Australian Government

Productivity Commission

Submission to Infrastructure Australia's National Infrastructure Audit

Productivity Commission Submission

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Australian Government
Productivity Commission

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Dear Michael

Re request for input to the National Infrastructure Audit

Thank you for your letter of 21 August requesting input to Infrastructure Australia's National Infrastructure Audit.

The audit, and the related process for gathering input on investment priorities, will focus welcome attention on the critical role of infrastructure for business productivity and the well-being of Australians more generally. As Chair of the infrastructure session at the 2020 Summit, I heard first hand of various deficiencies in some of our major infrastructure networks which, on the face of it, are retarding Australia's economic performance.

For some 20 years now, infrastructure issues and policy settings have been an important part of the work of the Productivity Commission and its predecessors, the Industry Commission and the Industries Assistance Commission. Our focus has primarily been on economic rather than social infrastructure, and on policy and regulatory issues (including in regard to pricing) impinging on efficient infrastructure investment and usage, rather than on assessing the adequacy of the existing infrastructure stock.

Given the tight timeframes for your exercise, I feel that the most useful way to proceed would be for us to provide a synthesis of the key themes and issues relevant to achieving good infrastructure outcomes that have emerged from our work over the years. These include the need:

- for clear objectives focussed on enhancing efficiency;

- to improve the governance and institutional arrangements shaping the activities of Government Trading Enterprises;
- to further unwind underpricing and non-cost reflective pricing of certain publicly provided infrastructure services;
- to underpin public funding of infrastructure with more rigorous cost-benefit analysis;
- for 'investment friendly' price and other regulation of privately provided infrastructure;
- for resolution of some outstanding structural (vertical and horizontal integration) issues;
- to recognise and address the challenges in getting public-private infrastructure partnerships 'right', particularly in regard to risk allocation and ensuring sufficient competition amongst potential project proponents; and
- to take account of the impacts of policies in other parts of the economy on efficient infrastructure investment, especially policies pertaining to greenhouse gas abatement.

The attachment to this letter elaborates on these themes and issues and provides references to more detailed treatments in particular Commission reports, including a forthcoming staff paper on options for financing public infrastructure. (A more expansive summary of major reform issues in most of the key economic infrastructure sectors is contained in chapter 8 of the Commission's 2005 review of the National Competition Policy Reforms. While a little dated now, many of these issues remain germane to your deliberations.)

In addition, the attachment outlines the nature and scope of our current research project looking at the links between infrastructure investment and productivity. Also, for information, I have included a copy of the latest edition of *PC update* which contains a special feature on 'Frameworks for Efficient Infrastructure'.

If you or your staff have any queries on the matters raised, please do not hesitate to contact Ian Gibbs on 02 6240 3316.

Yours sincerely,

Gary Banks.

Gary Banks AO

Attachment: Policies to promote efficient infrastructure

The changing policy context

The current infrastructure policy environment differs significantly from that of past decades. Historically, most economic infrastructure was provided by statutory public monopolies which faced no competitive pressures and which were often required to cross-subsidise household consumers through higher charges levied on businesses. These monopoly providers typically failed to cover their operating costs, let alone provide a financial return to the community on the capital invested in service delivery, with investments made primarily on political or engineering grounds rather than on a commercial basis. The outcome, naturally enough, was often excessive or misplaced investment, compounded by high production costs (including endemic overmanning), poor service quality and lack of innovation.

But with the opening of the Australian economy from the early 1980s, the damaging effects of these inefficiencies on productivity and Australia's economic performance soon became apparent. The ensuing pressures for change were reinforced by heightened fiscal disciplines on governments and the consequent imperative for them to make existing infrastructure work harder.

Successive reforms, culminating in National Competition Policy (NCP), swept away much statutory protection and inefficiency, and required infrastructure providers to either compete directly or operate under arrangements that mimicked the commercial pressures and incentives evident in competitive markets. Key elements of this reform program included corporatisation and privatisation of infrastructure providers; structural separation of vertically integrated services to allow for competition in the contestable components of service delivery; regulation to facilitate efficient third party access to natural monopoly networks; and various related pricing and work practice initiatives.

These reforms bought about a transformation in performance. Hence, the Commission's 2005 Review of NCP found that:

- productivity had risen considerably in most of the key infrastructure sectors;

- in sectors where not all of the productivity dividend was needed to put service provision on a commercial basis, prices to users had fallen, with business being a particular beneficiary through the associated unwinding of the cross subsidisation of household consumers; and
- service quality had been maintained or improved.

And its modelling work suggested that productivity and price benefits in those infrastructure sectors targeted by the NCP reforms had boosted GDP by some 2.5 per cent. (See PC 2005, chapters 3 and 4.)

