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# 1 Better regulation of infrastructure

**Australia's economic infrastructure is subject to a wide range of regulation, including access regimes and price oversight, which are designed to promote efficient outcomes. The way in which these regulatory regimes operate is of considerable importance to Australian consumers and businesses.**

**The Commission has found that there is an important, continuing role for pro-competition regulation of infrastructure to enhance economic welfare and to curtail abuses of market power. However, refinements are necessary to reduce the risks of regulatory failure. Most important of these is the risk of deterring investment in efficient infrastructure facilities, which would be to the long-term detriment of users and consumers, and of living standards generally.**

Infrastructure facilities such as electricity, gas, water and sewerage, transport and communications systems, play a pivotal role in Australia's economic and social development. The efficient provision and use of such essential infrastructure — its location, availability and pricing — contribute to economic growth and living standards.

Infrastructure services to households are essential to the quality of life. While these services directly account for only some 5 per cent of consumer spending, this understates the importance which the community attaches to them — graphically illustrated when power blackouts and scares over the quality of drinking water occur. Infrastructure also forms the 'platform' upon which most businesses depend to produce and market their outputs and to develop innovative goods and services. Indeed, 70 per cent of the total demand for infrastructure services comes from Australian businesses. Infrastructure places major demands on Australia's capital resources, accounting for about 20 per cent of Australia's total capital stock. Given that there are few or no alternative uses for infrastructure once investments have been made, inefficiencies in infrastructure investment can impose substantial costs on the community.

A significant determinant of the efficiency and performance of Australia's infrastructure is the extensive regulation and ownership arrangements under which it operates. Although much remains to be done, governments have radically

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transformed regulatory, governance and ownership arrangements for such infrastructure over the past decade and a half. This has been part of a broader effort by Australian governments to improve the performance of the economy through reforms in financial, labour and product markets.

Demands for cheaper, more reliable and better quality infrastructure services were precipitated by increased competitive pressures on Australian industries as barriers to international trade and investment declined. Australia's export and import-competing firms realised that lack of efficiency within power, freight and communications industries were inflating their costs and handicapping their competitiveness.

The need to improve the performance of government business enterprises, in particular, became increasingly evident following a number of policy reviews undertaken during the 1980s. Their conclusions were reinforced by a series of benchmarking studies that demonstrated significant performance gaps compared with international best practice (box 1.1).

Poor performance of our infrastructure was manifest in excessive and sometimes inappropriate capital investment, overmanning, problems of timeliness, quality and lack of innovation in service delivery, poor financial returns and a mounting debt burden for taxpayers. Prices for some services (for example, telecommunications, electricity and rail freight) bore little relation to those which would apply if efficient production techniques were used. At the same time, prices for some other infrastructure services (for example, irrigation water and urban rail services) fell well short of costs. Complicating the story, cross-subsidies which typically favoured households at the expense of business were common.

A recurring theme of official reviews was that because many government business enterprises were statutory monopolies — with competition expressly prohibited or suppressed — they lacked incentives to be cost conscious and innovative. Managers had limited operational flexibility, and unclear and conflicting directions, as governments pursued efficiency and social objectives in ways which cut across the achievement of both. Government ownership and restrictions on competition had long been politically favoured ways of providing subsidised access to infrastructure for particular groups. As the reviews found, however, attempting to achieve social objectives by those means had come at great expense to productivity, cost and innovative service delivery. A central feature was recognition that less costly and more transparent instruments are available to achieve social goals.

