-income securities, reduce barriers to retail bond issuance and encourage retail investors to consider diversifying their savings into fixed-income products. Secondly, the Government will reduce the disclosure obligations and liability requirements associated with corporate bond issuance to retail investors. This measure will decrease the costs associated with bringing retail corporate bonds to market for Australian businesses.

Possible benefits of infrastructure bonds

Profitable infrastructure projects financed with bonds can be attractive to investors — especially if they are backed by strong and reliable revenue streams such as with some toll roads. They may be a lower cost financing option for projects compared to other funding sources such as bank loans.

Infrastructure bonds subsidised by some kind of government concession could potentially assist to get a marginally profitable project over the line – or from the perspective of

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[20] European Covered Bond Council (2011) "Introducing covered bonds", http://ecbc.hypo.org/Content/default.asp?PageID=504 (accessed 31 May 2011)

taxpayers – a marginally unprofitable project in financial terms but one which may deliver substantial net public benefits.

As a vehicle to expand the funding pool available for infrastructure projects, infrastructure bonds could potentially be worthwhile if they were issued by the private sector.

Limitations of infrastructure bonds

Infrastructure projects financed with bonds that are backed by revenue streams such as toll roads can sometimes fail. Such failures, usually caused by over optimistic patronage forecasts and/or cost overruns, can contribute to not only investors losing their money, but reputational risks in terms of raising funds for future projects.

In terms of bonds backed by government subsidies such as tax concessions, most of the tax related benefits may be captured by financiers and tax planners rather than the infrastructure borrowers. This occurred with a previous infrastructure borrowings taxation concession in Australia, which was effectively withdrawn in 1997.

Moreover, such concessions have the potential to create tax arbitrage opportunities, which may require complex integrity provisions in the law to prevent. This would be particularly the case if the cost of financing the acquisition of the bond were tax deductible.

From a revenue perspective, an infrastructure bond tax concession is a tax expenditure that also has a cost to budgets in terms of revenue foregone – which is magnified to the extent that unprofitable projects are funded or the project has a low or negative net public benefit.

Issues

3. What do you see as the impediments to the development of a tradeable infrastructure bond market?

4. What measures could be taken to respond to the impediments?

5. Can the private sector bond market be re-established in a way such that exploitation is avoided and risk to Government is minimised?

6. How effective are infrastructure bonds at leveraging investment? Would they increase the overall pool of available finance?

7. Are there any other additional benefits or limitations of infrastructure bonds that are not listed?

2.3 Infrastructure Funds

An infrastructure fund is essentially a funding source that can be used to pay for infrastructure projects. Infrastructure funds can come in countless different forms that vary in terms of the mechanisms used to resource the fund and the way in which it distributes its resources. Infrastructure funds could also recycle the proceeds from other projects.

There are a number of ways that an infrastructure fund could distribute its resources. For instance, it could make a series of grants to high net public benefit infrastructure projects,

alternatively, it could make equity injections to projects. To stretch its funds further, it could play a role as a provider of concessional loans or raise funds on capital markets in respect of eligible projects.

Infrastructure banks are one kind of infrastructure fund that has been used in international jurisdictions. The European Investment Bank(EIB) is one example. The EIB raises funds on the capital markets and lends them on favourable terms to eligible projects. The EIB's current three-year operational plan allocates €160 billion to infrastructure projects consistent with the bank's strategic objectives. For example, as part of the Trans-European Networks initiative to modernise Europe's key value-added transportation corridors, EIB has provided favourable loans to the Port of Barcelona to help update its facilities and practices.[21]

Similarly, the Federal Financing Bank (FFB), a United States government-owned corporation, borrows funds from the US Treasury to lend to federal agencies at a rate lower than what the borrower would have in the private credit market. FFB may also lend to private borrowers that have federal guarantees.

In the United States, the concept of an infrastructure bank is topical. As part of the fiscal year 2012 budget proposal, the Obama Administration proposed the creation of a national infrastructure bank that would invest US$30 billion over a six-year period. The bank would provide loans and grants for transportation projects.[22] However, it is unclear at this stage exactly how the bank will operate.[23]

Potential benefits of infrastructure funds

An infrastructure fund could be charged with selecting and financially supporting projects that have high net public benefits, but for which the revenue potential is perhaps not strong enough to interest the private sector.

A fund could be used as a way to guide important decisions on project selection in a socially responsible manner that is operationally independent from individual governments. To the extent that the fund led to better decision making with regard to project selection, then value for money for the taxpayer could be improved.

A fund could contribute to the development of green field assets. Then on maturation as a brown field asset, the assets could be sold to the private sector, with the proceeds recycled into the fund for future projects.

On account of its size, a fund could raise capital for large projects, for example, through the issuance of tradeable bonds structured in a way that could be attractive to investors such as superannuation funds. It could also potentially leverage contributions to infrastructure

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[21] European Investment Bank (2009) *Activity Report 2009* http://www.eib.org/attachments/general/reports/ar2009en.pdf

[22] (US Congress) Joint Committee on Taxation (2011) *Overview of Selected Tax Provisions relating to the Financing of Infrastructure*, (JCX-29-11), May 13, www.jct.gov.

