

Financing Infrastructure: A Spectrum of Country Approaches

Sophia Chong and Emily Poole*

Over recent decades, there has been a shift away from public infrastructure financing towards private infrastructure financing, particularly in advanced economies. In this article, infrastructure financing in four countries – China, India, Australia and the United Kingdom – is examined to illustrate the different approaches taken by governments to finance infrastructure and encourage private financing. In all four countries, public financing of infrastructure remains significant, ranging from one-third in the United Kingdom to almost all financing in China.

Introduction

The question of how to channel global savings towards long-term financing for investment, and infrastructure investment in particular, has been receiving greater attention in a number of international forums, including the Group of Twenty (G20) and the Asia-Pacific Economic Cooperation forum (APEC), over the past year. For example, the G20 established a Study Group on Financing for Investment in February 2013 to consider ways in which the G20 can foster long-term investment and ensure the availability of sufficient funding for projects. Interest in this topic reflects general concerns about the pace of the global economic recovery, and recognition that the removal of infrastructure bottlenecks is very important for strong, sustainable and balanced growth. With interest rates at historically low levels across many countries, there may also be an opportunity to fund these long-term productive investments relatively cheaply.

For many countries, current and future infrastructure needs are considered to be difficult for governments to finance given prevailing fiscal constraints, raising interest in the question of whether private

sector financing can play a larger role. Traditionally, the predominant source of private financing for infrastructure has been bank funding, particularly syndicated loans, but over the past few years a number of banks (principally those headquartered in advanced economies) have been reducing lending to strengthen their balance sheets following the global financial crisis. As a result, discussions within international forums are often focused on how to encourage private infrastructure financing through capital markets, especially by institutional investors such as pension funds, which have long-term investment horizons owing to the long-term nature of their liabilities.

As part of global efforts to focus attention on these issues, the Reserve Bank's annual conference for 2014, which is being jointly hosted with the Productivity Commission and the Lowy Institute, is on the topic of 'Financial Flows and Infrastructure Financing'. Issues covered will include the role of global banking and capital markets in promoting the efficient allocation of cross-border financial flows, the particular challenges facing infrastructure financing, and countries' experiences with public-private partnerships (PPPs). After a brief discussion of the various options available for infrastructure financing, this article examines the approaches

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taken by four countries with widely differing shares of private financing – China, India, Australia and the United Kingdom. These case studies highlight the challenges facing governments trying to promote private infrastructure investment.

Infrastructure Investment

Infrastructure can be defined as the structures and facilities that are necessary for the functioning of the economy and society – infrastructure supports economic activity and social services, rather than being an end in itself. Economic infrastructure refers to the physical infrastructure that is a direct input to economic activity, for example roads, electricity networks, telecommunication networks and water and sewerage facilities. Social infrastructure refers to the facilities that aid the provision of social services, such as schools and hospitals.

Infrastructure has a number of unique characteristics that distinguish it from other investments and mean that governments will more often than not be involved in its provision in some capacity. First, the investment needed for infrastructure is ‘lumpy’, that is, there are large up-front costs associated with planning and construction. As such, infrastructure projects often have large economies of scale and natural monopoly characteristics. In this case, governments may need to regulate prices and performance standards for the services produced using this infrastructure. Second, infrastructure can have positive externalities arising from network effects, or public good properties such as non-excludability. These things mean that the net public benefit exceeds the likely return to private investors and so it will tend to be underprovided by the private sector. In these cases, the government may be directly involved in funding infrastructure projects. This is not to say that governments necessarily need to be involved in all infrastructure provision – some infrastructure assets, such as mobile telephone networks, have enough private value and sufficient competitive pressure to be provided by the private sector without public involvement.

Financing Options

Financing of the high initial cost of constructing infrastructure and the subsequent payments for services provided by the infrastructure can both take a number of forms. At the extremes, there are public procurement (where the government finances and owns the asset) and private infrastructure investment (where the private sector finances and owns the asset). In between, there are a variety of PPP arrangements for which risk is transferred to varying degrees between the public and private parties. Payments for infrastructure services, used to repay private financing costs over the life of the asset, can either come from the government via budget transfers, or from users of the infrastructure through user charges, such as tolls.

Public financing

Public financing can take the form of general budget appropriations for infrastructure projects financed through tax revenue or government debt, revenue bonds tied to specific infrastructure projects, or infrastructure investment by government trading enterprises (GTEs), including national development banks (NDBs).¹ Developing countries may also have access to concessional and/or non-concessional financing from multilateral development banks (MDBs), such as the World Bank.