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### Box 1.1     **Poor infrastructure performance: ‘the way it was’**

What might be termed the ‘Robin Hood’ principle would seem to be rampant within the public sector in New South Wales. This has led to a system of pricing which charges one group excessively in order to subsidise another group. (NSW Commission of Audit 1988, p. 38)

In recent months public attention has been drawn to some of the more acute maintenance problems of public infrastructure which have had, or could have, serious consequences ... This is a legacy of spending on new assets in response to political, industrial and departmental pressures while neglecting maintenance. The State has new dams but decaying sewerage mains ... new rolling stock but neglected tracks, lines and signalling. Maintenance has been seen by government as dispensable and has not been accompanied by any performance management regime to ensure that it is done to adequate standards. (Victorian Commission of Audit 1993, pp. 261–2)

There appears to have been some *over-investment* in the past (eg in electricity, some airports and ports, local roads, irrigation works, grain storage capacity); and some questionable decisions have been made about the location, pricing and operation of existing infrastructure (eg ports, roads, water supply), although many of these problems (eg on the waterfront) are now being addressed. (EPAC 1988, p. 2)

... key areas of our economy remain balkanised. The limited arrangements which do exist to share electricity between States are hamstrung by inefficient pricing restrictions, hidden cross-subsidies between different consumers and planning decisions which seem to accept State borders as market barriers ... and our railways remain burdened with the legacy of differences between our colonial engineers. A cargo container being sent by rail between Sydney and Perth may be subjected to: 3 non-integrated rail systems; 4 changes of locomotives; 5 different safe working systems; 6 different sizes of loading gauge; 10 different engineering standards of the basic standard gauge rail track; 12 or more hours at sidings or junctions for crew changes, refuelling, inspections. (Hawke 1990)

... Elcom’s reputation has not been high with major plant failures at Liddell Power Station in 1981 ... Elcom is considered to be an ‘effective’ organisation from a technical point of view with good standards of electricity supply. However, the ‘efficiency’ of the organisation can be questioned and costs of supply could be lower ... some 25 per cent [of Elcom’s capacity] represents a surplus investment in the order of \$2bn of assets earning no return. (NSW Commission of Audit 1988, appendix A.1)

... we have been trying to operate a modern transport system with horse-and-buggy work practices. These work practices must be wiped out in the interest of the person who ultimately pays all our wages — the customer. (V/Line 1986, p. 3)

... operating efficiency performance gaps appear to be largest for rail freight and least for road freight. Electricity, the waterfront and telecommunications appear to lie in that order, between the two performance extremes of rail freight and road freight ... Significant performance gaps also exist for many customer-oriented performance indicators. For instance, Australian port authority and ancillary charges are several times higher than for comparable overseas ports. For some infrastructure industries a mixed picture emerges across the range of indicators. Electricity prices, for example, are relatively low in Australia but electricity industry labour productivity and reserve plant margins do not compare favourably with international best practice. (BIE 1994, p. 73)

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While there were diverse approaches to reform among jurisdictions and sectors in the 1990s, key elements were to:

- improve incentives for efficient infrastructure investment and use by promoting competition, including through the structural separation of some natural monopoly elements (such as transmission grids) from more contestable activities (such as electricity generation);
- address social and regional concerns more directly and efficiently through budget subsidies rather than cross-subsidies which penalised certain users; and
- endeavour to make those enterprises which remained in government hands more commercial and accountable, with less political and bureaucratic interference in their day-to-day operations.

With the backdrop of the historic agreement to establish a national competition policy in April 1995 — following the Hilmer Review — all Australian governments moved to implement a more coordinated and systematic approach to developing an open, integrated domestic market for goods and services. All governments reaffirmed their commitment to the key elements of national competition policy in November 2000 (COAG 2000).

## **The role of pro-competition regulation**

Far from allowing unconstrained market forces, governments have directly addressed the potential for firms to misuse market power by strengthening existing, and establishing new, regulatory frameworks to promote overall economic welfare. Left unchecked, infrastructure service providers with enduring market power — large incumbents operating in previously legislated monopolies and public and private firms operating with natural monopoly characteristics or in poorly contested markets — have incentives to seek high profits or operate in ways which may be inconsistent with the interests of the community.