[23] (US Congress) Joint Committee on Taxation (2011) *Overview of Selected Tax Provisions relating to the Financing of Infrastructure*, (JCX-29-11), May 13, www.jct.gov.

projects from smaller private sector investors by addressing concerns about undiversified investments being too risky.

Limitations of infrastructure funds

It has been suggested that the creation of a revolving infrastructure fund would effectively limit the impact of government contributions on their budgets. However, depending on how the fund is set up and structured, government contributions to, or payments from, a fund are still likely to impact on their budget bottom line and/or balance sheet position.

If the governance arrangements were not sufficiently robust, the effectiveness of a fund in selecting high net public benefit projects could be undermined by political interference or poor processes leading to poor project selection. Poor decisions on project selection could risk the viability or sustainability of the fund from a financial perspective, especially if it is created with the intention of operating as a revolving fund with no on-going financial support from governments.

Issues

8. Does the above description of infrastructure funds reflect accurately the essential elements of this option?

9. Are there any other relevant strengths that are not reflected?

10. Are there any other kinds of funds you can think of that should be considered by the working group?

Depending on the structure of a fund and its objectives, it could be prohibitively costly to establish and maintain its activities, keeping in mind that a range of expertise would be needed to be maintained, potentially in areas such as project managing and financing — particularly if a fund takes an active equity position in individual projects.

2.4 Government Equity and Debt Assistance

Governments have historically played a vital role in funding economic and social infrastructure. While the private sector has traditionally been a partner with governments in terms of design and construction aspects of infrastructure projects, more recently it has extended its involvement to include operating and owning things such as toll roads and ports — generally in instances where there is not a compelling (public good) reason to be building, operating and owning such assets.

Government funding contributions for infrastructure have usually taken the form of grants, equity or debt (such as loans or bonds). In Australia, contributions from the Australian Government have usually been in the form of grants to the states and local governments, who retain equity in the projects. It has been suggested that grants may not have always led to the most efficient outcomes, and may have not created strong incentives for projects to be delivered by others (such as the private sector and other levels of government) in a

disciplined and efficient manner. The grant funding model also means that governments take significant upfront project risk, but do not share directly in potential revenue gains.

It has been suggested that the Australian Government could take equity positions in new infrastructure projects, although such an approach would require it to take a far more active and costly role in the management of such projects.

Another possible option that has been suggested is for the Australian Government to consider co-funding projects, either with state governments or the private sector. This could be by partnering with relevant jurisdictions in the provision of availability payments, or by co-funding with commercial financial institutions on an equal or subordinated basis. Co-funding of this kind could also occur through the provision of government grants.

Two notable examples of government taking an equity position are the National Broadband Network and the Australian Rail Track Corporation. According to this model, the public sector finances all or a large part of a project at a rate of return which is more than the Government's cost of capital (that is, the bond rate) but less than a commercial rate, otherwise the project could be delivered by the private sector. The project can be undertaken with a view to ultimately divesting the mature asset and reinvesting the proceeds. The benefits of this model include (1) scope for the application of user charges to the asset, and (2) the possibility of some direct financial return on a government investment (unlike grants).

CASE STUDY: National Broadband Network, Australia

The NBN Co. was established in 2009 to connect 93 per cent of premises with optical fibre for broadband speeds of 100 megabits per second and the balance of 7 per cent of premises with fixed wireless and satellite for broadband speeds of at least 12 megabits per second. The total Australian Government equity investment is expected to be $27.5 billion and the expected rate of return to 'exceed the government long-term bond rate'.[24]

CASE Study: Australian Rail Track Corporation Ltd (ARTC)

The ARTC is a company whose shares are owned by the Commonwealth Government and overseen by the Minister for Infrastructure and Transport and the Minister for Finance and Deregulation on behalf of the Commonwealth. The ARTC commenced operating in July 1998 to improve the efficiency and performance of the interstate rail track by leasing the above rail capacity of its network to the rolling stock of its clients on a commercial basis. In the 2009-10 financial year, the ARTC returned $94.3 million to its equity holders on its total equity of $2.5 billion.[25]

[24] Commonwealth of Australia, *2011-12 Budget Paper No.* 1, p. 7-11.
[25] Australian Rail Track Corporation (2010) *Annual Report 2009-10*, pp: 45-46. http://www.artc.com.au/library/annual_report_2010.pdf

Public sector senior debt

Senior debt issued by a government would be prioritised in front of other 'more junior' forms of debt. In the event the issuer goes bankrupt, senior debt theoretically must be repaid before other creditors receive any payment.

As noted, in the wake of the global financial crisis, the cost of private project finance continues to be high, and this is exacerbated by the frequent need for multiple lenders, increased loan covenants and shorter tenor. Australian dollar bank debt typically has a relatively short tenor of 5 to 9 years (with some limited capacity out to 15 years) but infrastructure concessions are usually over 25 years in duration, resulting in refinancing risk.[26] Refinancing risk is a significant contingent risk issue for both government and equity.[27]

The Australian market is structurally different to offshore markets. For example, Canada has very large pension schemes looking for long tenor debt to match liabilities and European banks are still able to fund long tenor. Consequently, the public sector senior debt model involves the government supplementing the shortfall between private sector debt issuance and the total project finance required by providing its own senior loan to the project on a commercial basis.