In many countries, public financing of infrastructure through the budget appropriation process is common. Budget appropriation has the benefit of a generally higher level of transparency and public scrutiny compared with other government financing vehicles, with the result that there is greater accountability over public expenditure. Given the lower cost of government debt compared with private sector debt, it can also be a cost-effective way of financing infrastructure. On the other hand, there

¹ GTEs are also known as public trading enterprises, government business enterprises, public corporations, state-owned enterprises or government-owned corporations. Examples in Australia include NBN Co and Australia Post at the federal level, and the Port of Melbourne Corporation (Victoria), Public Transport Authority (WA) and Sydney Trains (NSW) at the state level.

can be constraints on infrastructure investment from budgetary processes, such as fiscal rules (e.g. debt or deficit limits), as well as political pressures to undertake particular investments irrespective of an appropriate cost-benefit analysis. Privatisation of existing (brownfield) assets has also been utilised to unlock public financing for new infrastructure projects. However, a strong regulatory framework needs to be in place if a natural monopoly is privatised.

Many countries also engage in various types of quasi-government financing. In both advanced and developing economies, this form of financing is most commonly provided by GTEs, which are legally independent entities at least partially owned and overseen by government. Many GTEs have a core function of operating and maintaining infrastructure assets. Some GTEs also have responsibility for building new infrastructure assets. GTEs finance their infrastructure investments through several sources, including: retained earnings from user charges and fees for access to infrastructure; capital contributions or payments from government for non-commercial services that GTEs are directed to provide; bond issuance; or borrowing from banks. Proponents argue that GTEs can be more efficient and make better investment decisions than the general government sector since they are typically managed by boards with financial and technical expertise. However, GTEs also have some shortcomings. First, those GTEs operating monopoly infrastructure may lack incentives to seek out efficiency gains and to modernise services and facilities. Second, in some countries, the capacity for GTEs to raise their own debt rather than relying on the government's budget for funding has raised concerns over the circumvention of budget accountability measures. Finally, GTEs can give rise to large contingent liabilities for governments since it can be politically unpalatable to let GTE-financed infrastructure projects fail.

Governments and GTEs can also link borrowing to specific infrastructure projects. Commonly, a distinct

company will be set up to carry out the project and issue bonds (known as revenue bonds). This debt is serviced from the income stream of the infrastructure project – user charges or government/GTE payments – without recourse to general government or GTE revenue. The main benefit of revenue bonds is the potential they bring for efficiency improvements in project management due to the greater scrutiny by investors; however, compared with general budget appropriation, they can be a more costly way of financing infrastructure given that bondholders require a higher return for the greater risk faced relative to general government bonds. As with GTEs, revenue bonds can give rise to implicit contingent liabilities for governments where projects are considered too important to fail.

NDBs are a special type of GTE that are established to provide credit and other financial services to sectors of the economy that private financial institutions are considered to be under-servicing. As such, they are more commonly found in economies with less developed financial sectors. While the range of sectors served by NDBs is relatively broad, a recent World Bank survey found that 65 per cent of NDBs have infrastructure as one of the 'target sectors' to which they lend (de Luna-Martinez and Vicente 2012). NDBs typically operate with the benefit of an explicit government guarantee, which usually results in these institutions taking on a credit rating that is in line with that of the government. Accordingly, this helps these institutions to achieve lower funding costs than private banks in their jurisdictions.

MDBs also provide credit for development purposes, but operate in more than one country and have global or regional development mandates. MDBs receive capital contributions from member countries and target their activities at low- and middle-income countries.² MDBs offer a variety of products suitable for supporting both public and private infrastructure

2 Australia is a shareholder of the five World Bank Group organisations, the Asian Development Bank and the European Bank for Reconstruction and Development. The two other major MDBs are the Inter-American Development Bank and the African Development Bank.

investment, including grants, loans, equity investments and credit enhancement products such as debt guarantees. In 2012, there were over US\$90 billion of new commitments by MDBs, of which the World Bank Group accounted for around half. Over recent years, around one-third of new commitments by the MDBs have been for economic infrastructure projects. They also provide technical assistance in areas such as project preparation and improving the policy and regulatory environment for investment. Based on the strength of their capital contributions, the MDBs all currently have AAA credit ratings that allow them to borrow cheaply; they are mostly self-supporting financially with income earned on lending and other investments exceeding operating expenses. In recent years, MDBs have increasingly focused on being catalysts for private investment in infrastructure through the promotion of co-lending and instruments such as guarantees and equity investments.