Most notably, national competition policy strengthened pro-competition regulation (box 1.2). Pro-competition regulation was also embedded, at least as a transition measure, in arrangements for specific sectors such as telecommunications, where the initial lack of competition and the fast pace of change meant that the Government was reluctant to rely on general trade practices law.

Pro-competition regulation is not, however, without cost or risk and there is wide agreement that the ‘devil is in the detail’. In addition to the obvious compliance and administrative costs, it can produce its own inefficiencies, not least due to information limitations and because the tools available to regulators are usually

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imperfect. Regulatory regimes are potentially subject to various forms of bias and can also encourage wasteful strategic behaviour as parties attempt to manipulate the processes and rules to their advantage.

Because regulation has both benefits and costs, it was envisaged at the outset that there would need to be independent reviews of the new regulatory arrangements after a few years. The recent suite of Commission inquiries — encompassing reviews of the national access regime, telecommunications competition regulation, airport services pricing, rail reform and the Prices Surveillance Act — has provided the chance to take stock of key elements of the pro-competition regulation governing Australia’s economic infrastructure.

Unsurprisingly, the Commission found that there are legitimate grounds for maintaining regulatory oversight in these areas and that much of the current regulatory framework remains broadly appropriate (box 1.3). Nevertheless, it also found that modifications and refinements are needed to reduce the risk of regulatory error and overreach and to ensure a long-term pay-off to the community.

As those inquiries have shown, pro-competition regulation of economic infrastructure raises issues of a conceptual and practical nature that are both complex and contentious. Although some of the reforms of the mid-1990s are still being bedded down, the Commission’s reviews of the current regulatory environment have yielded some important messages for policy makers if Australia is to make the most of its infrastructure.

**Box 1.2      The pro-competition elements of national competition policy**

The Competition Principles Agreement strengthened pro-competition regulation by:

- amending longstanding rules against anti-competitive conduct in the Trade Practices Act and extending them to all State and local government business enterprises and unincorporated businesses;
- enhancing competitive disciplines on government business enterprises through the application of competitive neutrality principles and procedures for the structural reform of public monopolies;
- establishing in each jurisdiction a system to carry out surveillance of prices charged by utilities and other corporations with high levels of monopoly power; and
- establishing rules to enable potential competitors to gain access to the services of nationally significant infrastructure facilities that could not be duplicated economically and providing for the endorsement of State and Territory access regimes that met agreed principles.

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**Box 1.3 A continuing role for access and price regulation of infrastructure, but modifications are needed**

The Commission considers that the ***national access regime*** has brought net benefits and that its retention is warranted, at least for the medium term. Apart from providing a route for businesses to secure access to essential infrastructure facilities where no effective arrangements apply, the regime provides a discipline on the various industry-specific access regimes. As such, it can help to discourage any unwarranted divergence among the industry regimes.

In the Commission's view, special features of ***telecommunications*** — the speed of market and technological changes combined with the significance of network connectivity in an industry in which a major facility (the local loop) is dominated by one firm — justify the retention of a telecommunications-specific access regime for the present. The regime should converge with the principles and processes of the national access regime wherever possible.

In both of these inquiries, however, the Commission proposed changes to limit the potential for inappropriate application of regulation, and to allow the regulations to operate more effectively and rapidly where they can improve on market outcomes.

The ***Prices Surveillance Act*** was found to have substantial deficiencies. It does not have clearly defined objectives and it is easy to implement price notification — an indirect form of price control — without sufficient investigation. Moreover, inquiries under the Act are not required to consider relevant policy options and there is insufficient guidance as to the role of price monitoring. The Commission therefore argued that the existing Act needed to be repealed and new inquiry and monitoring functions be written into a new part of the Trade Practices Act. Price monitoring would require nominated businesses to provide price, cost and profit data to the regulator periodically, but would not allow the regulator to make price determinations. Implementation of any price control would need to be through industry-specific legislation.