For example, the P3 Canada Fund was established to increase the effective use of public-private partnerships and alternative methods of finance. The P3 Canada fund provides financial contributions up to 25 per cent of an eligible project's direct construction costs. Loan and loan guarantees are available to assist concessionaires find sufficient capital to construct a project.[28]

Leveraging government balance sheets in this way would reduce the cost of capital needed for nationally significant infrastructure projects — but government intervention should only be exercised where other options are not available and where there is a reasonable expectation that loans would be repaid. In addition, irrespective of what government debt financing for an infrastructure project or entity is labelled (e.g. 'subordinated loans' or 'senior debt'), ultimately the budget treatment of such investment will be classed as either a commercial or concessional loan, or a grant. If there is not a clear likelihood that an investment in a project will be repaid, the transaction will be classified as a grant upfront. In suggesting these options caution needs to be exercised so that appropriate price signals remain in the market through appropriate conditionality.

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[26] Although it should also be recognised credit ratings agencies may look favourably upon shorter tenor as they may take the view that (1) debt maturity should not exceed the useful life of a project, and (2) tenor should not be so long as to be unresponsive to changing economic trends and public policies. See for example Fitch Ratings (2010) "Global Infrastructure & Project Finance: Rating Criteria for Toll Roads, Bridges and Tunnels", 10 August, www.fitchratings.com

[27] Stephen Williams, Business Council of Australia (2011) "The Challenges of Financing Australian Infrastructure: Key Issues for Private Financing", *The Challenges of Financing Infrastructure Inaugural Conference 19 April 2011.*

[28] PPP Canada "Resources for P3 Canada Fund Applicants", < http://www.p3canada.ca/p3-canada-fund-resources-applicants.php> (accessed 16 June 2011)

As noted, the European Investment Bank (EIB) raises funds on the capital markets and lend them on favourable terms to eligible projects. Spain's ministry of infrastructure has initiated special financial guarantees for PPP projects – mainly high speed rail – for an estimated amount of €15 billion. In France, the Caisse des Depots et Consignation can provide loans up to €8 billion to finance concession-based infrastructure projects. In addition, the Government also provides a total amount of €10 billion in partial guarantees to finance up to 80 per cent of individual PPP projects.

Potential benefits of government equity

In theory, making an equity contribution in partnership with the private sector means that project risks and benefits could also be shared across the life of a project. This could potentially put more 'skin in the game' for the Australian Government compared to the relatively 'passive' involvement it has taken through grants to date, which could in turn possibly lead to more careful project selection.

If genuine (commercially viable) government equity positions were used to 'recycle' funds, then they could potentially expand the pool of finance available for infrastructure projects.

Limitations of government equity

There are clear criteria that must be met for government investments to be classified as equity injections; critically, if there is not a clear likelihood that a government equity investment in a project will generate a return, the transaction will be classified as a grant upfront and will impact directly on their budgets. In itself, taking an equity stake would not assist to expand the funding available for infrastructure projects. If a project is viable in commercial terms, the argument for government involvement is not strong. Taking an equity position would be more costly than making a grant contribution in terms of having to take a far more active role in the management of infrastructure projects.

2.5 Demand Risk Insurance

In the light of a number of high profile infrastructure project failures, it has been suggested that governments could underwrite the financial performance of future projects. There are a number of ways in which this could be done from an availability payments model (discussed in section 3.1.) through to provision of demand risk insurance. Governments underwriting projects by taking on demand risk would certainly increase interest by the private sector in infrastructure projects, but depart from the principle that particular risks should be taken on by those that are best placed to manage them.

A better way of managing demand risk is to improve the quality and accuracy of patronage forecasts. More robust and reliable forecasts could reduce some of the uncertainty associated with infrastructure projects that rely on patronage for revenue. Inaccuracy in patronage forecasting has been highlighted as a key impediment to private sector investment in major

infrastructure projects — particularly roads. Consequently, COAG's Infrastructure Working Group has commissioned a review of traffic patronage forecasting methodology.[29]

Under a demand risk insurance model[30], the Government provides an insurance policy against the risk of traffic volumes being significantly lower than expected. This model charges a commercial premium to the project and would pay out an agreed sum per vehicle multiplied by any shortfall in actual traffic volumes in a period below a specified level. The premium is "commercial" in that it reflects the probability of the Government making payments and the potential amount of payments, in line with the practices of commercial insurers. A benefit of this method is to promote accuracy in traffic forecasting. However, this structure could create a contingent liability on the Government's balance sheet.

Potential Benefits of Government underwriting of projects

Governments underwriting projects by taking on demand risk would certainly increase interest by the private sector in infrastructure projects and therefore increase the pool of finance made available by the private sector.