Private financing and PPPs

Infrastructure projects financed by the private sector fall into two categories: those that are fully owned and operated by the private sector, for instance private telecommunications networks; and those commissioned by government but at least partly financed by the private sector. Projects in the latter category are commonly known as PPPs. A PPP generally refers to a long-term contract between a private party and a government agency for providing a public asset or service, for which the private party bears significant risk and management responsibility (World Bank 2012).

Private financing comes in two forms – debt and equity. Debt constitutes a large proportion of infrastructure financing, with this proportion usually depending on the stability and predictability of income flows; debt funding has reached up to 90 per cent of total funding for PPP social infrastructure projects where government payments for the infrastructure services are stable and predictable (Chan *et al* 2009). Debt financing is typically made

up of loans from banks, although some private projects have been partly funded via bond issuance in capital markets, especially in Europe (EPEC 2010). Inflation-linked bonds are often seen as a good fit for infrastructure projects from the point of view of the issuer since the pricing of infrastructure services is often linked to inflation, as well as for investors such as pension funds given the sensitivity of their long-dated liabilities to inflation (Lancaster and Dowling 2011). Equity investors in private projects can be classified as primary or secondary investors. Primary investors are directly involved in decisions regarding the construction of the infrastructure asset, such as construction companies. Some projects may also raise equity on financial markets through an initial public offering. A recent development in the equity financing of infrastructure projects has been the involvement of large pension or superannuation funds, some of which have invested directly in an equity stake at the start-up (greenfield) phase of the project. Once projects are in operation with a proven revenue stream, equity is often sold in the secondary market to investors with a lower appetite for risk; infrastructure funds and pension funds generally prefer to invest at this stage of the project. Selling proven assets allows primary equity investors to free up capital to invest in new infrastructure projects.

Compared with provision by government, there are a number of potential benefits of private parties being involved in infrastructure projects. Most importantly, the private party can help to deliver projects on time and at a lower cost over the life of the asset. When it comes to project financing, the involvement of the private sector allows governments to pursue projects even when facing short-term fiscal constraints. However, in the absence of user charges, PPPs will have long-term impacts on the government's budget due to the commitment to make payments to the private partner for the services generated by the infrastructure asset. In many PPP projects, private parties have sole responsibility for the financing component of the project, although some projects may receive support in the form of

government capital grants, loans from development banks and credit enhancement, such as government guarantees.

Private financing through PPPs is only suitable under a certain set of conditions, including: the existence of credible legal and regulatory frameworks that give strong legal protection to investors; public sector capacity and resources to structure and manage PPPs effectively; appropriate project selection and identification of the most efficient bidder; and appropriate risk sharing between the private sector and government. These conditions are often lacking in developing countries, reducing the likelihood that the benefits of PPPs will be realised. In advanced economies, problems in these areas are generally less pronounced, but still remain. PPPs can be a more costly way to build infrastructure than traditional government procurement due to the higher cost of private financing compared with government debt. Therefore, the net benefit of PPPs depends on the extent of any efficiency gains achieved from private participation in the project. Similarly, the value for money of PPPs can be diluted by the allowances made by governments in order to attract private financing. For example, governments may provide the private sector with market power by inserting 'non-compete' clauses into PPP contracts, which prohibits future competing infrastructure from being provided without costly renegotiations. Even where contracts are well designed and risk appropriately allocated, the ultimate risk and corresponding costs of the project may reside with government since the public will hold the government accountable for the provision and quality of infrastructure services. In the extreme, governments may (and have in the past decided to) bail out PPPs where they are deemed too important to fail. Hence, PPPs can generate implicit contingent liabilities for governments.

Governments and MDBs have used a variety of methods to encourage private participation in PPPs. First, many governments have put considerable effort into improving general investment conditions and the broad regulatory framework for PPPs. For

instance, governments have set up infrastructure 'pipelines' in order to provide certainty of their forward intentions and created government bodies with the responsibility for issuing PPP guidelines and optimising the planning and procurement process. Second, governments have used mechanisms to shield private parties from some of the downside risk of infrastructure projects, for instance in the form of guarantees. However, it should be noted that imprudent use of such mechanisms can undermine the advantages of private involvement in the first place and/or expose the public to potentially large liabilities.

Country Examples

Numerous factors, including political considerations, institutional capacity, infrastructure needs, budgetary resources, the development of local capital markets and the investment climate will influence the mix of private and public financing for infrastructure projects in a country. The examples of China, India, Australia and the United Kingdom clearly demonstrate the spectrum of approaches taken by countries over the past two decades.