Importantly, however, these gains were achieved primarily by getting more out of underperforming assets. That is, with capacity in most infrastructure sectors more than sufficient to cater for demand, the policy priority was to facilitate more efficient use of existing assets.

However, the circumstances today are quite different. Australia has now experienced a long period of sustained economic growth, and the burgeoning demand for our primary and other exports from countries such as China has put pressure on key infrastructure networks. At the same time, demographic and environmental pressures are requiring reconsideration of the types of infrastructure required to carry Australia forward in the decades ahead. As a result, the focus of infrastructure policy is now much more on achieving timely new investment to accommodate these demand pressures and the changing needs of users.

The shift in policy focus is in turn testing many of the institutional and regulatory settings devised in previous decades. This is highlighted by:

- congestion at some of our ports and on the transport networks within major cities;
- chronic water shortages in urban and rural areas that go beyond what can be explained by reduced rainfall and runoff; and
- a mounting sense in the community that Australia's place on the information superhighway is being confined to the slow lane.

Governments have not of course been blind to such developments and concerns, as evidenced by the establishment of Infrastructure Australia to assist in the identification of national investment priorities, the coordination of projects, and the removal of impediments to efficient provision. In addition:

- Auslink was created and funded to bring a more coherent national perspective to land freight infrastructure investment, while COAG has agreed to institute better price signals for the road network and a better basis for investment decisions.

- COAG has further agreed to pursue a simpler and consistent national system of economic regulation for nationally-significant infrastructure, including that serving exports.
- A range of other regulatory and pricing reforms have been initiated for specific infrastructure services, including for energy (although Australia's electricity market still struggles to transcend state boundaries).

But in the Commission's view, more can be done to create an institutional and regulatory framework that encourages efficient investment in infrastructure services, while preserving parallel incentives for the efficient use of existing assets. Importantly, without 'best practice' institutions, processes and regulations, it will be that much more difficult for decision makers to compare the relative worth of competing investment proposals and to resist pressure to divert scarce investment resources into lesser priority projects. As past experience illustrates, investment mistakes in the infrastructure area can be very costly.

Objectives of infrastructure policy

Access to reliable and affordable economic infrastructure is important not only for productivity and economic growth, but also to promote social and environmental objectives. Thus, for example, access to affordable utility and transport services is essential for households to function effectively in a modern society. And soundly-based infrastructure investment and usage policies in areas like water have the potential to deliver major environmental benefits.

But such social and environmental benefits are not a reason for moving away from the focus on promoting efficiency that has underpinned the infrastructure reforms of the last 25 years.

- Most environmental and many social benefits and costs have an efficiency dimension and therefore can be encapsulated within an efficiency framework. For instance, assessment of proposed investments to improve road infrastructure would typically take into account reductions in accidents and travelling times.
- Infrastructure reforms that enhance efficiency will often either promote distributional goals, or not detract significantly from them. For example, in its review of NCP (PC 2005, chapter 5), the Commission found that:
  - price and productivity changes in key infrastructure services had increased the purchasing power of households across the entire income spectrum, and that the impacts on overall income distribution had been small; and

  - many producers, consumers and communities in country Australia had benefited from the reform package.

- Where efficiency and social/distributional goals are potentially in conflict, it is often possible to meet the latter in less costly ways. Hence, in the early days of infrastructure reform, Australian Governments accepted the general proposition that support for low income and other disadvantaged consumers of infrastructure services is better delivered through transparent and directly funded Community Service Obligations (CSOs), than by requiring providers to engage in cross-subsidisation. As discussed in the Commission's recent review of the Consumer Policy Framework (PC 2008b, pp. 112-113; appendix F), supplier-provided hardship programs may also have a role to play.

Accordingly, in the Commission's view, the goal of promoting efficient use and investment should continue to underpin the institutional and regulatory frameworks for economic infrastructure. Indeed, with the policy imperative now having shifted towards bringing new investment on stream in a timely fashion, the efficiency focus is even more important than before. And in any cases where social/distributional goals are judged to require modification of efficiency principles, it should be incumbent on governments to clearly and transparently indicate why such an approach is warranted.

The gains from better policies

The Commission's research has demonstrated sizeable pay-offs from improving infrastructure-related institutions, processes and regulations.

- In 1995, the then Industry Commission estimated that implementing the Hilmer NCP reforms could yield 'outer envelope' GDP gains of up to 5.5 per cent, with the infrastructure reform stream being a major contributor.
- As noted above, modelling for the Commission's 2005 review of NCP estimated that actual price and productivity improvements associated with the infrastructure reform component had, by themselves, boosted GDP by 2.5 per cent.