Limitations of Government underwriting of projects

Government underwriting takes 'skin out of the game' from the perspective of the private sector, meaning that they would be prepared to partner in risky projects that in other circumstances they would not be interested in. Governments may be exposed to all downside risks in terms of project patronage.

CASE STUDY: Buga-Tulua Road, Colombia

The 23 kilometre Buga-Tulua road upgrade in Colombia includes a minimum traffic guarantee with cash compensation and a maximum traffic ceiling above which government receives windfall revenue.[31]

Issues

11. Do you think government underwriting of the financial performance of projects is an efficient way to encourage private sector investment? Are there other strengths and weaknesses of government underwriting of projects that are not identified?

[29] A. Albanese (2011) "Managing Patronage Forecasting and Risk", 21 June, http://www.minister.infrastructure.gov.au/aa/speeches/2011/AS18_2011.htm

[30] KPMG (2011) "Australian PPP Debt Markets Update", May, 10-11.

[31] International Finance Corporation, "Summary of Project Information: Colombia-Buga-Tulua_La Pailla Highway", http://www.ifc.org/ifcext/spiwebsite1.nsf/0/BCF86AA44981AE4D852576C10080CEA6> (accessed 16 June 2011).

2.6 Sale of Brownfield Assets

Some potential investors, such as superannuation funds, have expressed a clear preference for brownfield assets because, as noted, they do not carry construction risk and offer greater stability of returns that are well aligned with investor's priorities. Consequently, this method of financing involves the sale of public assets and the reinvestment of those proceeds in new infrastructure. In time, the new infrastructure can itself be sold and the proceeds reinvested. The sale of public assets will necessarily involve significant consideration by relevant state and territory governments.

A recent example is the Queensland Government's sale of a portfolio of five assets in 2010 and 2011. These included:

- the sale of Queensland Motorways Limited roads portfolio to the Queensland Government's investment arm QIC for $3.088 billion;
- the initial public offering of 66 per cent of QR National for $4.6 billion;
- the 99 year lease of the Abbott Point Coal Terminal to Mundra Port Pty Ltd for $1.829 billion;
- the 99 year lease to manage Queensland's forestry plantations to Forestry Plantations Queensland Pty Ltd for $613 million; and
- the 99 year lease of the Port of Brisbane to Q Port Holdings for $2.1 billion.

In this model, the proceeds of $12 billion could be placed in an infrastructure fund to develop green field projects which, in turn, could be divested upon reaching maturity. In order for this method to be effective, a forward programme of asset divestments is required that enables potential investors to prepare for upcoming divestments. Two of the benefits are the transferral of risk to the private sector as a result of privatisation as well as the creation of deal flow for traditional infrastructure investors.

Consulting firm Ernst & Young cautions, however, that this method "...does not necessarily generate additional funding capacity. Privatisation is an alternative method to debt for accessing the present value of the future cash flows of a government business ".[32] In particular, it notes that the following four conditions must be present for the privatisation to produce an efficiency improvement:

- the private acquirer can improve the efficiency of the business and is prepared to price this efficiency in the sale proceeds to the government;
- the government does not retain an inequitable business risk in the business;

[32] Ernst & Young (2010) *Infrastructure Funding and Financing: the Role of Superannuation in Meeting the Infrastructure Challenge*, 9 November: p. 24.

- the yield required by the private acquirer is comparable to the existing business WACC; and

- there is a competitive market for the business subject to the privatisation.

2.7 Taxation Treatment of Infrastructure Investments

The private return on investment in infrastructure can be reduced if the tax system does not adequately recognise costs. Under the current Australian taxation system, tax losses created from the early stage expenses in a project are not able to be used by the project sponsor until there is sufficient income in future to offset the tax loss. As such, the tax value of expenditure is reduced because it cannot be used immediately as a tax deduction and are devalued by inflation and the time value of money. The delay in using deductions also brings with it the risk that, if there is a substantial ownership change in the project and a change in business operation then taxation laws may not allow the owners to access those deductions, rendering them effectively useless.

As part of the 2011-12 Budget, the Commonwealth Government announced substantial reforms to the taxation treatment of new infrastructure projects; namely, that a project assessed as *nationally significant* by Infrastructure Australia may be eligible to have the value of its early stage losses uplifted over time, and exempted from tax rules which prevent tax losses being used where there is a change of ownership. The new tax incentive will have a global capital expenditure cap of $25 billion over the period from Royal Assent of the enabling legislation to 30 June 2017. The Australian Treasury will be releasing a discussion paper shortly and industry stakeholders will have the opportunity to provide their views on this matter.

Issues

12. Do the models here outline all the possible options for expanding the pool of finance available for infrastructure investment?

13. On what bases should a model be preferred over another?

14. Would a Commonwealth equity injection to a nationally significant project influence your willingness to invest in green field projects?

15. What form of Commonwealth assistance do you think is most needed to attract private sector investment?

16. Would the size of the transaction costs associated with the 'recycling of funds' (sale of assets) substantially impact the viability of pursuing such a mechanism?