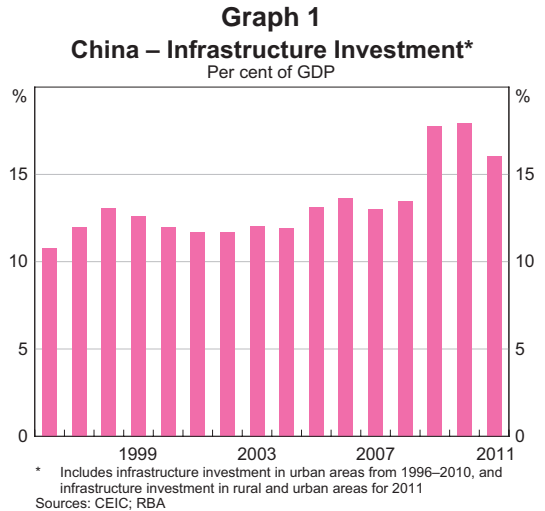
Public financing through the government and GTEs still plays an important role in all four of these countries, ranging from financing almost all infrastructure investment in China, to financing around one-third of infrastructure investment in the United Kingdom. In Australia and the United Kingdom, privatisation of infrastructure assets and GTEs has played a significant role in increasing the share of private investment, whereas PPPs have played only a small, albeit highly publicised, role. Further, the various PPP models used in India, Australia and the United Kingdom have come under some criticism, although for different reasons in each country. This highlights the sensitivity of the PPP model to country-specific factors and the difficulty in getting the appropriate allocation of risks between the public and private partners to ensure that the project is both sustainable and delivers value for money to taxpayers and those paying to use the infrastructure.

The data presented for infrastructure investment in the analysis that follows cover both economic and social infrastructure, with the exception of India, for which the data cover economic infrastructure only. Data shown for infrastructure investment are not directly comparable across countries, as data sources and definitions of infrastructure differ.

China

In China, almost all infrastructure financing is undertaken by the public sector, with private financing as a proportion of GDP close to zero. China has placed considerable emphasis on infrastructure in its national five-year plans; for instance, the Eleventh Five-Year Plan (2006–2010) listed key transport infrastructure projects to be built during the period, while the Twelfth Five-Year Plan (2011–2015) sets ambitious targets for the extent of high-speed railway and road networks to be constructed. Consistent with this, China has spent a significant amount on infrastructure: in urban areas alone, around 13.5 per cent of GDP has been invested on infrastructure, on average since the mid 1990s (Graph 1).³

Responsibility for the implementation and financing of infrastructure projects resides primarily with local governments. Although the central government provides funding to local governments to support some of their infrastructure project finance needs, local governments have also made extensive use of ‘off-budget’ financing options for infrastructure, including selling land-use rights and borrowing through local government financing vehicles (LGFVs). This reflects two factors. First, local governments are generally prohibited from borrowing directly. Second, under the current revenue sharing arrangements with the central government, local governments have insufficient capacity to levy taxes and thereby raise the funds needed to fulfil their



substantial responsibilities to provide infrastructure and social services. Hence, there are a large number of LGFVs in China – official estimates range from 6 500 to 9 800 in total. Typically, LGFVs are owned wholly by local government, but some large LGFVs are traded on the stock exchange.

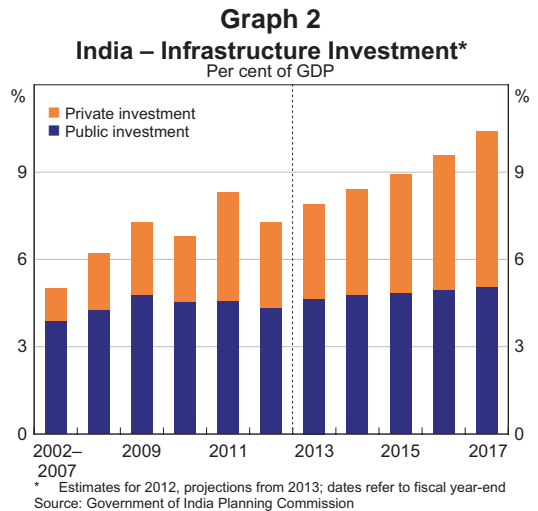
The majority of LGFV debt in China is estimated to be financed by bank loans. Outstanding bank loans to LGFVs were roughly 18.5 per cent of GDP in March 2013, or 12 per cent of banks’ total CNY-denominated loans. The majority of these loans are provided by China’s state-owned banks, including the China Development Bank (CDB); the CDB had outstanding loans for infrastructure-related projects of roughly CNY4 trillion (US\$650 billion) in June 2012. In turn, the CDB leverages its sovereign credit rating to borrow cheaply from China’s local currency bond market; almost three-quarters of its liabilities are bonds, most of which are held by commercial banks. However, local governments have been increasing their use of bonds in recent years. In 2013, the Ministry of Finance intends to issue CNY350 billion (US\$56 billion) on behalf of local governments, up CNY100 billion on 2012, while six local governments (Shandong, Jiangsu, Guangdong, Shanghai, Shenzhen and Zhejiang) now have direct access to bond market finance under pilot schemes.