In its draft report, the Commission concluded that continued regulatory oversight was warranted for the seven major ***airports*** in Australia which are judged to have a degree of market power. Any market power of other airports was judged not to warrant special regulatory action. However, current price regulation of the major airports should be replaced by a five-year probationary period of less obtrusive price and conduct monitoring. Towards the end of the period, the conduct of all parties should be subject to an independent review to see whether further regulation is necessary.

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## Competition a means, not an end

National competition policy and other related competition policies are based on the evidence that, by and large, competition leads to greater productivity, lower costs and improved service, and so eventually to higher incomes and standards of living. Price signals in competitive markets generally guide the allocation of the community's capital and labour to the development and production of those goods and services which consumers and users value most highly. Competition places discipline on firms to constrain the costs of producing goods and services and to pass those cost savings to consumers in lower prices. And the constant threat of losing market share to competitors helps to ensure that firms, whether large or small, respond to changing circumstances in meeting consumer needs.

However, the promotion of competition for its own sake is not the overriding objective. The aim is to use resources efficiently and productively so as to enhance community welfare. As the Hilmer National Competition Policy Review noted at the start of this phase of reform:

Competition policy is not about the pursuit of competition *per se*. Rather, it seeks to facilitate effective competition to promote efficiency and economic growth while accommodating situations where competition does not achieve efficiency or conflicts with other social objectives. These accommodations are reflected in the content and breadth of application of pro-competitive policies, as well as the sanctioning of anti-competitive arrangements on public benefit grounds. (Hilmer et al. 1993, p. xvi)

There are some well-known forms of 'market failure' where competition will not produce the best results for the community as a whole. For example, in an open access resource such as fisheries, unrestrained competition can lead to excessive fishing effort and over-exploitation of fish stocks. Other examples are the patent and copyright systems — which can be justified on the basis that there would be insufficient incentives to develop new products and ideas without some statutory limitation on competitors' rights, at least for a period of time. The Trade Practices Act itself allows anti-competitive arrangements to be authorised where they can be shown to be in the public interest.

### The natural monopoly problem

In relation to infrastructure, the most widely recognised situation in which simply removing barriers to competition will not be sufficient to promote economic welfare is where there are elements of enduring natural monopoly — typically in the transmission and distribution networks of infrastructure services. Where total market demand can be supplied at lowest cost by a single provider, because of economies of scale and scope or reduced transaction costs, there is likely to be room

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for only one firm to survive and this can be the most efficient outcome. To achieve effective competition in markets that rely on that infrastructure, however, the shared use of such ‘bottleneck’ facilities at cost-reflective prices may be necessary.

Infrastructure operators who are vertically integrated, providing upstream or downstream services, have particular opportunities to earn monopoly profits from those services by denying access to their facilities or by making the terms and conditions of access so unattractive that competitors are disadvantaged. In telecommunications, for example, Telstra owns the local loop and provides retail services to customers. As a result, Telstra has an incentive to restrict the development of competitors’ services using the local loop where this would improve its overall profitability. While owners of bottleneck facilities without upstream or downstream activities have incentives to maximise use of their facilities, they still might be expected to use market power to extract high profits where market circumstances allow.

While natural monopoly is rightly the focus of pro-competition regulation, regulation has also appropriately been aimed at reducing the continuing and substantial market power provided to incumbents by the legacy of government ownership and statutory protection from competition. Government ownership of infrastructure has often lessened the discipline which competition in the market for capital imposes on private sector firms to be cost-conscious and innovative. Market structures in transition, in many cases, require regulation to ensure that evolving competition is not stifled by such powerful incumbents.

However, in developing regulatory regimes, the ‘problem’ of market power should not be overstated (box 1.4). Even in the case of natural monopoly, there may be circumstances in which the prices charged are structured in ways which have little impact on efficiency (although potentially having distributional implications). Moreover, while a natural monopolist may face no credible rivals today, increases in demand or changes in technology can render its market power inoperative in the future. Natural monopoly is not necessarily permanent. The existence of market power, whether related to natural monopoly or not, needs to be tested carefully and reviewed periodically so that regulation can be rescinded where it is no longer likely to provide efficiency benefits.