17. The criticism has been levelled that current financial models favour the development of infrastructure projects of the smallest size necessary to address immediate demand rather than of the appropriate scale to address medium-term demand, and this has resulted in inefficiencies associated with retrofitting capacity. Is this criticism valid? If so, what measures could help to address this bias?

CHAPTER 3: HOW CAN THE FUNDING AVAILABLE FOR INFRASTRUCTURE BE MAXIMISED?

This chapter addresses the issue of funding for infrastructure investments. That is, the manner in which infrastructure finance is repaid to investors. As noted above, there are two fundamental sources of funding for infrastructure: either an allocation from general taxation revenue or direct user charges. This chapter explores the concepts of availability payments, user charges, freight toll roads, and tax increment financing.

3.1 AVAILABILITY PAYMENTS

Under an availability payments model, governments take responsibility for any downside departure from agreed patronage outcomes and possibly share in any upside outcomes.

Under the model, the private sector designs, builds, finances, operates and maintains the asset for the concession term. The Commonwealth Government can co-fund with the States a portion of the periodical payments made to the infrastructure asset developer/operator for the life of the concession period, which only commences once the infrastructure has been delivered and is operational. These payments are used to repay the private sector finance and provide a return to equity providers. The payments are reduced if the asset is not available in the contractually agreed condition throughout the concession.

One method of determining when payments should be made available is through the tax system. Improved loss offsets and infrastructure tax concessions can be used to provide projects with early stage funding as part of an availability payments model. This method does not need to be contracted over project by project, reducing complexity and ensuring that treatment of different projects is fair. Further, tax loss provisions share the risks and benefits more evenly between government and the contractor as they do not fully fund a project's expenditure and do not fully capture windfall gains.

In the case of commercial services, such as transport for example, a flow of revenue is generated that can be returned to government to offset the availability payments. At the end of the concession, options include sale of the asset or adding the asset to public net worth for further leverage. This model is commonly used in the public transport sector.

For projects that are not shovel-ready, this would delay the first payment required by the government. For those that are shovel-ready, it would mean a fraction of the government's contribution would be required in the short term compared to block grants. The government would not need to raise debt in the short term to meet payments over the full term of the concession. Only a fraction of the contribution is required upfront and then only when the project is complete. This differs from grants, whereby payment is required generally even before works commence.

This model lends itself to managing demand by enabling tolling in a network pricing context (along with other demand management measures) to help pursue public policy outcomes in a manner that is independent of the question of financing the infrastructure. It also insulates the Commonwealth from design and construction risk, to which it is effectively exposed with up front lump sum payments. Another benefit is that of intergenerational equity as the infrastructure is paid over the life of the concession rather than only by today's taxpayers. Nevertheless, the model requires repayment of the principal plus interest to the asset owner.

It should also be noted that managing demand risk can be achieved by improving the quality and accuracy of patronage forecasts. More robust and reliable forecasts could reduce some of the uncertainty associated with infrastructure projects that rely on patronage for revenue. Inaccuracy in patronage forecasting has been highlighted as a key impediment to private sector investment in major infrastructure projects – particularly roads.

CASE STUDY: Peninsula Link, Victoria

The Peninsula Link project where the private sector will design, finance, construct, maintain, and operate 25 kilometres of four-lane highway connecting the Mornington Peninsula Freeway and Mt Martha with the Frankston Eastlink Freeway at Carrum Downs. Construction is expected to be complete by 2013. The 25 year concessions uses an availability model backed by quarterly government payments. No toll is levied on users.

CASE STUDY: Autoroute 30, Canada

A PPP project[33] where the private sector will design, finance, construct, maintain, and operate about 42 kilometres of road, including a tunnel and two bridges and will finance, operate and maintain a supplemental 35 kilometres of road. One of the bridges is to be tolled. Payments to the private sector are made by the Government, with deductions for failure to comply with agreed standards. In addition, the private sector collects the toll revenues from the bridge on behalf of the Government, with revenue sharing above a threshold figure.

3.2 Market Mechanisms: User Charges & Network Pricing

User charges and pricing are among the most controversial issues in the infrastructure funding debate. Critics point out that citizens pay taxes and should not be required to pay again for use of public infrastructure. On the other hand, taxation revenue has proven insufficient to fund the entirety of the demands for infrastructure investment and, consequently, many citizens must endure suboptimal levels of service or miss out entirely.[34]

User charges for infrastructure have been introduced in the past to create a market mechanism for what is essentially a public good. This helps to ensure the efficient allocation of that piece of infrastructure. Historically, user charges have proved relatively successful at

[33] For a discussion see pwc (2011) *Funding infrastructure: Time for a new approach*, April.