³ This is likely to overstate the amount spent on infrastructure relative to GDP. The fixed asset investment data from which this measure of infrastructure investment is derived include some items that are excluded from national account aggregates, such as transfers of existing structures.

Relative to the state-owned banks, financing by MDBs for infrastructure purposes is small. Average annual new commitments by the World Bank for infrastructure projects in China since 1986 have been slightly over US\$800 million and commitments by the Asian Development Bank (ADB) have averaged US\$1.1 billion since 1997. Similarly, as a share of China's total infrastructure financing, private financing is small. Nonetheless, over the past 10 years, China has been loosening its policies on private investment (including foreign investment) in public infrastructure. For instance, in 2010 the State Council released new guidelines (the '36 New Articles') on domestic private investment that promote equal treatment of state and private sectors in a number of areas including infrastructure. The measures were aimed at lowering the barriers to entry for private investors, which include a cumbersome administrative approval process and preferential treatment for state enterprises.

India

In India, infrastructure has historically been financed by the public sector. Until the mid 2000s, budgetary allocations combined with the retained earnings of GTEs financed the majority of infrastructure investment. Total infrastructure investment was also low: from the early 1990s to 2007, total investment in infrastructure ranged from 3 to 5 per cent of GDP. However, some significant changes have taken place in recent years. Under India's Eleventh Five-year Plan (2007–2011), infrastructure investment increased substantially to just over 7 per cent of GDP. Furthermore, around 40 per cent of the funding came from private sources (Graph 2). The increase in private sector financing can be attributed to a concerted effort by the Indian Government to create a regulatory environment that strongly encouraged PPPs in the face of large infrastructure financing needs and fiscal constraints. In terms of financing sources, much of the increase in private sector financing during this period was due to an increase in bank funding, with the share of bank credit for infrastructure rising from around 2 per cent in 2000 to 14 per cent in 2012.



The Twelfth Five-year Plan (2012–2017) targets a further large increase in infrastructure investment to 10 per cent of GDP by 2017. Given constraints on the ability of government to finance this increase due to high government debt and spending needs for social services, the government aims to increase the share of infrastructure financing by the private sector to nearly 50 per cent over the course of the Twelfth Plan. However, further expansion in the provision of bank credit may be constrained, since many banks are close to their prudential ceilings for exposure to the infrastructure sector, especially the power sector (Reserve Bank of India 2012).

The Indian Government has expressed the hope that financing from long-term investors (such as insurance companies and pension funds) and foreign debt and equity will bridge this financing gap (Government of India Planning Commission 2011). To facilitate this, the government has set up programs aimed at widening the base of available private finance for infrastructure, primarily through the India Infrastructure Finance Company Limited (IIFCL), which is a government-owned company. In February 2013, the IIFCL along with four private participants set up an infrastructure debt fund – India Infradebt Limited – to sell bonds to long-term investors, the proceeds of which are used to refinance bank loans for PPP infrastructure projects that have

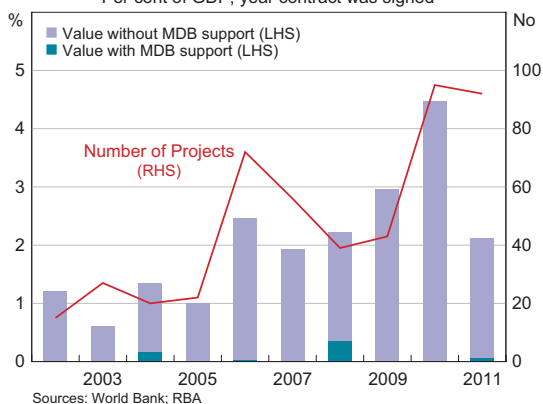
completed at least one year of operation. The IIFCL is also currently piloting a scheme whereby it provides a partial credit guarantee to enhance the credit ratings of bonds issued by infrastructure project companies. The scheme aims to tap into financing by insurance companies and pension funds – many of which have caps on assets that are not investment grade – as well as help develop India’s nascent local currency bond market. The ADB is participating in the scheme by providing a backstop guarantee facility of up to 50 per cent of IIFCL’s underlying risk.