Importantly, as discussed in PC 2005, p. 51, the latter gain is below the 'outer envelope' gain for the same sectors estimated in 1995, suggesting that there are still sizeable benefits available from further infrastructure reforms. In this regard, the Commission's subsequent modelling for COAG on the benefits of the National Reform Agenda (PC 2006c) pointed to gains of 0.4 per cent of GDP from a more limited suite of infrastructure-related initiatives. And when water and other reforms not encompassed in that modelling are added to the mix, the prospective gains

would be considerably higher. (For example, work by the Business Council of Australia (2007) suggests plausible further gains of 2 per cent of GDP.)

Moreover, all of this modelling work focuses on the potential gains from addressing specific policy-related impediments to competitive and efficient infrastructure investment and service provision. Thus it does not encapsulate any wider and more general economic benefits from investment in infrastructure.

A particular issue is the nature and size of the impacts of infrastructure investment on the economy's productivity. This relationship remains contested.

However, the soon to be completed first instalment of current Commission research in this area (PC 2008h) should provide a better fix on the methodology required to quantify these linkages, including the indirect benefits of infrastructure investment that have hitherto been difficult to measure. That said, no such analysis can be a substitute for case-by-case assessment of the merits of individual projects.

Public or private provision of infrastructure?

The Commission has argued that promoting competition in service provision is in many respects more important than ownership. As alluded to above, Australia's reform experience illustrates that under a public ownership model, structural separation to allow for competition in contestable service areas, accompanied by corporatisation initiatives to promote a commercial focus in service delivery, can deliver significant efficiency gains.

Even so, Australia has seen a marked shift to private provision, with the private sector now accounting for a little over half of total new investment in economic and social infrastructure.

In part, this is a reflection that the commercial disciplines imposed by private ownership can avoid many public sector incentive and governance problems. Also, public ownership can impede timely new investment.

- Where investments are financed from general budget appropriations, access to funding will be influenced by the political and broader fiscal policy processes that determine budget parameters. And constraints on general-purpose borrowing to limit government debt may restrict recourse to this financing route.
- Various impositions on GTEs — such as equity extractions and requirements to provide non-commercial services without full financial compensation — can similarly limit their scope to finance new investment.

In some cases, such constraints simply delay the commencement of projects. In others, a project may be 'drip funded', lengthening its completion time.

As discussed later, Public Private Partnerships (PPPs) are a vehicle for circumventing such constraints. But as the revitalisation of Australia's major airports demonstrates, privatisation and sensible regulation can be highly beneficial for investment (box 1).

Box 1 Australia's airport privatisation program

Historically, most of Australia's major airports were owned and operated by the Australian Government. Under public ownership, aeronautical services were significantly underpriced. There was also considerable cross-subsidisation across and within airports. One effect of such pricing inefficiencies was to make it more difficult to fund investment to cater for growth in passenger traffic and to improve service quality.

In 1997, with the explicit intent of addressing the investment problem, the Australian Government commenced the process of privatising its airport holdings through the sale of long term leases. In recognition of the market power enjoyed by some of the larger airports, privatisation was accompanied by the introduction of price regulation.

Initially, this price regulation was highly prescriptive, with the regulator, the ACCC, involved in vetting new investments and the prices charged for them. However, in the light of the downturn in global air traffic following the 2001 terrorist attacks, the demise of Ansett, and recommendations by the Productivity Commission (PC 2002) to move to a light-handed regulatory approach, these controls were significantly eased.

In a subsequent review, the Commission (PC 2006b) found that the combination of privatisation and the shift to light-handed prices oversight had created an environment much more conducive to productivity improvement and to bringing on stream new investment, to the benefit of airline passengers, air freight users and industries such as tourism. It further observed that with a number of major airport upgrades in progress or in prospect, this more efficient and responsive investment environment is likely to be a source of even greater benefit in the future. And though suggesting that the scope for light-handed price monitoring and related arrangements to constrain airport charges will be better judged over a longer period, it concluded that charging outcomes to date had not been outside the boundaries that would have been envisaged when those arrangements were introduced.

Suffice to say that for the foreseeable future, the backdrop for infrastructure policy making will be a mix of public and private ownership and provision. The Commission's work points to a different set of policy imperatives for each.

Issues for public provision

Improving the performance and accountability of GTEs

GTEs are still very significant players in both a service delivery and investment context. In 2006-07, the 86 entities encompassed within the Commission's annual reporting of GTE financial performance — mainly in the electricity, water, urban transport, rail, ports and forestry sectors — controlled assets of more than $190 billion and generated income of more than $50 billion. The latter represented 80 per cent of the total revenue generated by government businesses across Australia.