[34] Infrastructure Australia (2011) *Communicating the Imperative for Action: A Report to the Council of Australian Governments*, p. 16. http://www.infrastructureaustralia.gov.au/2011_coag/files/2011_Report_to_COAG.pdf

raising revenue and managing demand across a range of public utilities including electricity and communication infrastructure. Toll roads are a common method by which roads are priced. Tolls are used not only to help fund comparatively costly infrastructure such as bridges and tunnels, but also have been used as a way to manage congestion through appropriate price signals. Indeed, the *Australia's Future Tax System Review (2010)* recommended that, ideally, fuel taxes and registrations be replaced by road pricing based on short-run marginal prices, which are higher in cities due to congestion. The (2006) urban congestion review initiated by COAG in 2006 also found that pricing was likely to be amongst the most effective of measures for rationing limited road space.[35]

Despite these findings, governments have yet to trial or introduce urban road pricing. Current approaches to user charges are piecemeal. Tolling on the Sydney Motorway Network, for example, ranges between 17 cents and $3.33 per kilometre, with differing regimes for each motorway. In its 2010 report to COAG, Infrastructure Australia noted the potential role of user charges along with the need to foster their legitimacy:

> *Notwithstanding that road user charges (including congestion charging) may prove unpopular in the short term, more serious consideration of such measures will be necessary if the required investment in road and public transport infrastructure is to be delivered...[and] it is particularly important to demonstrate that funds collected from road user charges are directed back into transport infrastructure.*[36]

As a variation, there is also the potential for governments to commercialise individual assets by attaching revenue streams to them – such as the introduction of tolls on bridges that do not presently attract user charges – and either using that revenue or otherwise securitising that revenue stream through bonds to fund new infrastructure. A related option involves extending existing concessions, such as toll roads, in return for a commitment to augment that asset, such as the M2 Motorway Upgrade for example.

CASE STUDY: M2 Motorway Upgrade, Sydney

Sydney's M2 Motorway is currently undergoing upgrade from four to six lanes financed by its owner/operator Transurban and funded through the extension of the concession by 4 years; a one off 8 per cent toll increase on completion; and three new toll points.

Issues

18. Can you think of other effective ways to improve the operation of markets in infrastructure?

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[35] Competition and Regulation Working Group (2006) *Review of Urban Congestion, Trends, Impacts and Solutions: Report Prepared for the Council of Australian Governments*, December, < http://www.bitre.gov.au/publications/56/Files/COAG_Urban_Congestion_Review_Report.pdf> p. 18.

[36] Infrastructure Australia (2010) *Getting the Fundamentals Right for Australia's Infrastructure Priorities*, June, < http://www.infrastructureaustralia.gov.au/publications/files/Report_to_COAG_2010.pdf> p. 19.

3.3 FREIGHT TOLL ROADS

As one form of user charges, this model of infrastructure funding involves the application of tolls on freight vehicles in order to fund freight-specific road upgrades and bypasses that improve freight efficiency.[37] An example might be a regional town bypass that is funded exclusively through a toll on freight vehicles. The marginal utility of the toll for the vehicles would include the ability to maintain a higher speed and avoid the fuel consumption and other inefficiencies arising from slowing and accelerating. The benefit to the community arises from less freight traffic and improved amenity. This method has been utilised in Hungary and, to a lesser extent, France and the Netherlands.

Moving from indiscriminate taxes to efficient prices would allow Australia to leverage the value of its existing transport infrastructure. COAG has committed to a review of the feasibility of a more direct heavy vehicle pricing system in support of improving the efficiency and productivity of the freight industry.[38] If ultimately found feasible and effective, heavy vehicle charging reforms could pave the way for the introduction of market signals in the broader transport sector.

CASE STUDY: Western Highway, Victoria

This case study modelled the hypothetical costs and benefits of adding two town bypasses on the Western Highway road freight corridor between Melbourne and Adelaide. The $68 million project assumes 320,000 truck movements per annum (the actual 2009 patronage was over 400,000 trucks). The model results in a toll of $18.35 per truck movement, compared to additional fuel consumption of $19.00 and an additional 15 minutes travel time arising from two 90 degree turns at low speed; two narrow roundabouts; one railway crossing, one school zone; and seven sets of traffic lights in 60 km/h zones.[39] At a price of $1,600.00 per interstate freight haul, this bypass toll represents a freight surcharge of 0.11 per

[37] L. Fraser (2011) "Can Regional Freight Finance Its Own Roads?", *The Challenges of Financing Infrastructure Inaugural Conference*, 19 April.

[38] COAG (2007) *The COAG Road Reform Plan* < http://www.roadreform.gov.au/login.aspx?ReturnUrl=%2fDesktopModules%2fBring2mind%2fDMX%2fDownload.aspx%3fTabID%3d63%26Command%3dCore_Download%26EntryId%3d772%26PortalId%3d0%26TabId%3d63&TabID=63&Command=Core_Download&EntryId=772&PortalId=0&TabId=63>

[39] The model assumes a 40 year project operating concession; a pre-tax real WACC of 15.03 per cent; a nominal risk-free rate of 5.5 per cent; and a project beta of 1.51.

3.4 Tax Increment Financing (TIF)

Tax increment financing developed in the United States, where it is widely applied. TIF involves offsetting some or all of the cost of developing an infrastructure asset – typically transport infrastructure – by levying a tax surcharge or increment on the land owners and/or businesses adjacent to the asset who stand to benefit from it. In the United States, 49 states have adopted statutory frameworks enabling the use of TIF by local governments. In these states, nearly all cities with populations above 50,000 contain one or more TIF zones.[40] The State of California was first to enact legislation in 1951 so that TIF could be used as a local government financing tool to match federal urban renewal funds.

