Regulating Australia’s infrastructure: looking forward*

Gary Banks

Chairman, Productivity Commission

Introduction

Twenty years ago, Australia’s key infrastructure services — such as energy, water, transport and telecommunications —were delivered by a few publicly owned corporate behemoths. They were unassailable by competition because their position was statutorily entrenched and many were natural monopolies. Their governance structures were antiquated, their orientation was often technical rather than customer-focused, and their costs often inflated by inefficiency. These were the industrial dinosaurs of our age waiting for the Hilmer meteorite.

It is testimony to the effectiveness of the new competition regulation that, today, infrastructure services, which are increasingly provided by the private sector, are characterised by sophisticated decision-making and much greater commercial incentives. This has facilitated greater innovation and more efficient pricing of essential services. Some prices have fallen significantly. Others, particularly in the water and urban rail service industries, have risen to reflect better their costs of provision. The gains from reform have been big, reflecting the fact that such infrastructure accounts for about twenty per cent of Australia’s total capital stock and plays a pivotal role in producing services to business and consumers.

So the story of competition regulation of essential infrastructure appears so far to have been a good one. But does it have a happy ending?

---

* Presentation to the Financial Review and AusCID *National Infrastructure Summit*, Melbourne, 14–15 August 2002. The presentation draws on the policy discussion in the Commission’s annual report and inquiry reports into the national access regime, the Prices Surveillance Act, airports, telecommunications and harbour towage services, and its recent submission to the Review of the *Trade Practices Act 1974* (visit www.pc.gov.au).

My need to ask that question results from an apparent tension at the centre of competition regulation. Competition has not been achieved just through de-regulation, but also through the construction of elaborate regulatory machinery that oversees access to essential services, arbitrates disputes, and sets prices and other terms and conditions. So the nature of competition in these services is a creature of regulation.

The devil is in the detail of these regulations. And much of the detail is based on conjectures about technologies, costs and behaviour. In that sense, there is an experimental character to the regimes, with the potential for the regulations to generate costs as well as benefits.

In recognition of this, it was envisaged at the outset that there would need to be reviews of the new regulatory regimes after a few years. A recent set of Productivity Commission inquiries — including the National Access Regime, telecommunications, airports, rail reform, harbour towage and the Prices Surveillance Act — has provided the opportunity for an independent and public appraisal of major elements of the pro-competition regulations governing Australia's economic infrastructure. (The Commission's final reports on the national access regime and the Prices Surveillance Act have not been released by the Government, while the Commission is still completing its inquiry into harbour towage services — so my comments in relation to these should be taken as referring to the draft reports).

The Commission has found much common ground with the ACCC and other competition regulators. We consider there are strong grounds for regulatory oversight, in some form, of the services we analysed. And we found much of the current regulatory framework to be broadly appropriate. But not surprisingly, the Commission also identified some significant deficiencies. The principal concerns arise from an awareness that just as use of market power by firms can have adverse efficiency outcomes, regulatory responses carry with them costs and the scope for error, which also have efficiency implications. If these issues are not properly addressed the infrastructure reform story could turn out less happily than it should.

The need to allow for regulatory error

Competition regulators faces some daunting informational obstacles to understanding the nature of the problem and how different regulatory prescriptions might affect behaviour, especially over time.

Even where there is a prima facie case for regulation, interventions themselves can be costly, due to their effects on incentives and their administrative, legal and other

burdens. This became evident in the Productivity Commission's telecommunications inquiry. The access regime, while ultimately beneficial in our view, was found to be cumbersome, complex, open to strategic abuse by contesting parties and expensive. (We recommended various changes to increase its speed and efficiency.)

And sometimes the diagnosis can be wrong and intervention leads to unanticipated adverse effects. In many contexts, it is likely that the costs of symmetric regulatory errors are not themselves symmetric. Acting against market power when it does not have adverse efficiency consequences generally has bigger costs than failing to act in cases where market power is being misused. This is because the first type of error affects all business' expectations about the actions of regulators and can affect incentives to undertake investments or other activities that are prone to regulatory action.