Notwithstanding the performance benefits ensuing from corporatisation and related initiatives, further improving governance and institutional arrangements shaping the activities and investment decision-making of GTEs remains a high priority. For example, in 2006-07, just over half of the GTEs monitored by the Commission failed to achieve a rate of return on capital above the risk free rate, implying that an even greater proportion failed to achieve a commercial return. Also, contrary to stated policies, not all CSOs have been explicitly identified, costed and funded by owner governments.

The Commission's 2005 GTE monitoring report (pp. 50-73), sets out a variety of governance and institutional options for promoting better outcomes, including: greater clarification and transparency of objectives; more independence from government in decision making; greater accountability for performance; full and transparent funding of CSOs from government budgets; and mechanisms to help ensure that GTE's capacity to undertake new investment is not undermined by oppressive dividend requirements.

Further unwinding underpricing or non-cost reflective pricing

As for other goods and services, efficient pricing of economic infrastructure plays an important role in encouraging efficient use of the services concerned and, in turn, signalling when new investments are warranted to meet growing or changing user demands.

Prescribing exactly what constitutes an efficient price structure for publicly or privately provided infrastructure is often very difficult. (For a discussion of these complexities see, for example, PC 2001a, chapter 11; 2001b, chapter 12; 2006d pp. 53-71). However, for services that are expected to be provided beyond the life of the existing assets, prices will generally promote efficiency if, over the medium to

longer term, they reflect least cost production, and are sufficient to cover all costs, including a commercial (risk-adjusted) return on the assets employed. And in the short to medium term, if existing infrastructure is insufficient to meet demand, then pending augmentation in capacity, prices should include a scarcity component to help direct services to those users who value them most highly.

Though the current low returns of many GTEs (see above) are likely to partly reflect cost inefficiencies and requirements to provide unfunded CSOs, they are also suggestive of continued undercharging for the services concerned. For example, some of the water GTEs monitored by the Commission are involved in managing bulk irrigation water supplies. Undercharging for irrigation water, leading to demand-driven pressure to refurbish economically non-viable irrigation assets, has received much attention in the past (see box 2).

Box 2 **Rural water use issues**

The deleterious effects of the underpricing of irrigation water on water usage, investment outcomes and the environment have long been recognised. Indeed, reforms to progressively unwind such undercharging have been in train for two decades.

However, pricing reform has been a slow and often politically difficult process, leading to a focus on water trading as a means to 'circumvent' undercharging and allow water to flow to its highest value uses.

But here too, reform has not been easy. As a Commission research paper exploring the role of market mechanisms in improving rural water use (2006a) illustrates, there is still a considerable way to go in developing efficient water markets. For example, there continue to be various restrictions imposed on out-of-area water trading, primarily for social reasons. And, as discussed further in the text, consideration of the scope for, and benefits of, permanent transfers of water from irrigation to urban use has been largely put to one side.

Moreover, separate Commission work (PC 2008a) points to significant pricing issues for urban water as well. While charging regimes generally cover operating costs and a return on assets, they do not reflect the scarcity of water in times of shortage. Instead, there is resort to costly water restrictions. The Commission (p. xiv) observed that a well-functioning urban water market could provide more timely investment signals, a wider range of innovative supply options, and greater choice of products and options for water users. Further investigation of policies which allow prices to signal water scarcity in urban areas would also focus attention on the bigger issue of the integration of urban and rural water markets. By facilitating more efficient use of nationwide water resources, and thereby reducing future investment needs, this could potentially have significant pay-offs.

The Commission's report on Road and Rail (PC 2006d) similarly points to considerable misdirected investment arising from the absence of systematic relationships between charges for road use, service levels and decisions about future road spending. In particular, public expenditure on roads is not directly linked to the revenues received from road users via fuel excises, registration fees and licensing charges, which, with some exceptions, flow into consolidated revenue at each level of government. In turn, road transport agencies must compete with other budget-funded public sector entities for their funding allocations.

Indeed, the Commission saw this feature of the current investment environment, rather than any competitive non-neutralities between road and rail, as the major efficiency issue. However, as the report also makes clear, taking advantage of developments in road pricing technology is only part of the remedy. Various institutional changes (see pp. 263-296) to better link road demand and supply are also critically important.

More rigorous Cost-Benefit (CBA) analysis

Probably the most important of these institutional changes, and one which is of considerable relevance elsewhere, is to entrench more rigorous CBA analysis in determining investment priorities.

- Appeals to nation building are no substitute for hard-headed analysis of benefits and costs, and risk further diversion of scarce resources into economically questionable projects like the Ord River Dam or the Alice Springs to Darwin railway.
- Similarly, any national priority list of infrastructure projects must recognise that bygones are bygones and that some existing infrastructure may not be worth refurbishing or replacing. Rigorous CBA analysis can be an important tool for resisting pressure to expend scarce resources on such refurbishment.