In the United Kingdom, the Cameron-Clegg Government legislatively empowered local governments to borrow against future tax increment revenue in order to fund infrastructure projects.[41] However, there are a number of drawbacks to the TIF method. For instance, if surcharges affect marginal tax rates it could have a detrimental impact as it would encourage businesses to move away from the surcharge zone thus eroding the base and reducing the initial benefit of the project. Another major criticism of the TIF method is that there is a substantial risk if the expected increment fails to emerge. Moreover, unless central governments guarantee the returns, the price of borrowing may be inefficient. Another criticism concerns the risk that more prosperous areas will attract investments that might otherwise have been directed to areas in more pressing need.

CASE STUDY: Gold Coast Rapid Transit

In Australia, the Gold Coast Rapid Transit Project is funded by $120 million from the Gold Coast City Council, $464 million from the Queensland Government and $365 million from the Commonwealth Government. The Gold Coast City Council is raising a portion of its contribution through a City Transport Improvement Charge levied on all ratepayers. Although not strictly a TIF charge because it is levied on all ratepayers and not only those who benefit directly from the infrastructure, the case study is illustrative.[42]

3.5 Joint Property Development

Another funding model widely used overseas is the practice of the infrastructure provider capturing value through the development of adjacent real estate. In this model, the transport infrastructure provider jointly develops the real estate in and around the infrastructure to generate a revenue stream to offset the cost of its provision.

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[40] J.K. Brueckner (1999) *Tax Increment Financing*, University of Illinois at Urbana-Champaign, September.

[41] For a discussion of the United Kingdom experience see C. Sear (2011) "Tax increment financing" House of Commons Library, 7 March http://www.parliament.uk/briefingpapers/commons/lib/research/briefings/snpc-05797.pdf

[42] Queensland Government "Gold Coast Rapid Transit", http://goldcoastrapidtransit.qld.gov.au/the-project/background (accessed 16 June 2011)

For example, Hong Kong's MTR Corporation utilises a model known as "Rail + Property" to develop real estate located near its stations.[43] The MTR has developed shopping malls on and around 12 of its stations (see below). In 2010, it generated AUD$1.4 billion in profits and an operating ratio in excess of 200 per cent, allowing the MTR Corporation to reinvest in its network.

CITYLINK PLAZA MALL (LOCATED ABOVE EAST RAIL LINE SHA TIN STATION), HONG KONG

Issues

19. Have funding models been omitted that should be included in the tool kit available to government? On what bases should one funding model be preferred to others?

[43] MTR Corporation Limited, *Annual Report 2010*, http://www.mtr.com.hk/eng/investrelation/2010srpt_e/E214.pdf (accessed 23 June 2011)

CHAPTER 4: HOW CAN THE COSTS ASSOCIATED WITH THE PROCESS OF DELIVERING INFRASTRUCTURE BE REDUCED?

4.1: HOW CAN BID COSTS BE REDUCED?

A frequent criticism of Australian infrastructure processes is that bidding for projects is expensive.[44] Typically, Australian bids cost are in the order of 0.5 to 1.2 per cent of project capital value.[45] For example, bid costs average $2.5 million for a $250 million project rising to $30 million for a $2 billion project.

Bid costs in Canada are generally lower than in Australia at 0.35 to 1 per cent of capital value. On the other hand, costs in the United Kingdom are typically higher, ranging between 2 and 3 per cent of capital value. The reader should note, however, that a like for like comparison is complicated by the fact that (1) the average value of Australian PPP projects is twice that of Canada and over three times that of the United Kingdom, and (2) unlike other jurisdictions, Australian governments do not use PPPs only to supplement public infrastructure expenditures but for any project where they are deemed to be the most suitable procurement approach.

A related issue to that of bid costs is the question of timeliness, which can also contribute to overall costs. Typical Australian timeframes are around five weeks for the Expression of Interest (EOI) stage and 14 to 16 weeks for the Request for Proposal (RFP) stage. According to a 2010 analysis of procurement efficiency commissioned by Infrastructure Australia:

> *PPP processes [in Australia] compare very favourably with similar processes internationally. The average procurement time for social infrastructure of 17 months is significantly shorter than that in the UK (34 months) and only slightly longer than that in Canada (16 months).*[46]

Some of the strategies utilised in foreign jurisdictions – particularly Canada – to reduce bid costs include:

- rigorous adherence to project timelines;
- earlier selection of preferred bidder coupled with more reliance on the preferred bidder developing its proposal;
- greater standardisation of contracts;
- common procurement of information requirements (such as geotechnical surveys) on behalf of all bidders;

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[44] See for example M. Ashbolt of the Victorian Funds Management Corporation quoted in D. Hughes (2008) "Funds Target Infrastructure Bid Costs", *The Australian Finance Review*: p. 8.