Excessive prices produce inefficiencies in use. But regulated prices that are too low may ultimately frustrate replacement of the investment, with sustained inefficiencies. In that sense, large sunk investments are a bit like light bulbs — they perform well until the light goes out. The California energy crisis in 2000 provides an apt illustration of the fallibility of even sophisticated regulatory regimes.

Moreover, business is by its nature a rivalrous activity, and the option for initiating regulatory intervention provides some firms with a non-market mechanism for challenging their rivals.

Quite apart from errors associated with taking actions when no action may be required, the complexity of the task means that there is almost an inevitability of errors associated with the specific remedy adopted, especially where this involves price regulation.

Regulatory price setting might be likened to sausage making – inquiring into the details of the process does not encourage confidence in the final product. For example, it is common for regulators of essential services to use depreciated optimised replacement cost (DORC) as their asset pricing methodology, discover that the valuation is very high, and then apply an arbitrary reduction to generate lower prices more acceptable to consumers. There are reasons to view DORC valuations as potentially excessive in many industries – as the Commission discusses in its report on the national access regime – but dealing with this through arbitrary reductions is haphazard.

Cost-based pricing is suspect, in any case, since it ignores the efficiency benefits of also taking account of demand conditions. It is generally accepted that multipart pricing is beneficial at the retail level since it allows for more efficient use of

capacity. But the incentives for multipart pricing at the retail level are weakened if it is not also applied to access prices.

The importance of demand conditions is illustrated by the situation in which a vertically integrated supplier of essential services has market power in its retail arm. Where that is the case, demand is less responsive to price increases of services sold by the incumbent's retail arm than by rivals. This justifies the incumbent's retail arm bearing a greater share of the common costs of the incumbent than rival access seekers. It was on the basis of downstream market power in Telstra that the Commission considered that, notwithstanding a downward bias in the ACCCs calculation of telecommunications network costs, the access charges set by the ACCC for these services were probably not too low while Telstra's downstream market power remained. In a sense, serendipity led to roughly the 'right' regulatory outcome — for now. But as Telstra's downstream market power wanes, access pricing should be adapted. The example illustrates three things:

- first, competition regulation is a highly complex field with sometimes quite unintuitive results;
- second, it is fundamental to consider demand conditions as well as costs when regulating access pricing; and
- third, it is important not only to make the right regulatory decisions, but to make them for the right reasons. Otherwise decisions that are correct in one circumstance could easily be wrong later.

The implication of the potential for regulatory error is, paradoxically, that interventions with a pro-competitive purpose can have anti-competitive effects — because of their adverse influence on firms' incentives to win in the market. While this has always been true, the transformation of the infrastructure sector to the point where there are no longer easy gains to be had from cutting into the fat of existing government monopolies — but rather an increasingly efficient set of services in which private incentives for new investment have come to fore — means that the potential costs of regulatory failure have become much more of an issue for policy.

In considering how best to modify the regulatory framework from this perspective, the Productivity Commission's inquiries point to three ways forward:

- the first is to improve regulatory diagnosis, to reduce the potential for error;
- the second is to set thresholds for more severe interventions that require strong standards of evidence about the presence of a real problem; and
- the third is to use 'lighter' interventions, to reduce the potential costs of a wrong diagnosis or misplaced price-setting.

Better diagnosis

Improved diagnosis depends on clarifying the objectives and concepts underlying competition regulations.