Importantly, it is not enough for an individual project simply to pass a CBA. With limits on available funds, and the need to deal with the most serious shortfalls first, all investment options must be assessed against each other. Typically, projects with the biggest social pay-offs involve addressing bottlenecks in existing networks — such as rail access to some of the major ports — and other localised problems, rather than major greenfield ('nation building') investments. (This was also a finding of the 2006 Eddington Report on UK transport infrastructure.)

It is also important that CBAs for individual projects consider various options for addressing the underlying infrastructure need. Gold plated service provision can be very costly. So too can investment decisions motivated by short term budget savings

that fail to properly account for whole of life costs, or the costs of subsequent upgrades if there is insufficient spare capacity to meet foreseeable demand growth. And if CBAs for major projects are to be an effective discipline on decision-making, then they must be open to public scrutiny.

In its road and rail report, the Commission noted the sound conceptual investment framework in AusLink's processes and the need for its wider and consistent application.

Issues for private provision

Australia is a leader in devolving responsibility for infrastructure provision to the private sector. As well as extensive outright privatisation of infrastructure, along with the UK, it is at the forefront of policy development and application of PPPs (see below).

Given the nature of infrastructure services, and especially the natural monopoly characteristics of key networks, regulation is inevitably a feature of private provision. But if regulation is not to impede investment and the longer term sustainability of services, it must be well designed and be as least intrusive as possible — a point stressed by private infrastructure providers at the 2020 Summit.

The various Commission reports referred to in this paper discuss key design and implementation principles relevant to the regulation of infrastructure. As well, they emphasise the need for appropriate guidance to regulators, courts, service providers and users on the intent of regulatory interventions and the key considerations involved in their application. In all cases, there should be clear and explicit specification of objectives in the enabling legislation, focussing on the role of the regulation concerned in enhancing efficiency. And particularly for more complex regulation, there may also be a need for supporting explanatory memoranda, application guidelines and the like.

Price regulation

Some oversight/regulation of prices for privately provided natural monopoly infrastructure services is clearly warranted to prevent overcharging of users. The regulation of prices may also be appropriate during the transition from public monopoly provision to contestable private provision, as in the reform programs for Australia's telecommunications and energy sectors.

But a decision to regulate prices brings with it some inevitable efficiency costs, including for efficient investment. Hence, it is important that policies in this area have regard to a number of findings and lessons that have emerged from Commission inquiries and research examining price regulation matters.

- *Do not resort to price regulation unless it is clearly necessary*. Thus the Commission has argued in various reports (e.g. PC 2001 a,b; 2004; 2006b) that the entry bar for price regulation under access regimes should be set at a high level. Indeed, in its recent report on airports, it suggested a remedial legislative amendment to the Part IIIA National Access Regime to offset a bar lowering decision by the Federal Court (see box 3). Though the suggestion was endorsed by the previous government, as yet no amendment has been forthcoming.
- *Do not employ price regulation to meet social objectives*. As noted earlier, if subsidies for some consumers of particular infrastructure services are judged to be necessary, then consistent with the approach agreed to by Australian Governments, these should be provided through budget-funded CSOs. Hence, in its recent report on the consumer policy framework (PC 2008b, section 5.4), the Commission recommended that retail price regulation for telecommunications services and for contestable energy services be removed. (Indeed, the question arises as to how retail price regulation could operate for energy services once an Emissions Trading System is in place.)
- *Where price regulation is warranted, there should be sufficient pricing 'headroom' to encourage new investment.* All of the methods available to regulators for setting an 'efficient' price have shortcomings, meaning that such price setting is an imprecise exercise. In the Commission's judgement, in the presence of uncertainty about what is an efficient price, regulators should err on the side of setting prices too high. This is because prejudicing investment needed to sustain key infrastructure services over the longer term through setting prices too low, is likely to be much more economically damaging than allowing service providers some prospect of retaining a modicum of monopoly rent. Indeed, ex ante, to elicit an efficient level of investment, the prospect of earning some rents on a successful project to balance the possibility that a project may fail, may be necessary.

To help ensure that regulated prices provide appropriate incentives for investment, in several of its reports, the Commission has set out high level pricing principles. Though varying somewhat according to the circumstances at hand, in broad terms, these principles encapsulate the following notions:

- regulated prices should be at least sufficient to cover efficient long run costs, including a return commensurate with the commercial and regulatory risks involved;

- there should be scope for regulated service providers to employ multi-part pricing and price discrimination where this aids efficiency; and
- the pricing regime should embody incentives for providers to reduce costs and improve productivity (though achieving this is far from easy in practice).