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### Box 1.4     **Assessing market power**

Defining what constitutes the relevant ‘market’ has a major bearing on the assessment of a firm’s power. The key to assessing market power is how much business a firm would eventually lose if it sustained a price increase.

- The availability of substitutes limits the exercise of market power. For example, though rail track providers are typically sole suppliers, for most traffic they face intense competition from other transport modes. Airports in close proximity or which service basically the same market — such as Launceston and Hobart, and Alice Springs and Yulara — compete vigorously with each other. There is less choice though for people wanting to use regular air services where their destination is Sydney or Melbourne.
- Technological advances can also increase competitive pressures. For example, microwave, satellite and other spectrum-based telecommunications platforms offer the prospect of undermining the dominance of fixed wires and cables, though not necessarily in all uses.
- Where barriers to entry are not insurmountable, even sole suppliers will find it difficult to maintain high prices and earn excess profits for a sustained period. High profitability and/or productive inefficiency will generally encourage the entry of other suppliers to contestable markets. Governments can act to reduce entry barriers. For example, Commission analysis indicates that creating transferable ownership of telephone numbers reduces the reluctance of customers to change telecommunications providers and, even though there are costs attached, is likely to promote efficiency.
- Even where market power appears to exist, it is not clear that there will always be incentives to use it. The Commission’s airport services inquiry judged that commercial opportunities, particularly relating to non-aeronautical activities such as retailing and car parking, could be expected to constrain the exercise of market power in aeronautical services at major airports.
- The countervailing power of major users can also be a constraint on monopoly behaviour. While airlines and airports hold strongly opposing views on whether airlines have countervailing power, available evidence suggests that the scope for competition in the aviation market will limit, though not eliminate, this power. Airline market power is likely to be strongest in dealings with smaller airports that have less commercial clout and a greater reliance on price-sensitive holiday markets.

Market power cannot be gauged merely by the number of suppliers or market shares. Taken on their own, such conventional indicators can be misleading as to the efficiency of outcomes over time. While competition can be strong with even just a few players, it is evident that in some markets, the existence of even a large number of competitors does not guarantee effective competition. In telecommunications, for example, while the number of carriers has increased from three to more than 70 since 1997, Telstra still has 95 per cent of local access services and nearly 90 per cent of retail local telephony revenue. On the other hand, while the three major players have 98 per cent of the wholesale mobile market, that market is reasonably competitive.

*Sources:* Commission inquiries on progress in rail reform, telecommunications competition regulation and price regulation of airport services.

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## Investment matters too

While access and price regulation can improve efficiency where natural monopoly is a problem and/or markets are in transition, the regulatory challenge is to ensure that prices are set neither too high nor too low. There are dangers both ways. Given the legacy of government ownership and control of vertically integrated monopolies, it is not surprising that much of the initial regulatory focus has been on reducing prices. This has been to the direct benefit of consumers and using industries and has led to market innovations and expanded choice.

However, the major risk associated with the regulation of essential infrastructure is that setting prices too low could deter new investment in the facilities themselves. Access and price regulation can involve a significant intrusion into the property rights of facility owners and affect their investment behaviour. While available evidence of adverse impacts on past investment is largely anecdotal and difficult to verify, the potential risks of adverse consequences from regulatory action appear to be looming larger (box 1.5).

There is a potential tension between the efficient use of existing facilities and incentives to build new ones. Once investments have been made, the actual costs of running transmission and distribution networks are relatively low. With capital effectively having no alternative uses, it makes sense for the community, from a static or short-term efficiency perspective, to have prices set to recover only marginal costs. However, this would deny the firm the opportunity to recover its fixed costs. While the service would continue to be provided for the asset's economic life, such a pricing policy would destroy incentives for new investment.