Competition is a means to an end

It is now commonplace to observe that the point of competition regulation is economic efficiency rather than the competition itself. But this is not what the *Trade Practices Act 1974* (TPA) says. Indeed, the TPA provides mixed signals about the importance of the efficiency. For example:

- The telecommunications access regime (Part XIC of the TPA) establishes its object as being the promotion of the long-term interest of end-users of telecommunications services. This could, in theory, favour distributional gains to end-users at the expense of economic efficiency. Furthermore, while one of the tests used to establish whether something is in the long-term interest of end-users is a pure efficiency criterion (whether declaration would encourage the economically efficient use of, and the economically efficient investment in, the infrastructure by which listed services are supplied) there are two other tests. These are a competition test and an any-to-any connectivity test. These additional tests are given equal billing with the efficiency criterion and there is a presumption that the different tests may sometimes point in contradictory directions. This, and indeed their very existence in the Act, pre-supposes that they relate to something other than efficiency and confuses the basis on which declaration of telecommunications services should occur.
- Among other things, section 46 of the TPA (dealing with misuse of market power) relates to conduct that damages a competitor, which, interpreted literally, need not have any adverse efficiency consequences. This section of the Act does not have its own objects clause — and is accordingly governed by the rather general and vague objects clause of the Act itself (section 2).
- Similarly, the national access regime (Part IIIA of the TPA) is not covered by a specific objects clause that clarifies it focus. This led Dr Maureen Brunt, in her submission to that inquiry, to comment:

  > The access provisions are … written in cumbersome and uncertain language, in a structural design of Byzantine complexity. Much could be achieved [if the Commission] were to pursue a clear agreement on objectives (sub. 21, p. 1)

Fortunately, courts and regulators have generally perceived Part IIIA, Part IV and Part XIC as addressing efficiency issues, rather than competition in itself. They have generally not seen the regulatory function as helping out competitors or

equating competition with the number of rivals in a market. In recognition of the costs imposed by regulation, it has generally been accepted that the relevant criterion for invoking competition regulations are actions by firms that lessen competition to a non-trivial degree.

However, at times the concept has been interpreted in a wider fashion. A recent example under the National Access Regime illustrates some of the problems. In the Australian Competition Tribunal's review of the NCC's declaration of services for freight handling at Sydney International Airport (2000), it was determined that declaration would promote competition.

Sydney Airport Corporation Limited was the owner of the facility services that were used to provide freight handling, but did not actually undertake freight handling itself. It could be expected to have the right incentives to contract efficiently. Sydney Airport had four providers of ramp handling services of which two were to be selected on the basis of a competitive tender. In appraising competition, the Tribunal rightly rejected the number of competitors as a meaningful measure.

However, its interpretation of the competition test was still a liberal one. The Tribunal's view was that access would lower barriers to entry and thus would establish the pre-conditions for increasing competition from what it was before, though it might not actually increase competition at all. It was quite uncertain whether prices under declaration would be better than those obtained under the tender or whether there might be other efficiency issues weighing against declaration, such as those related to the transaction costs and financial risks associated with contracting by SACL.

The decision does not seem to have a broader efficiency rationale and has been widely seen as expanding the meaning of 'promoting competition' in a way that is likely to extend regulatory reach of access provisions in the TPA.

Reflecting the ambiguities of the present arrangements, the Commission considers that clarification of the purpose of key parts of the TPA is useful. In our various reviews, we have recommended the introduction of objects clauses explicitly seeking to achieve efficiency outcomes.

The Commission has also proposed that statutory guidelines governing pricing principles be included in the access regimes, so that these also maintain a sound efficiency footing.

Markets should not be defined mechanically

The first investigative step in any competition policy matter is to define the appropriate market. Much hangs off this. If markets are defined too broadly it will be hard to diagnose market power. But too narrow a definition will almost always lead to such an assessment. Perhaps the most infamous illustration of this was the identification of a distinct market for Datsun cars in a TPC case in the 1970s.

Regulatory decisions are generally more sophisticated now than they were then, but there are still deep-rooted problems in market definition. This stems from the fundamental inadequacy in defining the boundaries of a market by reference to close substitutes, and then assessing market power by reference to the goods and services within those boundaries. The real issue is whether a firm can sustain the price for a good or service at a price significantly above the relevant costs, taking account of the collective impact of weak as well as strong substitutes, now and in the future. Under the conventional approach, markets can be defined too narrowly.