The Indian Government has also acknowledged that reforms, especially for PPPs, will be required to support the level of private financing required. India is currently a regional leader in attracting private investment through PPPs, but new PPP projects have stalled. Over 50 per cent of projects are delayed at various stages of implementation due to regulatory hurdles, delays in land acquisitions and environmental clearances, and sector-specific bottlenecks. These have led to significant time and cost overruns and undermined private sector interest in infrastructure projects (Chakrabarty 2013). A report by the High Level Committee on Financing Infrastructure in 2012 recommended that the government pursue reforms in sustainable pricing of commodities and services (especially energy, by allowing cost pass-through for instance), reinforce the PPP policy and regulatory framework and investigate substituting state-owned monopolies for competing entities (Government of India Planning Commission 2012).

MDBs have made a relatively modest contribution to infrastructure financing in India. Over the past 25 years, on average the World Bank group has provided US\$1.2 billion in financial support each year for Indian infrastructure projects. Similarly, the ADB has provided around US\$1.3 billion in financial support for infrastructure projects each year since 1997. As in China, the MDBs do not appear to have played a significant role as catalysts for private investment, with the majority of private projects not having any MDB involvement (Graph 3). However,

this does not take into account non-financial support, such as technical assistance for project preparation and broad policy development.

Graph 3
Infrastructure Projects with Private Involvement in India
Per cent of GDP, year contract was signed



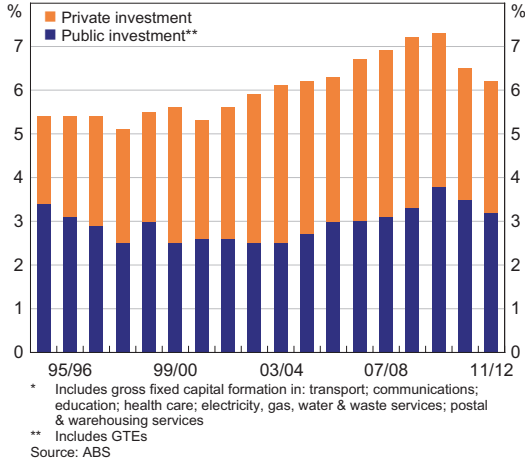
Australia

In Australia, infrastructure investment has been around 6 per cent of GDP on average over the past four decades.⁴ The share of private infrastructure investment in Australia grew steadily from the mid 1980s, reaching just above 55 per cent in 2008, although it has fallen back below 50 per cent since the global financial crisis (Graph 4). The increase in the share of private investment prior to 2008 was driven by both a decline in the level of infrastructure investment by federal and state GTEs and a pick-up in private infrastructure investment. These trends were driven by two developments. First, there was significant privatisation of federal and state GTEs over the period, including Telstra, Qantas and a number of airports and state utilities (RBA 1997). Second, the mining boom was associated with an increase in private transport infrastructure investment, such as ports and private roads (BITRE 2012).

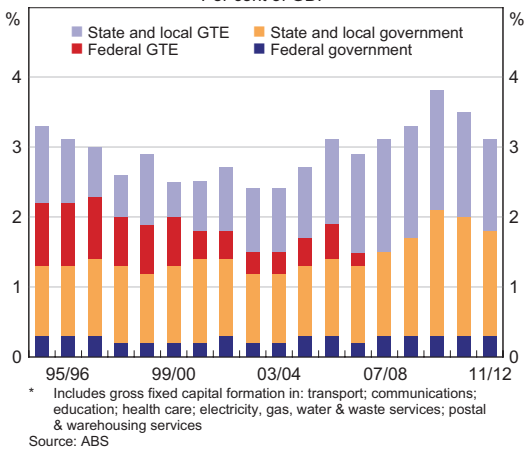
State and local governments and GTEs account for the bulk of public financing for infrastructure in Australia (Graph 5). Direct federal government infrastructure

⁴ This is likely to overestimate the amount spent on infrastructure. It is calculated using data on gross fixed capital formation in the transport, communications, education, health care, utility and postal sectors, not all of which will be related to infrastructure investment.