Box 3 **Preserving a high entry bar for Part IIIA**

Part IIIA of the Trade Practices Act establishes a legislative regime to facilitate regulated third party access to nationally significant essential services in situations where commercial negotiations fail to deliver access, or when the parties cannot agree on the terms and conditions (including the price) of access. Part IIIA provides for several access routes, including declaration of an essential service. If a service is declared, and an agreement between the parties still cannot be reached, the dispute may ultimately be referred to the ACCC for arbitration.

Part IIIA was intended to be a mechanism of 'last resort' for resolving serious and protracted access disputes. However, a 2006 Federal Court determination upholding the Part IIIA declaration of the domestic airside service at Sydney Airport has the potential to render Part IIIA a more active regulatory instrument. Specifically, a new interpretation by the Court of the meaning of the 'promotion of competition test' — the key criterion in determining whether a nationally significant infrastructure service should be declared — is likely to make it easier to satisfy this criterion in future declaration cases.

In its recent report on airports (PC 2006b, chapter 3), the Commission argued that to avoid deterring investment necessary to sustain essential infrastructure services over the longer term, the entry bar for declaration under the Part IIIA regime should remain at a high level. It further noted that judicial clarification of the precise implications of the Federal Court decision is unlikely to happen quickly, with the uncertainty thereby created having the potential to also impact adversely on investment in infrastructure services. It therefore recommended that consideration be given to a pre-emptive legislative amendment to raise the entry bar to the level obtaining prior to the Federal Court decision.

In some cases, it may be possible to avoid direct price regulation and its associated adverse impacts. The success of the airport price monitoring regime (see box 1), and the decision to implement a light-handed regime as part of the Gas Code, suggests that there could be a wider role for such approaches. Moreover, the Commission's report on airports indicated how the price constraining effects of that monitoring regime could be enhanced without sacrificing its other advantages (PC 2006b, chapter 4). These proposals have been incorporated in the Mark II regime that took effect in mid 2007.

Non-price regulation

The Commission's reports have also identified various examples of unwarranted or poorly designed non-price regulation of infrastructure services. This points to the importance of more widespread application of best practice regulatory principles. These principles, which are canvassed at length in chapter 7 of the Report of the Taskforce on Reducing Regulatory Burdens (2006), include:

- where a prima facie case for regulation is established, identifying and rigorously assessing a range of policy options to address the underlying problem;
- choosing the option that generates the greatest net benefit for the community;
- providing for a sunset provision or periodic review mechanism; and
- consulting effectively with key stakeholders at all parts of the regulatory cycle.

In keeping with the COAG agreement to pursue a simpler and consistent national system of economic regulation for nationally-significant infrastructure, regulatory inefficiencies warranting particular attention are those which frustrate the development of national or larger regional markets. For example:

- Any social benefits from the previously mentioned constraints on water trading outside regions come at a potentially significant economic cost.
- As outlined in PC 2006d, chapter 11, jurisdictionally fragmented regulation in road and rail (e.g. relating to safety and access) compounds the regulatory burdens on transport operators and hinders efficiency and productivity improvement. Impending COAG endorsement of reforms to establish national systems of road, maritime and rail regulation and licensing is therefore a welcome development, recognising that the effectiveness of these systems will depend heavily on their configuration and means of implementation.

In addition, Phase 3 of the Commission's ongoing examination of the regulatory burdens on business, which will commence early in 2009, is to cover infrastructure (economic and social). This exercise will almost certainly indentify some regulatory impediments that have not previously come to light, or which would benefit from further scrutiny and assessment. One matter likely to be raised is regulatory red tape in planning and approval processes, on which there was considerable commentary at the 2020 Summit. That issue has also been identified for possible inclusion in the Commission's Regulation Benchmarking project for COAG. (The Commission's first draft reports for this project (PC 2008d,e) have just been released.)

Resolution of structural issues

There was a strong focus in the Hilmer report and the subsequent NCP reform package on the structural separation of vertically integrated, publicly-owned, providers of infrastructure services. For example, a key reform underpinning the creation of the National Electricity Market was the separation of potentially contestable generation and distribution activities from transmission, which is the natural monopoly component of the service.

The aim of such separation was to limit the need for ongoing price regulation to the non-contestable component of the overall service, and to facilitate the privatisation of service delivery where owner governments deemed this to be desirable. In the case of electricity, competition in the generation and distribution sectors was in turn encouraged through initiatives such as allowing users to negotiate directly with the suppliers of their choice (so-called retail contestability).

As outlined in the Commission's review of NCP (PC 2005, pp. 185-194), there are still some important unresolved structural issues in the electricity area. And in its report on Road and Rail (PC 2006d, p. 297), the Commission said that to improve the commercial viability of rail networks, consideration should be given on a case-by-case basis to allowing vertical reintegration with above rail services.

However, it is in the telecommunications sector that structural issues are looming largest.