The declaration of analogue subscription pay TV services in 1999 exemplifies the drawbacks of a mechanical approach to market definition. Among other reasons given for this decision, it was judged that videos were not a substitute for pay TV because people have to go out to get them; and that free-to-air TV was also not a substitute because it is paid for by advertisers rather than by subscription. But the fact that the form in which these services are provided differs from pay TV need not disqualify them as substitutes. Even if, individually, such services are not *close* substitutes, collectively they may exert enough discipline to remove any significant scope for excess profits.

Market power is not always inefficient

Even where it appears that prices could be lowered by promoting competition, this may not be efficient. The prospect of market power and the extra profits associated with it are often what motivates firms seeking to innovate and undertake risky investments. If the prospect of additional profits is removed, then so too is the incentive to win in the market.

This is at least partly recognised in the TPA in section 51(3) which gives intellectual property special immunity under Part IV. Moreover, the use of market power to set high prices is not, in itself, an abuse of market power as apparent in the Federal Court ruling on *Pont Data Australia Pty Ltd v ASX* (1990). In its submission to the Dawson review, the ACCC itself argued that section 46 should not be directed against the charging of prices above competitive levels since such prices

actually facilitate competition. This recognises an important tradeoff between static and dynamic efficiency — an issue to which I will return.

Moreover, in circumstances where demand is relatively unresponsive to price, or the monopolist can effectively use multipart pricing, the adverse output consequences of market power may be relatively small. For example, in the case of airports, there are numerous examples of airport price structures designed to promote or retain marginal users, including direct incentives designed to encourage additional flights and new entrant airlines.

Congestion may also moderate the efficiency consequences of market power. For example, in the case of Sydney airport — at least prior to the temporary lull in demand from Ansett's collapse and September 11 — the demand for slots at certain times exceeded the allowed supply. As demand picks up again, this binding supply constraint at Sydney provides an additional buffer against any inefficiencies stemming from rises in aeronautical charges.

That said, where there are significant non-transitory entry barriers — as in the case of natural monopolies — and there is limited implementation of multipart pricing, high prices can significantly reduce economic welfare. Where these special circumstances can be diagnosed with some certainty, this provides a prima facie case for regulatory intervention. This underpins access regimes for essential services.

Stronger standards of evidence

Like market power, regulatory action lies on a continuum. A regulator may investigate, monitor, remedy a particular anti-competitive act after the event or impose structural measures of varying scope to prevent such conduct or adverse outcomes. For example, requiring a vertically integrated firm to supply an input at non-discriminatory terms to all access seekers is less extreme than setting an access price that aims to remove any profit margin above costs.

The stronger the regulatory action and the more ambiguous the circumstances on which it is based, the greater should be the onus on the regulator to prove its case.

The Productivity Commission has recommended that one way of reducing the risk of excessive intervention in workably competitive markets is to set stricter thresholds for regulatory action. For example, in our telecommunications inquiry, we recommended that a necessary hurdle for declaring a service was the prospect that this would promote a *substantial* increase in competition, not just any increase.

One example of where this would have made a difference is the continued declaration of GSM mobile services and the recent declaration of CDMA mobile services by the ACCC.

It appears that a major rationale for declaring CDMA was to give equal regulatory treatment to these two functionally close technologies. However, had mobile services not been declared under the telecommunications regime, it is questionable whether such services would have passed any reasonable standard for regulation at all. There has been significant entry into mobile services and there are three major mobile providers and several other smaller rivals. Few other countries regulate mobile services. The prime concern of the ACCC relate to the imbalance between low mobile origination prices (including free handsets) and relatively higher fixed to mobile termination charges. But, as some in the industry have noted, this imbalance might reflect efficient pricing principles, rather than something needing a regulatory fix. The effects of regulation may well be to increase handset prices and to actually decrease mobile penetration.