Graph 4
Australia – Infrastructure Investment*
Per cent of GDP



Graph 5
Australia – Public Infrastructure Investment*
Per cent of GDP



investment is low and stable as a percentage of GDP, and is concentrated in the education and healthcare sectors. However, this masks the fact that a large portion of state government revenue comes from federal transfer payments, and also includes payments to assist in financing specific infrastructure investments through programs such as the Regional Infrastructure Fund and the Nation Building Program (Lancaster and Dowling 2011). For example, federal grants provided almost 13 per cent of financing for public infrastructure projects in New South Wales

in 2012/13. The pick-up in infrastructure investment by state and local governments from 2008/09 can be largely attributed to the stimulus payments for school building projects from the federal government. Aside from federal grants, infrastructure investment by state governments and their GTEs are financed through a combination of state tax revenue, debt issuance by the state borrowing authorities and asset sales. Revenue bonds, where the debt is issued against a specific infrastructure project, are not currently in use as a financing tool.

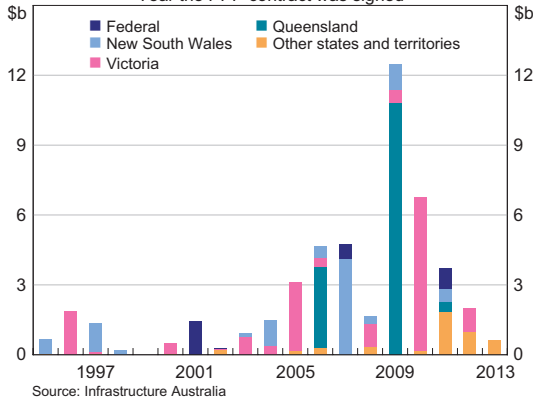
Aside from privatisation, the Australian Government has undertaken a number of measures to encourage private financing of infrastructure projects by improving investor certainty in the project pipeline and PPP framework. Infrastructure Australia was established in 2008 to assist all levels of government develop plans to ease infrastructure bottlenecks and provide arms-length advice on the prioritisation process and financing mechanisms for significant infrastructure projects. In 2012, a government infrastructure project pipeline (the National Infrastructure Construction Schedule) was released, containing information on all infrastructure projects over A\$50 million that are either committed or being procured by the general government sector. In terms of supporting PPPs specifically, the Council of Australian Governments endorsed the National Public Private Partnership Policy and Guidelines in 2008, with the aim of providing a best practice, consistent national approach to PPP delivery in Australia.

Although PPPs get a lot of publicity in Australia, they have accounted for only a small share of infrastructure financing to date. Since 1995, contract closures for PPP projects total just under A\$50 billion, compared with a total of more than A\$1 trillion invested in infrastructure over the period. Further, only three states have been significant users of PPPs over this period – New South Wales, Queensland and Victoria (Graph 6). Use of PPPs peaked in 2008/09, with the signing of the contracts for the very large BrisConnections PPP in Queensland; however,

Graph 6

PPPs in Australia

Year the PPP contract was signed



high-profile restructurings of several large PPPs for toll roads, including BrisConnections, and tighter financial conditions following the global financial crisis have seen a fall in the use of the PPP model in more recent years.

Compared with most other countries, Australia has a high proportion of private infrastructure financing supplied by institutional investors, notably superannuation funds. This is the combined result of Australia’s compulsory superannuation program creating a large pool of private savings, and Australia’s superannuation funds generally investing a higher share in infrastructure assets than average (Della Croce 2012). Private financing of infrastructure by institutional investors can be direct (through debt or equity investment in PPPs or the purchase of privatised (brownfield) infrastructure assets) or indirect (through investments in unlisted and listed infrastructure funds). Only Australia’s largest superannuation funds have the capacity to provide the level of resourcing and investor sophistication needed for direct investment. Therefore, most of the infrastructure investment by Australian superannuation funds is channelled through infrastructure funds managed externally. By investing in these products, superannuation funds can gain an exposure to infrastructure projects without the illiquidity that arises from directly

investing in an infrastructure project.⁵ According to returns data provided by Australian industry super funds, over the past 10 years returns on unlisted infrastructure investments have averaged almost 12 per cent, compared with around 9 per cent for Australian equities and 5¼ per cent for cash (Industry Super Network 2013).