In contrast to sectors such as energy and rail, when telecommunications markets were liberalised in the 1990s, the then wholly-government owned Telstra was left as a vertically integrated entity, operating the local loop and competing in downstream markets for services that drew on that loop. Telstra subsequently rolled out a cable network that largely duplicated an Optus-owned network.

To guard against the possibility that Telstra could use its ownership of the network to disadvantage rivals in retail markets, the Government introduced two telecommunications-specific regulatory measures — an anti-competitive conduct regime and a sector-specific access regime. Nonetheless, and despite the subsequent entry of new players to the telecommunications market, there have been ongoing concerns about Telstra's capacity to hinder the emergence of greater competition in both wholesale (network) and retail services. Hence, at various times, there has been debate about the merits of structurally separating Telstra.

In its NCP report (PC 2005, pp. 238-47), the Commission discussed the difficulties of unscrambling the structural egg now that Telstra has been privatised, concluding that 'transaction cost considerations now tip the balance against the full vertical

separation of Telstra, regardless of the intrinsic merits of a separated structure in a 'greenfields' situation'. The Commission therefore focussed its attention on more circumscribed policy initiatives to promote network competition and encourage the future development of network services — for example, operational separation of Telstra's wholesale and retail arms.

However, the original structural issue has resurfaced in relation to the tender for the new broadband network. Specifically, a key issue is whether the successful bidder should be limited to operating the network, or whether it should also be permitted to provide downstream services.

Though the Commission has not looked at the particulars of this issue, many of the intrinsic considerations and trade-offs appear to be broadly similar to those that arise in relation to the existing telecommunications network (see box 4). Suffice to say that the experience with the existing network indicates that the structural rules of the game should be unequivocally resolved before major investments are committed.

Issues in private-public interaction

In years past, there was a distinct delineation between public and private provision of infrastructure services. However, the emergence of PPPs as a vehicle for financing, constructing and/or delivering infrastructure services has led to a blurring of the public-private divide.

As noted, Australia has done more than most countries in employing PPPs to address a variety of 'public' infrastructure needs, particularly where budgetary and other constraints would impede timely completion of projects under the traditional public provision model. PPPs now account for around 5 per cent of investment in 'public' infrastructure.

To the extent that PPPs provide a means to blend the best aspects of public and private provision, there may be scope for them to play an even bigger role in the future. Indeed, some of the criticism of actual partnerships arrangements has been misplaced, reflecting poor project selection or deficient contractual arrangements, rather than intrinsic shortcomings in the approach itself.

That said, like other financing and delivery systems, getting PPPs 'right' is not without its challenges. Drawing on both Australian and international experience, a soon to be released staff paper (2008f) will examine the pros and cons of employing PPPs relative to other financing instruments.

The paper will argue that the case for using PPPs should have regard to a range of matters, including the financing and transactions costs; the capacity to achieve an efficient and enforceable allocation of risk between the parties; efficiencies available from the bundling of financing, construction and operation of major infrastructure projects; and the scope to speed up project delivery by overcoming public sector budgetary constraints.

Box 4 Structural separation in the telecommunications sector

In its NCP report (PC 2005), the Commission noted that there were calls by some for changes to Telstra's structure, with these changes falling into two broad groups:

- vertical changes involving the further division of Telstra's wholesale and retail arms; and
- horizontal changes — for example, requiring Telstra to divest its cable network — with a view to creating more competition between networks.

While rejecting some of the claimed benefits of greater vertical separation (p. 240), the Commission said that such separation could make it easier for regulators to identify anti-competitive behaviour and increase the confidence of Telstra's retail competitors in the effectiveness of the overall regulatory regime. The latter could in turn encourage greater participation in the development of rival telecommunications networks.

However, the Commission observed that there had been a considerable increase in competition under the existing arrangements and that vertical separation has its own offsetting and potentially sizeable costs.

- It can reduce opportunities to realise economies of scope and create hurdles to innovation and investment. For example, integration may help the network owner to identify opportunities for worthwhile innovation to its network and provide greater certainty about the returns from such innovation.
- In such a rapidly changing market, it can be very difficult to determine where exactly a vertical split should be made, raising the spectre of costly regulatory error.

Also, high implementation costs have weighed heavily in the decisions of several other countries not to proceed with full vertical separation of their major telecommunication entities. These costs were similarly influential in the Commission's findings in regard to full vertical separation of Telstra (see text).

In regard to horizontal separation, the Commission questioned any starting presumption that the scope for competition between different telecommunications networks is, and will continue to be, limited. That said, it acknowledged that the threat of competition from new networks may give Telstra incentives to thwart their development. It further noted overseas evidence suggesting that different ownership of copper and cable networks can facilitate the emergence of new cable services and thereby the development of a more competitive telecommunications market.