The industry certainly does not appear to fit the usual profile of monopoly in which output and investment are reduced. Mobile services do not involve a bottleneck in the same sense as the public switched telephone system. Entry barriers are clearly not very significant, as the experience of entry has shown. Declaration of mobile services seems to be an accident of their being caught by the finer regulatory net cast by the telecommunications access regime, relative to section 46.

An 'effects test' in section 46?

The need to match strong regulations by compelling evidence was pivotal to the Commission's concern about adding an effects test to section 46. For one thing, there is already some scope to infer purpose from the effect or circumstances of the conduct. One does not need a smoking gun, or a whistleblower, though these are useful. Indeed the Commission favours the introduction of corporate leniency provisions that would encourage parties to defect from cartels and 'spill the beans' to the regulator.

The danger of an effects test is that it may include and therefore deter pro-competitive conduct by firms with market power that has an effect of damaging rivals, even where no anti-competitive effect was intended.

This is especially the case given the ambiguity and problems besetting market definition and the diagnosis of market power. Adding an effects test would complete a risky trifecta. While the ACCC may seek to be prudent in applying such

an expansive test, there is also scope for private actions under section 46 and uncertainty about how courts would interpret the test.

Regulatory accountability and transparency

A related issue to determining the right thresholds for regulatory action is that where the potential costs of regulatory action are high there should be the capacity for verification that the right diagnosis has been reached. Different competition regimes in Australia have different standards of accountability.

For example, in the national access regime under Part IIIA, declarations are appealable to the Australian Competition Tribunal, whereas under the telecommunications access regime in Part XIC, no appeal rights exist for declaration at this stage. As evidenced by the *Duke* decision, regulatory error can occur, with the Tribunal being a useful second umpire.

In its analysis of telecommunications, the Productivity Commission was concerned that accountability for issuing competition notices under Part XIB was also quite low (though the circumstances to date that have triggered them have been legitimate). While a firm could contest a notice by failing to abide by it, this would risk high penalties. If a firm complied with the notice, it would be likely that the notice would be dropped before a court could assess whether it was valid. The Commission accordingly recommended that the court have a capacity to assess the merit of a competition notice even after it had been dropped. A similar concern relates to the proposal to have administratively applied ‘cease and desist orders’ in Part IV, with limited capacities for courts to stay their application – or if the order is withdrawn prior to the substantive court case – to subsequently assess their merits.

Revocation when things change

The evidential requirements for regulation have to be sustained over time. This is because circumstances that may have led to market power can change quite rapidly — especially in faster moving technologies. In telecommunications services, wireless local loops, new fibre optic networks and additional satellite services are increasingly threatening the dominance of incumbents reliant on copper lines. In some countries, internet and telecommunications services are now being provided through the electricity system — a new and unforeseen source of competition to the conventional conduits for such services.

For example, the construction of new telecommunications optic fibre and microwave networks in the CBD areas of major capital cities led the ACCC to

deregulate local call services in those areas in July this year. In May 2001 it also deregulated intercapital city transmission services, which are used for the transmission of voice, data and other communications between a point of interconnection located in different capital cities. However, the fact that facilities competition developed at all in these areas — and by all accounts it has been robust and extensive — suggests that the entry barriers in these services were never that high in the first place.

As welcome as deregulatory moves have been when the evidential basis for regulation disappears, the processes for winding back regulation could be made more proactive. For example, while revocations are possible in the telecommunications access regime, they are at the discretion of the regulator. And while exemptions can be given to particular operators for their services, there is a requirement on the regulator to show that this is in the long term interest of end users. The Commission recommended explicit sunsetting provisions and a requirement that exemptions be permitted unless it could be shown that continued regulation was justified.

More light-handed instruments

One solution to the costs of regulation is simply to do nothing in circumstances where there is significant doubt about the net benefits of intervention. Another solution is to develop and use more light-handed regulatory options.