United Kingdom

Of the four countries discussed in this article, the United Kingdom has the greatest proportion of private financing of infrastructure, reaching around two-thirds of annual infrastructure investment in 2011 (NAO 2013). However, the level of total infrastructure investment is also relatively low, estimated at 2–3 per cent of GDP between 2010 and 2012. The proportion of private financing is projected to continue to increase; based on the government’s plans released in 2012, more than 85 per cent of investment in infrastructure projects that are currently in the pipeline will be either fully or partly privately financed (HM Treasury 2012b). The high level of private financing in the United Kingdom is largely the result of significant past privatisation of infrastructure assets and GTEs, with transport infrastructure a notable exception, and concerted efforts by the government to design financing vehicles that encourage private involvement in the face of fiscal constraints. Notwithstanding this high proportion of private financing, the government still plays a crucial role in infrastructure provision through: planning and the regulation of prices charged by companies in the water, gas and electricity transmission and distribution sectors; direct infrastructure financing; and involvement in various financing mechanisms designed to encourage private infrastructure investment.

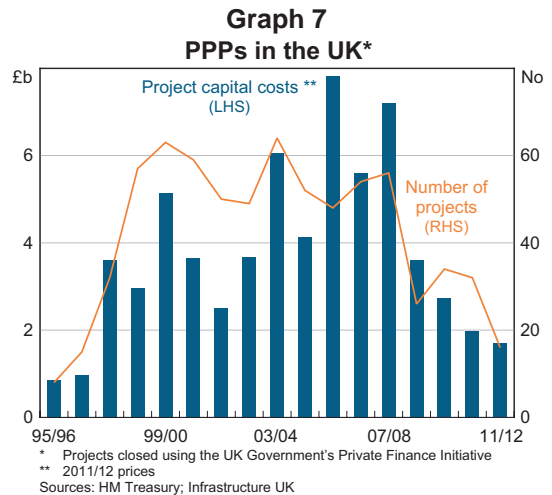
Given the extent of privatisation that has taken place, almost all public infrastructure investment is conducted directly by the government, rather than

⁵ While individual superannuation investors have long-term investment horizons, Australian superannuation funds must consider the implications for liquidity of investing in illiquid infrastructure assets given that Australian legislation permits investors to switch between superannuation funds at short notice.

via GTEs. Public sector gross investment, which includes public infrastructure spending, has been falling since the financial crisis as part of a concerted fiscal consolidation by the UK Government, although it is projected to start increasing again from 2014/15 (HM Treasury 2010).

Prior to 2013, the United Kingdom used a PPP model known as the Private Finance Initiative (PFI), which the government considers to have constituted a small but important part of the government's overall investment in public infrastructure (HM Treasury 2012a). In December 2012, the PFI was replaced with Private Finance 2 (PF2), following a review that found a number of problems with the PFI that had raised the overall costs of the projects and failed to deliver value for money to the taxpayer (HM Treasury 2012a). Key reforms include the public partner acting as a minority co-investor in PF2 projects, streamlined procurement processes and greater transparency. Under both the PFI and PF2, the private party is largely responsible for financing and constructing the infrastructure project. Once the project becomes operational and is performing to the required standard, the public sector partner pays a regular and predetermined 'unitary charge' to the private party, which covers maintenance costs and repayments on debt, over the life of the contract (typically 25–30 years). Equity investors receive all remaining cash flows once the project has paid off its debt, including from the potential sale of the asset at the end of the contract period. As of March 2012, contracts had been closed on more than 700 PFI projects, with a total capital cost of £54.7 billion and average annual unitary charges of £9–10 billion out to 2030 (Graph 7).

The government also introduced the UK Guarantees scheme in July 2012 in response to concerns that the contraction in European bank lending due to the global financial crisis would make it more difficult and expensive for private investors to attain long-term debt financing. Under the scheme, the government will provide a guarantee tailored to the specific financing needs of approved infrastructure



projects (in return for a fee). The scheme is targeted towards transport and energy infrastructure projects, with the government expecting that private utility companies will continue to obtain long-term financing in bond markets.

Conclusion

As shown by the four case studies in this article, countries use a variety of methods to finance their infrastructure needs reflecting their specific circumstances. Their level of success in encouraging private finance has varied, highlighting challenges faced by governments in trying to promote private investment in infrastructure. Ultimately, it is the risk-return profile of an infrastructure project that will determine the extent of private involvement, and government decisions and policy actions have a significant influence on this calculation.

International bodies such as the Study Group on Financing for Investment established by the G20 can usefully contribute to the discussion through cross-country analysis on how to facilitate long-term financing of infrastructure projects. Reflecting the need to tap into non-bank financing sources, the G20 Study Group is looking at ways to facilitate the efficient allocation of the global savings pool to generate long-term financing for investment. This work includes examining capital market

development and ways of using MDB resources to attract private co-financing for infrastructure projects in developing countries. Improving processes and transparency in relation to the planning, prioritisation and funding of infrastructure projects is also a priority. ✖

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