But the Commission went on to argue that like vertical separation, forcing Telstra to, say, divest its cable network, would have a range of offsetting efficiency costs. For example, precluding Telstra from direct involvement in that network could potentially deprive the market of its experience in network development in an Australian context, and also the investment capital that it could bring to the process. And there would again be significant technological and implementation issues to address.

Though noting that the overseas evidence provides a stronger case for horizontal changes than for full vertical separation, the Commission said that it was still far from clear that such changes would deliver a future net benefit in an Australian context.

These key decision making considerations will in turn be influenced by several other factors. For example:

- The relative costs of public and private financing may sometimes be affected by network issues. In particular, the costs for a private operator to finance a toll road within an otherwise largely publicly-owned and operated road network may be higher than for the network owner. This is because of the likely greater risk for the private operator that its traffic flows, and therefore revenues, will be influenced by policies affecting the use of the much larger publicly-owned component of the network. (This issue is discussed in some detail in EPAC 1995, chapter 5.)
- The rate of return sought by potential private partners in a PPP will partly reflect the perceived level of risk associated with the regulatory environment.
- The costs to users/taxpayers will also depend in part on the depth of competition amongst potential private providers.
- The ability to achieve an efficient allocation of risk between the parties under a PPP will depend to a significant extent on the skills and experience of the public servants involved in contract negotiations.

The latter two concerns were particularly prominent for some of Australia's early PPPs. However, the maturing of the PPP process should continue to diminish their significance over time. Nonetheless, the role of ancillary initiatives to improve public sector contracting skills and to enhance competition for contracts, including from overseas bidders, might reasonably be the subject of further investigation.

Furthermore, for projects which require a government funding contribution to render them commercially viable, that contribution will often reflect multiple social or other broader objectives. In these circumstances, and consistent with the principle agreed to by Australian Governments, a public funding component for each of these constituent objectives should be separately and transparently identified. (As well as support for low income or other disadvantaged consumers, this requirement would extend to any cost imposts associated with local industry development requirements.)

Broader considerations

Achieving efficient infrastructure outcomes does not depend only on infrastructure-specific policies, institutions and regulations, Infrastructure investment and usage will also be affected by policies in other parts of the economy. For instance:

- In its NCP review, the Commission (PC 2005, pp. 220-21) drew attention to the potential impact of cabotage on the cost of coastal shipping, and hence its share of the long distance freight task. The challenge for the current inquiry into coastal shipping policy and regulation by the House of Representatives Standing Committee on Infrastructure, Transport, Regional Development and Local Government, and for the Government in responding to the inquiry's findings, will be to come up with reforms where economy-wide interests are paramount.
- The Commission is currently undertaking a research study on the regulation of crude oil and natural gas projects that involve more than one jurisdiction. The focus of the study is on identifying opportunities for streamlining regulatory approvals and removing duplication of requirements across jurisdictions. Such improvements could in turn be expected to facilitate more timely and efficient investment in the pipeline and other infrastructure required to transport petroleum resources for processing and ultimately to users. The Commission is intending to release a draft report (PC 2008g) in November.

But perhaps most importantly, Australia's actions to reduce its greenhouse emissions will have major implications for investments in the energy and transport sectors in particular. There are two separate, though related, issues here.

- Uncertainty about the future rules, and the prospect of 'iteration' of those rules, will almost certainly delay or otherwise impede some investment. An element of uncertainty will inevitably attach to the sort of initiatives required to address the greenhouse challenge. And good policy should not be sacrificed in a rush to finalise settings in a very complex area. But it is clearly desirable to avoid unnecessary uncertainty, including that which results from giving mixed messages to business about the likely rules of the game and the future stability of those rules.
- Lack of a clear national price signal, or the co-existence of multiple pricing mechanisms, will similarly impede efficient investment. In its submission to the Garnaut review (PC 2008c), the Commission (like many others) argued that an effective Emissions Trading System should render energy efficiency targets and subsidies for alternative energy sources largely redundant. Indeed, if these other mechanisms are retained, investment could be channelled into higher cost energy sources, leading amongst other things to greater emission abatement costs, and higher electricity prices.

Hopefully, the impacts on efficient infrastructure investment will not be ignored as such wider policies are assessed and developed in the future.

The Commission's future contribution

The Commission is keen to continue to contribute to the development of policies that promote efficient investment and usage of infrastructure and thereby productivity improvement and economic well-being more generally. An important component of this contribution will be assisting other processes directed at furthering these goals. Accordingly, the Commission would welcome the opportunity for further engagement with Infrastructure Australia. However, the Commission's expertise is not in assessing the worth of particular projects, or in determining priority investments. Rather, it can best assist by identifying frameworks and processes that will facilitate good investment outcomes generally, in both the public and private sectors, and in collaborative efforts between the two.

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