There are several possibilities here. I would like to focus on just three:

- competitive tendering;
- price monitoring; and
- special provisions for new investment.

Competitive tendering

In the case of natural monopolies, competition in the market is typically not effective and it may not be desirable. Price regulation is one remedy, but it is informationally very demanding and prone to error. Price notification under the *Prices Surveillance Act* is currently another option, but would probably be ineffective as a remedy. An alternative is to devise a mechanism that allows competition *for* the market, such as through franchise bidding or competitive tendering. In those circumstances where it is feasible, this can be nearly as effective in producing efficient pricing and supply as competition *within* the market.

In its recent draft report on harbour towage services, the Commission found that the requirement for price notification under the *Prices Surveillance Act* had had little impact on the market power present in those services. Probably the most effective constraint on market power has been the potential for entry — given relatively low sunk costs. That said, some market power exists and harbour towage services are likely to involve a margin above efficient prices. From a policy perspective, competitive tendering was found to be a potentially superior mechanism for lowering prices, while maintaining quality, than price regulation. The important proviso is that port authorities' governance arrangements serve to align their interests with the users of towage services.

Price monitoring

The Productivity Commission has argued that the *Prices Surveillance Act* is an inappropriate mechanism for dealing with market power. But that does not mean that there is no role for prices monitoring in the TPA. Indeed, the Commission has argued that new inquiry and monitoring functions should be incorporated into the Act.

The case of airports

An area where this lighter-handed option has just been adopted is airports. In common with the ACCC, the Commission found that major metropolitan airports — such as Sydney, Melbourne and Brisbane — have substantial market power, given the absence of sufficient substitute services and the small share of aeronautical charges in passenger ticket prices.

However, the Commission concluded that there was little prospect of airports using this power in a way that would produce big costs for the community or the economy. Airports have every incentive to maintain air traffic and passenger flows so as to sustain complementary non-aeronautical activities (like car parking and retail), which provide a large proportion of overall profits. Moreover, like any owner of a facility whose marginal operating costs are low, they have incentives to extract returns from using that facility fully through price flexibility and incentives to additional users, something which is routine in Australian airports.

Some have interpreted recent hikes in aeronautical charges at particular airports as evidence of the damaging exercise of market power. However, that largely misses the point of the increases.

The price agreements which have been reached set prices for several years (for example, for 5 years at Melbourne and Brisbane airports) and importantly will cover

major investment programs. For example, Melbourne Airport is committed to a $150 million upgrade including modification of its runways to accommodate the A380 Airbus.

The new approach to price oversight has removed the regulator from day-to-day airport investment decisions and provided more scope for positive commercial relationships to develop between airports and airlines. In that context, it is interesting to note Virgin Blue's strong endorsement of Melbourne Airport's new access arrangements for the southern domestic terminal — which offers improved terminal services.

As for the magnitude of the rises in aeronautical changes— which, by the way, might equate to $1 to $2 per domestic passenger — these need to be seen in the context of the desirable shift from single-till cross subsidisation to dual-till pricing. It is also worth noting that the new investment would have led to increased charges under the old price cap regime. Big price increases can be called for. The ACCC itself did not object to a 97 per cent increase in aeronautical charges at Sydney Airport in 2001 under the previous regulatory regime. In sum, price increases that generate appropriate investment levels at airports without excessive returns accruing to airports are to be encouraged, not condemned.

This brings us to the more general and critical issue of sustaining investment incentives in infrastructure.

Special provisions for new investment

For essential services, such as airports, water and telecommunications, the biggest costs are the upfront sunk investments in long-lived infrastructure rather than the costs of operating it. The sunk nature of these massive investments often confers market power, and this is where the regulator generally steps in.

The nub of the problem is that what appears to the regulator to be excessive profits ex post, may be the upside that was required to make the investment proceed in the first place. If regulators appropriate the upsides but do not compensate for the downsides (which they do not), then they may unwittingly delay or eliminate investments in essential infrastructure. That investment risks are real is exemplified by the costly failure of the Iridium satellite phone system. Before capital is sunk in such risky investments, equity holders will look for large potential upsides to offset the large potential downsides.