No firm, including existing facility owners, will commit to major new capital outlays without the expectation of a profit commensurate with the commercial risk involved. Realised returns can be affected by unforeseen delays and costs during the construction phase, unanticipated changes in market demand, uncertainty about how an untried technology will perform or the possible emergence of a superior competing technology. So even without regulatory risk, the expected profitability need not be assured. For investments which are particularly risky, or that have only normal expected returns allowing for such risk, the potential for regulatory action to deter or even stop the investment is heightened. In the long term, consumers and business users will be worse off without an essential infrastructure service than if the service is provided at higher prices.

In the case of access regulation, there may also be incentives for investors to build smaller than optimal facilities so as to ensure that there is little spare capacity beyond their own requirements, and thereby remove the threat that they would be required to grant access at prices they consider too low.

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### Box 1.5      **Effects of regulation on infrastructure investment**

Recent Commission inquiries heard claims that access and price regulation are damaging infrastructure investment in Australia. These claims were, however, disputed by others and establishing proof one way or the other is difficult. Isolating the effects of regulation from other factors, including cyclical influences, is problematic and it is difficult to determine what would happen to investment in the absence of regulation. Nevertheless, the potential for adverse impacts is a cause for concern.

The Australian Council for Infrastructure Development (AusCID) stated that the ACCC determined that a planned investment in resurfacing a second runway at Perth Airport did not qualify as 'necessary new investment' under current regulatory arrangements, precluding the airport recovering the investment cost through higher charges. AusCID went on to comment that as a result:

... the investment will not go ahead. Perth Airport has issued a 'Notice to Airmen', stopping planes larger than 737 size from landing on the runway. Perth Airport is only doing minimal maintenance on the runway, which will eventually have to be replaced, at great expense.

TransGrid said that low regulated rates of return for electricity transmission facilities have contributed to insufficient investment in network interconnections. By expanding the size of transmission networks, such interconnections can play an important role in reducing the market power of particular electricity generators.

The Australian Gas Association said that regulatory uncertainty was one factor contributing to the deferral of the Central Ranges pipeline from Dubbo to Tamworth.

Building gas pipelines with spare capacity can be the most efficient way of catering for future demand growth. However, Epic Energy said that the proposed Darwin to Moomba pipeline will be built to meet only the requirements of foundation shippers so as to reduce the threat of regulated access. It also said that 'looping' arrangements for the Moomba to Adelaide pipeline and an enhancement to the Dampier to Bunbury pipeline had been constructed solely to meet the needs of incremental contract volume.

Freight Australia commented that, in the light of the decision of the Victorian Government to declare open access to the State's intrastate non-urban rail network, the owners of the network have resolved to suspend discretionary investment in the network, other than that 'required for Freight Australia to meet its contractual requirements with passenger operators on the network'.

Telstra indicated that it will not be digitising its hybrid fibre coaxial network without a binding prior ruling on access and other regulatory matters, although it did acknowledge that other factors, such as demand and technological risk, have also held back investment so far.

As one of three Foxtel shareholders, News Ltd is currently considering whether to make an investment in digital subscription television broadcast carriage services by cable. Discussion amongst the shareholders has proceeded on the assumption that the investment will be made in an environment in which access may need to be provided to digital pay TV carriage services. News Ltd stated:

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**Box 1.5 (continued)**

... the uncertainty which is inherent in the processes makes it difficult, at best, and impossible, at worst, for News to predict the terms and conditions of access and the financial and business consequences thereof. Consequently, the likelihood of further investments decreases.

On the other side of the ledger, users of essential infrastructure and the ACCC argued that current access arrangements are providing a healthy investment environment. The ACCC noted that returns provided to Australian electricity and gas transmission owners compare favourably with average returns on equity and are higher than returns for comparable regulated businesses overseas. It went on to conclude that:

Together with the substantial new investments being undertaken or planned for Australia, including more than \$8 billion worth of new gas pipeline investments, the returns achieved lend support to the [ACCC's] view that current regulated returns provide a solid base for future investment in electricity and gas transmission.