[45] KPMG (2010) *PPP Procurement: Review of Barriers to Competition and Efficiency in the Procurement of PPP Projects (Report to Infrastructure Australia), May.*

[46] KPMG (2010): p. 3.

- revealing the public sector comparator (PSC) to bidders in order to enhance transparency and understanding of the expectations; and

- payment of an honorarium by the successful bidder to the other bidders to defray bid costs.

With regard to use of an honorarium, it would be rational for the successful bidder to incorporate the payment of the honorarium into the bid costs, thus passing them onto government. Since every bidder is seeking to be successful, it follows as rational that the honorarium fees are incorporated into every bid.

Issues

20. Which of these reforms are preferred as means of reducing bid costs in Australian processes?

21. What other reforms may also be available to reduce bid costs?

4.2: How Should the Withdrawal of Monoline Insurance be Addressed?

In the wake of the global financial crisis, the demise of monoline insurers has seen project bond issuance decline significantly. Monoline insurance is a form of underwriting in which the credit rating of an infrastructure bond issue is enhanced by 'wrapping' it in a monoline insurance policy. This offers investors recourse to the policy and thereby reduces the cost of capital for the project. Project bond issuance in 2005, 2006 and 2007 included a substantial contribution from monoline-wrapped bond issuance for PFI/PPP projects, but this had declined significantly by 2008. [47]

The proposed *Europe 2020 Project Bond Initiative*[48] operates like monoline insurance by utilising public funds to underwrite up to 20 per cent of a project's bond issue in order to increase the bond's rating to investment grade, thereby reducing the cost of raising capital. There are other similar proposals either being contemplated or in the market. For example the Hadrian's Wall Capital (specialist debt firm) proposal involves the provision of subordinated debt to achieve an uplift in the senior debt component to investment grade. [49] Another aspect of this proposal is that Hadrian's Wall Capital would take on credit management responsibility for the lenders, which would be beneficial to lenders (such as superannuation funds) who may not have their own in house credit risk management capability.

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[47] Moody's Investors Services (2011) "Europe 2020 Project Bond Initiative: Capable of Credit Enhancing PFI/PPP Project Bonds from Low-Investment Grade to Single-A Ratings", 28 June, www.moodys.com

[48] At the time of writing, the European Commission was consulting on the *Europe 2020 Project Bond Initiative* through European Commission (2011) *Stakeholder Consultation Paper on the Europe 2020 Project Bond Initiative* < http://ec.europa.eu/economy_finance/consultation/pdf/bonds_consultation_en.pdf>

[49] KPMG (2010) *Project Finance and the Capital Markets: Bridging the divide* www.kpmg.com

Issues

22. Is there a need to replace the role of monoline insurance? If so, which parties are best placed to assume that role and what reforms are necessary to support it?

4.3: What Will be the Impact of the Basel III Capital Regulations on Infrastructure Investment?

In the wake of the global financial crisis, the G20 group of nations tasked the Basel Committee on Banking Supervision within the Bank for International Settlements to review bank capital and liquidity requirements.[50]

The resulting Basel III capital regulations require that banks' highest quality capital – known as Tier 1 capital – will have to increase from the current 2 per cent to a core capital ratio of 4.5 per cent by 2015, plus a countercyclical buffer of 2.5 per cent to apply when lending is growing faster than the economy. Basel III also tightens the requirements for inclusion as Tier 1 capital, implying that even banks with a strong Tier 1 capital position under Basel II (current) regulations may have their ratio decreased under Basel III.[51]

A 2010 report by the Bank for International Settlements found that if Basel III capital rules had been in force at the end of 2009, the 263 banks sampled would have faced a collective capital shortfall of €577 billion (AUD$827 billion).[52] The implications for investment (including infrastructure) are clear — there is a likely to be a tightening of liquidity and a consequent diminution in loanable funds.[53]

[50] Basel Committee on Banking Supervision "International Regulatory Framework for Banks (Basel III)", http://www.bis.org/bcbs/basel3.htm (accessed 5 July 2011)

[51] B. Alves (2011) "Who's Afraid of Basel III?", *Infrastructure Investor*, <www.ijonline.com>

[52] Bank for International Settlements (2011) *Results of the Comprehensive Quantitative Impact Study*, December.< http://www.bis.org/publ/bcbs186.pdf>

[53] "Bankers divided over options as Basel III approaches", (2011) *Infrastructure Journal*, 30 June, www.ijonline.com (accessed 30 June 2011)

APPENDIX A: TIMELINE OF INFRASTRUCTURE FINANCE REFORMS

2011	Introduction of *National Infrastructure Construction Schedule*
2011	Introduction of exemption for deductibility of early stage losses for designated infrastructure projects from the Continuity of Ownership Test and the Same Business Test .
2010	Infrastructure Australia delivers 2nd *National Infrastructure Priorities* report
2009	Infrastructure Australia delivers 1st *National Infrastructure Priorities* report
2008	National Public Private Partnership and Policy Guidelines
2008	Infrastructure Australia delivers 1st national infrastructure audit