While the problem is clear at a conceptual level, in practice it is hard to resolve the debate about how adverse or otherwise competition regulations have been for

aggregate investment in such facilities. Regulators have generally been dismissive of the claims of investment interests, no doubt applying Mandy Rice-Davies' maxim: "They would say that wouldn't they." The Productivity Commission, by dint of its long experience in assessing industry claims for assistance, takes this for granted. But as Henry Kissinger once said of US President Nixon, the fact that he was a paranoiac did not mean that he had nothing to be paranoid about.

International comparisons of rates of return are fraught in this area; domestic comparisons with average ASX returns largely miss the point, and trends in actual investment expenditure prove little without knowing the counterfactual.

What seems clear to the Commission is that risky greenfields investments will be particularly vulnerable to regulatory risk.

It is very difficult to address this problem by modifications to the coverage tests used in access regimes. This is because these tests do not determine exposure on the basis of the *expected* profitability of a facility at the time of construction. Rather, they address whether an *incumbent* service provider might have the scope to exercise market power, even if the facility concerned was constructed with the expectation of providing only a normal risk-adjusted return.

What is needed is a regulatory mechanism to deliver greater certainty up front, before an investment occurs, that necessary returns will not be appropriated down the track. In its draft report on the National Access Regime the Commission floated the notion of access holidays. It has subsequently drawn on feedback from inquiry participants to develop a range of related options in its final report to Government last year. There are three broad approaches that were discussed during the course of the inquiry:

- exempt the project from exposure to access regulation, for a fixed period of time, irrespective of the returns earned (the standard holiday);
- pre-commitment to some form of profit sharing after a project has returned its cost of capital (sometimes referred to as a NPV-based access holiday);
- incorporate some form of 'truncation premium' in a project's regulated cost of capital or regulated tariffs (over and above any loading to reflect the higher average risk of the project).

It should be said that none of these approaches are free of conceptual and administrative draw-backs. Indeed, once a decision is made to regulate essential infrastructure to which monopoly power potentially attaches, some disincentive to new investment is inevitable. In essence, the task for those determining regulatory policy and rules is to minimise such disincentives, while at the same time seeking to ensure that users of essential infrastructure do not face an unreasonable burden that

would diminish its value to the community. In the Commission's view, any of the proposed mechanisms for dealing with the truncation problem would yield better outcomes than the existing arrangements.

Since the Productivity Commission submitted its report on the National Access Regime to the Government last year, the ACCC has issued *Draft Greenfields Guidelines for Natural Gas Transmission Pipelines*, in which it acknowledges that regulatory appropriation of blue sky profits is an issue for potential investors. The draft guidelines propose that the problem of truncation could be reduced by allowing modifications to the capital base to reflect the costs of self-insuring against project specific risks and by allowing firms to retain the benefits of faster than expected demand growth or greater than anticipated operating efficiencies.

Whether or not this particular solution is workable given its information requirements, or desirable given questions about the scope for exercising market power, is uncertain. However, the ACCC also indicates that it is receptive to other approaches that 'can provide certainty in the context of both blue sky and black sky scenarios', including benefit (profit) sharing arrangements. These developments are encouraging.

Looking forward

In conclusion, the introduction of competition regulation to infrastructure and the dismantling of the old statutory monopolies has produced large dividends for Australia. As we look to the future, however, it is important to refine the regulatory frameworks with a view to the inevitability of regulatory error, with greater recognition of the risks to necessary future investment and with an acceptance of the virtue of not intervening unless a significant efficiency payoff is in prospect. In particular, we should abandon the unrealistic premise that regulation is benign just because it springs from worthy motivations. What is needed is a hard-headed assessment of how imperfect regulations work in correcting imperfect markets, and the gains and losses from their deployment.