Similarly, BHP Billiton contended that there is no evidence that access regulation is inhibiting investment in gas pipelines. It stated:

The fact that access has had no negative impact on pipeline investment in Australia should be no surprise. This is consistent with experience in the USA and in Canada, where pipeline investment has thrived notwithstanding in a more rigorous and onerous regulatory environment.

The Australian Petroleum Production and Exploration Association and WMC Resources also pointed to the significant new investment in gas transmission pipelines that has occurred since the inception of the Gas Code.

AAPT argued that Telstra's investment in areas affected by service declarations has not, in fact, declined:

... no evidence has emerged in support of the assertion that current access pricing has hindered investment, despite two public hearings and a Draft Report ... To the contrary, concerns have been raised that the industry is suffering from over-investment.

*Sources:* Submissions to recent Commission inquiries.

Another disadvantage of unduly low regulated prices is that the investment required to maintain or to augment, extend or replace *existing* infrastructure may be delayed. This can result in a deterioration in service through breakdowns and increasing congestion. The effects of this may go largely unnoticed for some years, perhaps until a crisis point is reached, as was illustrated in the Californian power crisis.

Inappropriately low access pricing can also create incentives for inefficient entry to upstream and/or downstream activities — too many inefficient competitors having an incentive to enter those markets at clearly unsustainable prices. For example, low access prices and interconnection charges for gas distribution pipelines and telecommunications networks can result in the entry of service-based rivals that

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have higher operating costs than the incumbent's own downstream operations and encourage inefficient investment in network extensions.

While prices need to be at least sufficient to cover the long-run costs of facility operators including an adequate return for the risk involved, prices should not be set so far above costs as to deter the efficient use of services and investment and innovation in related markets. This is a particular risk in markets such as new value-adding telecommunication services where investors are already grappling with rapid and unpredictable technological change, demand for their services is uncertain or untested and their demand for the platform service is sensitive to price. There is also the possibility that high regulated prices could distort the timing of efficient investment in infrastructure or lead to the inefficient duplication of facilities where users have no option but to build their own facility.

Clearly, there needs to be a balance between the short-term gains for users and consumers in having low prices, and the community's long-term welfare, which requires the efficient timing and scale of investment and appropriate access prices. The regulatory framework needs to provide clear signals about how this balance is best achieved.

## **The importance of statutory guidance**

The tasks regulators face are complex and require considerable information. Regulators have neither all the information nor the tools to guarantee that they can set prices which unambiguously improve on market outcomes. Firms which are subject to regulation typically know more about their operations and markets than the regulators could ever be expected to know. When technology and market demands are changing rapidly, the difficulties for regulators are compounded. Regulation is always vulnerable to manipulation by industry players aiming to delay or otherwise subvert the regulatory intent.

Ultimately, a large element of judgement is unavoidable in deciding whether and how to intervene and this raises the prospect of regulatory error. As already argued, where long-lived investments are involved, the costs of regulatory error can be substantial. In addition, regulatory interventions risk dampening incentives for cost saving, innovation and entrepreneurship in regulated firms, or those depending on them.

Regulatory error can also have systemic origins, reflecting the susceptibility of regulators to various forms of 'capture'. As is well known, the traditional concern based on the American experience was of capture of regulatory agencies by the industry incumbents (Stigler 1971). But depending on the institutional settings,

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other forms of influence can operate. These include biases towards the interests of current consumers over the interests of future consumers and, to this end, new entrants may be favoured over incumbents. Regulators may also feel constrained by the precedents set by their own past decisions. And they may have a natural aversion to firms earning high and variable profits because these are associated, in the public mind, with failure to control the excesses of market power.

Regulatory discretion cannot be eliminated and, indeed, some discretion is desirable. However, to reduce the risk of regulatory error, statutes should be clear about the objectives of regulation, the behaviour at which intervention should be targeted and the principles governing the type of intervention. These requirements are not always met. For example, the Commission found that the national access regime was deficient in these respects. It proposed the inclusion of an objects clause and pricing principles in the national regime and a change to the regime's 'declaration' criteria to reduce the possibility that services will be subject to access arrangements without the prospect of a significant increase in overall economic efficiency. As competition increases in areas once dominated by government providers and their market power is gradually eroded, intervention aimed at managing the transition to a more mature market can become more light-handed.

Some sources of regulatory disincentive to efficient infrastructure investment are less readily amenable to solution. Infrastructure investors anticipate that, down the track, regulators are likely to have difficulties distinguishing monopoly profits from the due rewards for risk taking and will intervene in ways which effectively truncate their potential returns. Risky investments which are successful are likely to be penalised but investors will bear all the risks of project failure or poor returns. Faced with this, investments may not proceed or be delayed. Notwithstanding the difficulties in finding workable approaches which would have broad community acceptance, the Commission found a compelling case for introducing mechanisms within access regimes which would facilitate efficient investment. Fixed-term 'holidays' from access declaration, binding undertakings on access terms and conditions agreed with the regulator prior to investment and allowance for additional profit premiums are some of the mechanisms which Australian governments should explore through consultative processes.

Given uncertainties and information difficulties, there are limits to what regulators can achieve. Rather than aiming for an ideal, but unattainable outcome, the public policy goal should be a set of regulatory arrangements that will improve efficiency through time and that will reduce some of the bigger risks of making regulatory errors. A framework is needed in which regulators are encouraged to intervene only when significant improvements in efficiency are in prospect and not to be overly ambitious in finetuning the prices they regulate. For example, in its

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telecommunications inquiry, the Commission argued that the declaration of mobile telecommunication services should be rescinded because of the level of competition in the marketplace.

In areas where market power appears to be a problem but the correct regulatory response is uncertain, good inquiry processes are essential to determine whether the problem exists and how best to address it. For example, in its review of the Prices Surveillance Act, the Commission argued that modified inquiry and monitoring functions be written into a new section of the Trade Practices Act, allowing the Prices Surveillance Act to be repealed. Such public inquiry processes should identify, on a case-by-case basis, the nature of the perceived problem and the most cost-effective solutions, resorting to price oversight only where warranted.

## **Refining pro-competition regulation of infrastructure**

The broad-based microeconomic reforms of the past decade and a half have sharpened international and domestic competition, and thereby reduced the number of markets in Australia where governments need to intervene to address the adverse consequences of market power.

Given their potential costs and distortions, regulatory interventions such as access regimes and other price controls should be measures of last resort, focused on those activities with demonstrable monopoly power. These now largely involve bottleneck infrastructure services with natural monopoly characteristics. The general provisions of the Trade Practices Act remain as a safeguard for abuses of market power in other circumstances.

While regulation remains necessary in order to promote the efficient provision of infrastructure services, the Commission has found that it can be made more effective by:

- reducing compliance and administrative costs and delays due to complexities and uncertainties in regulatory procedures and outcomes;
- relying as much as possible on general regulatory frameworks — such as the anti-competitive provisions of the Trade Practices Act and the national access regime;
- ensuring that any special features in industry-specific regulatory arrangements are justified by circumstances specific to those industries; and
- bringing greater clarity and focus to regulation itself, to ensure that it addresses significant problems, is well targeted and uses appropriate instruments.

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The Commission's recent inquiries have revealed a need to re-balance the emphasis away from achieving immediate gains for users and consumers from existing infrastructure — much of it government owned or previously government owned — to a regulatory framework that will also facilitate efficient investment in augmented and new facilities. In this way, pro-competition regulation is more likely to ensure that Australia has modern infrastructure which is provided and used efficiently, with long-term benefits to the Australian community.